

THE
WORKS
OF
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AND
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V O L. III.



L O N D O N :

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NATURAL HISTORY,

CENT. I.

Experiments in consort, touching the straining and passing of bodies, one through another; which they call Percolation.

DIG a pit upon the sea-shore, somewhat above the high-water mark, and sink it as deep as the low-water mark; and as the tide cometh in, it will fill with water, fresh and potable. This is commonly practised upon the coast of *Barbary*, where other fresh water is wanting. And *Caesar* knew this well when he was besieged in *Alexandria*: for by digging of pits in the sea-shore, he did frustrate the laborious works of the enemies, which had turned the sea-water upon the wells of *Alexandria*; and so saved his army being then in desperation. But *Caesar* mistook the cause, for he thought that all sea-sands had natural springs of fresh water: but it is plain, that it is the sea-water; because the pit filled according to the measure of the tide: and the sea-water passing or straining through the sands, leaveth the saltness.

2. I remember to have read, that trial hath been made of salt-water passed through earth, through ten vessels, one within another; and yet it hath not lost its saltness, as to become potable: but the same man saith, that (by the relation of another) salt-water drained through twenty vessels, hath become fresh. This experiment seemeth to cross that other of pits, made by the sea-side; and yet but in part, if it be true, that twenty repetitions do the effect. But it is worth the note, how poor the imitations of nature are in common course of experiments, except they be led by great judgment, and some good light of axioms. For first, there is no small difference between a passage of water through twenty small vessels, and through such a distance, as between the low-water and high-water mark. Secondly, there is a great difference between earth and sand; for all earth hath in it a kind of nitrous salt, from which sand is more free; and besides, earth doth not strain the water so finely, as sand doth. But there is a third point, that I suspect as much or more than the other two; and that is, that in the experiment of transmission of the sea-water into the pits, the water riseth; but in the experiment of transmission of the water through the vessels, it falleth. Now certain it is, that the saltier part of water (once salted throughout) goeth to the bottom. And therefore no marvel, if the draining of water by descent, doth not make it fresh: besides, I do somewhat doubt, that the

very dashing of the water, that cometh from the sea, is more proper to strike off the salt part, than where the water slideth of its own motion.

3. IT seemeth Percolation, or Transmiffion, (which is commonly called straining) is a good kind of separation, not only of thick from thin, and gross from fine, but of more subtile natures; and varieth according to the body through which the transmiffion is made: as if through a woollen bag, the liquor leaveth the fatness; if through sand, the saltness, &c. They speak of severing wine from water, passing it through ivy wood, or through other the like porous body; but *non constat*.

4. THE gum of trees (which we see to be commonly shining and clear) is but a fine passage or straining of the juice of the tree through the wood and bark. And in like manner, cornish diamonds, and rock rubies (which are yet more resplendent than gums) are the fine exudations of stone.

5. ARISTOTLE giveth the cause, vainly, why the feathers of birds are of more lively colours, than the hairs of beasts; for no beast hath any fine azure, or carnation, or green hair. He saith; it is, because birds are more in the beams of the sun than beasts; but that is manifestly untrue; for cattle are more in the sun than birds, that live commonly in the woods, or in some covert. The true cause is, that the excrementitious moisture of living creatures, which maketh as well the feathers in birds, as the hair in beasts, passeth in birds through a finer and more delicate strainer than it doth in beasts: for feathers pass through quills; and hair through skin.

6. THE clarifying of liquors by adhesion, is an inward Percolation; and is effected, when some cleaving body is mixed and agitated with the liquors; whereby the grosser part of the liquor sticks to that cleaving body; and so the finer parts are freed from the grosser. So the apothecaries clarify their syrups by whites of eggs, beaten with the juices which they would clarify; which whites of eggs gather all the dregs and grosser parts of the juice to them; and after the syrup being set on the fire, the whites of eggs themselves harden, and are taken forth. So hippocras is clarified by mixing with milk, and stirring it about, and then passing it through a woollen bag, which they call *Hippocrates's Sleeve*, and the cleaving nature of the milk draweth the powder of the spices, and grosser parts of the liquor to it; and in the passage they stick upon the woollen bag.

7. THE clarifying of water, is an experiment tending to health; besides the pleasure of the eye, when water is crystalline. It is effected by casting in and placing pebbles at the head of the current, that the water may strain through them.

8. IT may be, Percolation doth not only cause clearness and splendour, but sweetness of savour; for that also followeth as well as clearness, when the finer parts are severed from the grosser. So it is found, that the sweats of men, that have much heat, and exercise much, and have clean bodies, and fine skins, do smell sweet; as was said of *Alexander*; and we see, commonly that gums have sweet odours.

Experiments in consort, touching Motion of bodies upon their pressure.

9. TAKE a glass, and put water into it, and wet your finger, and draw it round about the lip of the glass, pressing it somewhat hard; and after you have drawn it some few times about, it will make the water frisk and sprinkle up, in a fine dew. This instance doth excellently demonstrate the force of compression in a solid body: for whensoever a solid body (as wood, stone, metal, &c.) is pressed, there is an inward tumult in the parts thereof, seeking

to deliver themselves from the compression: and this is the cause of all violent motion. Wherein it is strange, in the highest degree, that this motion hath never been observed, nor inquired; it being of all motions the most common, and the chief root of all mechanical operations. This motion worketh in round at first, by way of proof and search, which way to deliver it self; and then worketh in progress, where it findeth the deliverance easiest. In liquors this motion is visible; for all liquors stricken make round circles; and withal dash; but in solids (which break not) it is so subtle, as it is invisible; but nevertheless bewrayeth it self by many effects; as in this instance whereof we speak. For the pressure of the finger, furthered by the wetting, (because it sticketh so much the better unto the lip of the glass) after some continuance, putteth all the small parts of the glass into work; that they strike the water sharply; from which percussive that sprinkling cometh.

10. IF you strike or pierce a solid body, that is brittle, as glass, or sugar, it breaketh not only where the immediate force is; but breaketh all about into shivers and fitters; the motion, upon the pressure, searching all ways, and breaking where it findeth the body weakest.

11. THE powder in shot, being dilated into such a flame, as endureth not compression, moveth likewise in round, (the flame being in the nature of a liquid body) sometimes recoiling; sometimes breaking the piece; but generally discharging the bullet, because there it findeth easiest deliverance.

12. THIS motion upon pressure, and the reciprocal thereof, which is motion upon tension, we use to call (by one common name) motion of liberty; which is, when any body, being forced to a preternatural extent or dimension, delivereth and restoreth it self to the natural: as when a blown bladder (pressed) riseth again; or when leather or cloth tentured, spring back. These two motions (of which there be infinite instances) we shall handle in due place.

13. THIS motion upon pressure is excellently also demonstrated in sounds; as when one chimeth upon a bell, it soundeth; but as soon as he layeth his hand upon it, the sound ceaseth: and so, the sound of a virginal string, as soon as the quill of the jack falleth from it, stoppeth. For these sounds are produced by the subtle percussive of the minute part of the bell, or string; upon the air, all one, as the water is caused to leap by the subtle percussive of the minute parts of the glass, upon the water, whereof we spake a little before in the ninth experiment. For you must not take it to be the local shaking of the bell, or string, that doth it: as we shall fully declare, when we come hereafter to handle sounds.

Experiments in consort, touching Separations of bodies by weight.

14. TAKE a glass with a belly and a long neck; fill the belly (in part) with water: take also another glass, whereinto put claret wine and water mingled; reverse the first glass, with the belly upwards, stopping the neck with your finger; then dip the mouth of it within the second glass, and remove your finger: continue it in that posture for a time; and it will unmix the wine from the water: the wine ascending and settling in the top of the upper glass; and the water descending and settling in the bottom of the lower glass. The passage is apparent to the eye; for you shall see the wine, as it were, in a small vein, rising through the water. For handfomness sake (because the working requireth some small time) it were good you hang the upper glass upon a nail. But as soon as there is gathered so much pure and

unmixed water in the bottom of the lower glaſs, as that the mouth of the upper glaſs dippeth into it, the motion ceaſeth.

15. LET the upper glaſs be wine, and the lower water; there followeth no motion at all. Let the upper glaſs be water pure, the lower water coloured, or, contrariwiſe, there followeth no motion at all. But it hath been tried, that though the mixture of wine and water, in the lower glaſs, be three parts water and but one wine, yet it doth not dead the motion. This ſeparation of water and wine appeareth to be made by weight; for it muſt be of bodies of unequal weight, or elſe it worketh not; and the heavier body muſt ever be in the upper glaſs. But then note, withal, that the water being made penſile, and there being a great weight of water in the belly of the glaſs, ſuſtained by a ſmall pillar of water in the neck of the glaſs, it is that which ſetteth the motion on work: For water and wine in one glaſs, with long ſtanding, will hardly ſever.

16. THIS experiment would be extended from mixtures of ſeveral liquors, to ſimple bodies, which conſiſt of ſeveral ſimilar parts: try it therefore with brine, or ſalt-water, and freſh-water: placing the ſalt-water (which is the heavier) in the upper glaſs; and ſee whether the freſh will come above. Try it alſo with water thick ſugared, and pure water; and ſee whether the water, which cometh above, will loſe its ſweetneſs: for which purpoſe it were good there were a little cock made in the belly of the upper glaſs.

Experiments in conſort, touching judicious and accurate infuſions, both in liquors and air.

17. IN bodies containing fine ſpirits, which do eaſily diſſipate, when you make infuſions, the rule is; a ſhort ſtay of the body in the liquor, receiveth the ſpirit; and a longer ſtay, confoundeth it; becauſe it draweth forth the earthy part withal, which embafeth the finer. And therefore it is an error in phyſicians, to reſt ſimply upon the length of ſtay, for increaſing the virtue. But if you will have the infuſion ſtrong, in thoſe kinds of bodies which have fine ſpirits, your way is not to give longer time, but to repeat the infuſion of the body oftner. Take violets, and infuſe a good pugil of them in a quart of vinegar; let them ſtay three quarters of an hour, and take them forth, and reſreſh the infuſion with like quantity of new violets, ſeven times; and it will make a vinegar ſo freſh of the flower, as if a twelvemonth after, it be brought you in a ſaucer, you ſhall ſmell it before it come at you. Note, that it ſmelleth more perfectly of the flower, a good while after than at firſt.

18. THIS rule, which we have given, is of ſingular uſe for the preparations of medicines, and other infuſions. As for example: the leaf of burrage hath an excellent ſpirit, to repreſs the fuliginous vapour of duſky melancholy, and ſo to cure madneſs: but nevertheleſs, if the leaf be infuſed long, it yieldeth forth but a raw ſubſtance, of no virtue: therefore I ſuppoſe, that if in the muſt of wine, or wort of beer, while it worketh, before it be tunned, the burrage ſtay a ſmall time, and be often changed with freſh; it will make a ſovereign drink for melancholy paſſions. And the like I conceive of orange flowers.

16 RHUBARB hath manifeſtly in it parts of contrary operations: parts that purge; and parts that bind the body: and the firſt lay looſer, and the latter lay deeper: ſo that if you infuſe rhubarb for an hour, and cruſh it well, it will purge better, and bind the body leſs after the purging, than if it ſtood twenty four hours; this is tried; but I conceive likewiſe, that by repeating
the

the infusion of rhubarb, several times, (as was said of violets,) letting each stay in but a small time; you may make it as strong a purging medicine, as scammony. And it is not a small thing won in physick, if you can make rhubarb, and other medicines that are benedict, as strong purgers, as those that are not without some malignity.

20. PURGING medicines, for the most part, have their purgative virtue in a fine spirit; as appeareth by that they endure not boiling without much loss of virtue. And therefore it is of good use in physick, if you can retain the purging virtue, and take away the unpleasant taste of the purger; which it is like you may do, by this course of infusing oft, with little stay. For it is probable, that the horrible and odious taste, is in the grosser part.

21. GENERALLY, the working by infusions, is gross and blind, except you first try the issuing of the several parts of the body, which of them issue more speedily, and which more slowly; and so by apportioning the time, can take and leave that quality, which you desire. This to know, there are two ways; the one to try what long stay, and what short stay worketh, as hath been said: the other to try in order, the succeeding infusions, of one and the same body, successively in several liquors. As for example; take orange pills, or rosemary, or cinnamon, or what you will; and let them infuse half an hour in water: then take them out, and infuse them again in another water; and so the third time: and then taste and consider the first water, the second, and the third: and you will find them differing, not only in strength and weakness, but otherwise in taste or odour; for it may be the first water will have more of the scent, as more fragrant; and the second more of the taste, as more bitter or biting, &c.

22. INFUSIONS in air, (for so we may well call odours) have the same diversities with infusions in water; in that the several odours (which are in one flower, or other body) issue at several times; some earlier, some later: so we find that violets, woodbines, strawberries, yield a pleasing scent, that cometh forth first; but soon after an ill scent quite differing from the former. Which is caused, not so much by mellowing, as by the late issuing of the grosser spirit.

23. As we may desire to extract the finest spirits in some cases; so we may desire also to discharge them (as hurtful) in some other. So wine burnt, by reason of the evaporating of the finer spirit, inflameth less, and is best in agues: opium loseth some of his poisonous quality, if it be vapoured out, mingled with spirit of wine, or the like: sena loseth somewhat of its windiness by decocting; and (generally) subtile or windy spirits are taken off by incension, or evaporation. And even in infusions in things that are of too high a spirit, you were better pour off the first infusion, after a small time, and use the later.

Experiment solitary touching the appetite of continuation in liquids.

24. BUBBLES are in the form of an hemisphere; air within, and a little skin of water without: and it seemeth somewhat strange, that the air should rise so swiftly, while it is in the water; and when it cometh to the top, should be stayed by so weak a cover as that of the bubble is. But as for the swift ascent of the air, while it is under the water, that is a motion of percussion from the water; which it self descending, driveth up the air; and no motion of levity in the air. And this *Democritus* called *Motus Plagae*. In this common experiment, the cause of the enclosure of the bubble is, for that the appetite to resist separation, or discontinuance, (which in solid bodies

dies is strong) is also in liquors, though fainter and weaker; as we see in this of the bubble: we see it also in little glasses of spittle that children make of rushes; and in castles of bubbles, which they make by blowing into water, having obtained a little degree of tenacity by mixture of soap: we see it also in the stillicides of water, which if there be water enough to follow, will draw themselves into a small thread, because they will not discontinue; but if there be no remedy, then they cast themselves into round drops; which is the figure that saveth the body most from discontinuance: the same reason is of the roundness of the bubble, as well for the skin of water, as for the air within: for the air likewise avoideth discontinuance; and therefore casteth it self into a round figure. And for the stop and arrest of the air a little while, it sheweth that the air of it self hath little or no appetite of ascending.

Experiment solitary touching the making of artificial springs.

25. THE rejection, which I continually use, of experiments, (though it appeareth not) is infinite; but yet if an experiment be probable in the work, and of great use, I receive it, but deliver it as doubtful. It was reported by a sober man, that an artificial spring may be made thus: find out a hanging ground, where there is a good quick fall of rain-water. Lay a half-trough of stone, of a good length, three or four foot deep within the same ground; with one end upon the high ground, the other upon the low. Cover the trough with brakes a good thickness, and cast sand upon the top of the brakes: you shall see, (saith he) that after some showers are past, the lower end of the trough will run like a spring of water: which is no marvel, if it hold while the rain-water lasteth; but he said it would continue long time after the rain is past: as if the water did multiply it self upon the air, by the help of the coldness and condensation of the earth, and the confort of the first water.

Experiment solitary touching the venomous quality of man's flesh.

26. THE *French*, (which put off the name of the *French* disease, unto the name of the disease of *Naples*;) do report, that at the siege of *Naples*, there were certain wicked merchants that barrelled up man's flesh, (of some that had been lately slain in *Barbary*) and sold it for tunney; and that upon that foul and high nourishment, was the original of that disease. Which may well be; for that it is certain, that the canibals in the *West-Indies*, eat man's flesh; and the *West-Indies* were full of the pox when they were first discovered: and at this day the mortalest poisons, practised by the *West-Indians*, have some mixture of the blood, or fat, or flesh of man: and divers witches, and sorceresses, as well amongst the heathen, as amongst the christians, have fed upon man's flesh, to aid (as it seemeth) their imagination, with high and foul vapours.

Experiment solitary touching the version and transmutation of air into water.

27. IT seemeth that there be these ways (in likelihood) of version of vapours or air, into water and moisture. The first is cold; which doth manifestly condense; as we see in the contracting of the air in the weather-glass; whereby it is a degree nearer to water. We see it also in the generation of springs, which the antients thought (very probably) to be made by the version of air into water, holpen by the rest, which the air hath in those parts; whereby it cannot dissipate. And by the coldness of rocks; for there springs are chiefly generated. We see it also in the effects of the cold of the middle

region (as they call it) of the air ; which produceth dews and rains. And the experiment of turning water into ice, by snow, nitre and salt, (whereof we shall speak hereafter,) would be transferred to the turning of air into water. The second way is by compression ; as in stillatories, where the vapour is turned back upon it self, by the encounter of the sides of the stillatory ; and in the dew upon the covers of boiling pots ; and in the dew towards rain, upon marble and wainscot. But this is like to do no great effect ; except it be upon vapours, and gross air, that are already very near in degree to water. The third is that, which may be searched into, but doth not yet appear ; which is, by mingling of moist vapours with air ; and trying if they will not bring a return of more water, than the water was at first : for if so, that increase is a version of the air : therefore put water into the bottom of a stillatory, with the neb stopped ; weigh the water first ; hang in the middle of the stillatory a large sponge ; and see what quantity of water you can crush out of it ; and what it is more, or less, compared with the water spent ; for you must understand, that if any version can be wrought, it will be easi-liest done in small pores : and that is the reason why we prescribe a sponge. The fourth way is probable also, though not appearing ; which is, by receiving the air into the small pores of bodies : for (as hath been said) every thing in small quantity is more easy for version ; and tangible bodies have no pleasure in the comfort of air, but endeavour to subact it into a more dense body : but in entire bodies it is checked ; because if the air should condense, there is nothing to succeed : therefore it must be in loose bodies, as sand, and powder ; which we see, if they lie close, of themselves gather moisture.

Experiment solitary touching helps towards the beauty and good features of persons.

28. IT is reported by some of the ancients ; that whelps, or other creatures, if they be put young into such a cage or box, as they cannot rise to their stature, but may increase in breadth or length, will grow accordingly, as they can get room : which if it be true and feasible, and that the young creature so pressed, and straightened, doth not thereupon die ; it is a means to produce dwarf creatures, and in a very strange figure. This is certain, and noted long since ; that the pressure or forming of parts of creatures, when they are very young, doth alter the shape not a little ; as the stroaking of the heads of infants, between the hands, was noted of old, to make *Macrocephali* ; which shape of the head, at that time, was esteemed. And the raising gently of the bridge of the nose, doth prevent the deformity of a saddle nose. Which observation well weighed, may teach a means, to make the persons of men and women, in many kinds, more comely, and better featured, than otherwise they would be ; by the forming and shaping of them in their infancy : as by stroaking up the calves of the legs, to keep them from falling down too low ; and by stroaking up the forehead, to keep them from being low-foreheaded. And it is a common practice, to swathe infants, that they may grow more straight, and better shaped : and we see young women, by wearing straight bodice, keep themselves from being gross and corpulent.

Experiment solitary touching the condensing of air in such sort as it may put on weight, and yield nourishment.

29. ONIONS, as they hang, will many of them shoot forth ; and so will penny-royal ; and so will an herb called orpin ; with which they use in the
country,

countray, to trim their houses, binding it to a lath or stick, and setting it against a wall. We see it likewise, more especially, in the greater *semper-vive*, which will put out branches, two or three years: but it is true, that commonly they wrap the root in a cloth besmeared with oil, and renew it once in half a year. The like is reported by some of the ancients, of the stalks of lilies. The cause is; for that these plants have a strong, dense, and succulent moisture, which is not apt to exhale; and so is able, from the old store, without drawing help from the earth, to suffice the sprouting of the plant: and this sprouting is chiefly in the late spring, or early summer; which are the times of putting forth. We see also, that stumps of trees, lying out of the ground, will put forth sprouts for a time. But it is a noble trial, and of very great consequence, to try whether these things, in the sprouting, do increase weight; which must be tried, by weighing them before they are hang'd up; and afterwards again, when they are sprouted. For if they encrease not in weight; then it is no more but this; that what they send forth in the sprout, they lose in some other part: but if they gather weight, then it is *magnale naturae*; for it sheweth that air may be made so to be condensed, as to be converted into a dense body; whereas the race and period of all things, here above the earth, is to extenuate and turn things to be more pneumatical and rare; and not to be retrograde, from pneumatical to that which is dense. It sheweth also, that air can nourish; which is another great matter of consequence. Note, that to try this, the experiment of the *semper-vive*, must be made without oiling the cloth; for else, it may be, the plant receiveth nourishment from the oil.

Experiment solitary touching the commixture of flame and air, and the great force thereof.

30. FLAME and air do not mingle, except it be in an instant; or in the vital spirit of vegetables, and living creatures. In gun-powder, the force of it hath been ascribed to rarefaction of the earthy substance into flame; and thus far it is true: and then (forsooth) it is become another element; the form whereof occupieth more place; and so, of necessity, followeth a dilatation: and therefore, lest two bodies should be in one place, there must needs also follow an expulsion of the pellet; or blowing up of the mine. But these are crude and ignorant speculations. For flame, if there were nothing else, except it were in very great quantity, will be suffocated with any hard body, such as a pellet is; or the barrel of a gun; so as the flame would not expel the hard body; but the hard body would kill the flame, and not suffer it to kindle, or spread. But the cause of this so potent a motion, is the nitre, (which we call otherwise salt-petre;) which having in it a notable crude and windy spirit, first by the heat of the fire suddenly dilateth it self; (and we know that simple air, being preternaturally attenuated by heat, will make it self room, and break, and blow up that which resisteth it;) and secondly, when the nitre hath dilated it self, it bloweth abroad the flame, as an inward bellows. And therefore we see that brimstone, pitch, camphire, wild-fire, and divers other inflammable matters, though they burn cruelly, and are hard to quench, yet they make no such fiery wind, as gun-powder doth: and on the other side, we see that quick-silver, (which is a most crude and watry body) heated, and pent in, hath the like force with gun-powder. As for living creatures, it is certain, their vital spirits are a substance compounded of an airy and flamy matter; and though air and flame being free, will not well mingle; yet bound in by a body that hath some fixing, they will. For that you may

may best see in those two bodies, (which are their aliments,) water and oil; for they likewise will not well mingle of themselves; but in the bodies of plants, and living creatures, they will. It is no marvel therefore, that a small quantity of spirits, in the cells of the brain and canals of the sinews, are able to move the whole body, (which is of so great mass,) both with so great force, as in wrestling, leaping; and with so great swiftness, as in playing division upon the lute. Such is the force of these two natures, air and flame, when they incorporate.

Experiment solitary touching the secret nature of flame.

31. TAKE a small wax candle, and put it in a socket of brass or iron; then set it upright in a porringer full of spirit of wine, heated: then set both the candle, and spirit of wine, on fire, and you shall see the flame of the candle open it self, and become four or five times bigger than otherwise it would have been; and appear in figure globular, and not in pyramis. You shall see also, that the inward flame of the candle keepeth colour, and doth not wax any whit blue towards the colour of the outward flame of the spirit of wine. This is a noble instance; wherein two things are most remarkable: the one, that one flame within another quencheth not; but is a fixed body, and continueth as air and water do. And therefore flame would still ascend upwards in one greatness, if it were not quenched on the sides: and the greater the flame is at the bottom, the higher is the rise. The other, that flame doth not mingle with flame; as air doth with air, or water with water, but only remaineth contiguous; as it cometh to pass betwixt consisting bodies. It appeareth also, that the form of a pyramis in flame, which we usually see, is merely by accident, and that the air about, by quenching the sides of the flame, crusheth it, and extenuateth it into that form; for of it self it would be round; and therefore smoak is in the figure of a pyramis reversed; for the air quencheth the flame, and receiveth the smoak. Note also, that the flame of the candle, within the flame of the spirit of wine, is troubled; and doth not only open and move upwards, but moveth waving, and to and fro: as if flame of its own nature (if it were not quenched,) would roll and turn, as well as move upwards. By all which it should seem, that the celestial bodies, (most of them,) are true fires or flames, as the Stoicks held; more fine (perhaps) and rarified, than our flame is. For they are all globular and determinate; they have rotation; and they have the colour and splendour of flame: so that flame above is durable, and consistent, and in its natural place; but with us it is a stranger, and momentany, and impure; like *Vulcan* that halted with his fall.

Experiment solitary touching the different force of flame in the midst and on the sides.

32. TAKE an arrow, and hold it in flame, for the space of ten pulses, and when it cometh forth, you shall find those parts of the arrow, which were on the outsides of the flame, more burned, blacked, and turned almost into a coal, whereas that in the midst of the flame, will be, as if the fire had scarce touched it. This is an instance of great consequence for the discovery of the nature of flame; and sheweth manifestly, that flame burneth more violently towards the sides, than in the midst: and which is more, that heat or fire is not violent or furious, but where it is checked and pent. And therefore the Peripateticks (howsoever their opinion of an element of fire above the air is justly exploded;) in that point they acquit themselves well:

for being opposed, that if there were a sphere of fire, that encompassed the earth so near hand, it were impossible but all things should be burnt up; they answer, that the pure elemental fire, in its own place, and not irritated, is but of a moderate heat.

Experiment solitary touching the decrease of the natural motion of gravity in great distance from the earth; or within some depth of the earth.

33. IT is affirmed constantly by many, as an usual experiment; that a lump of ore, in the bottom of a mine, will be tumbled and stirred by two mens strength; which if you bring it to the top of the earth, will ask fix mens strength at the least to stir it. It is a noble instance, and is fit to be tried to the full: for it is very probable, that the motion of gravity worketh weakly, both far from the earth, and also within the earth: the former, because the appetite of union of dense bodies with the earth, in respect of the distance, is more dull; the latter, because the body hath in part attained its nature, when it is some depth in the earth. For as for the moving to a point or place (which was the opinion of the ancients) it is a mere vanity.

Experiment solitary touching the contraction of bodies in bulk, by the mixture of the more liquid body with the more solid.

34. IT is strange, how the ancients took up experiments upon credit, and yet did build great matters upon them. The observation of some of the best of them, delivered confidently is, that a vessel filled with ashes, will receive the like quantity of water, that it would have done if it had been empty. But this is utterly untrue, for the water will not go in by a fifth part. And I suppose, that that fifth part is the difference of the lying close, or open, of the ashes; as we see that ashes alone, if they be hard pressed, will lie in less room: and so the ashes with air between, lie looser; and with water, closer. For I have not yet found certainly, that the water it self, by mixture of ashes, or dust, will shrink or draw into less room.

Experiment solitary touching the making vines more fruitful.

35. IT is reported of credit, that if you lay good store of kernels of grapes about the root of a vine, it will make the vine come earlier and prosper better. It may be tried with other kernels, laid about the root of a plant of the same kind; as figs, kernels of apples, &c. The cause may be, for that the kernels draw out of the earth juice fit to nourish the tree, as those that would be trees of themselves, though there were no root; but the root being of greater strength, robbeth and devoureth the nourishment, when they have drawn it: as great fishes devour little.

Experiments in consort touching purging medicines.

36. THE operation of purging medicines, and the causes thereof, have been thought to be a great secret; and so according to the slothful manner of men, it is referred to a hidden propriety, a specifical virtue, and a fourth quality, and the like shifts of ignorance. The causes of purging are divers; all plain and perspicuous; and thoroughly maintained by experience. The first is, that whatsoever cannot be overcome and digested by the stomach, is by the stomach either put up by vomit, or put down to the guts; and by that motion of expulsion in the stomach and guts, other parts of the body, (as the orifices of the veins, and the like) are moved to expel by consent. For nothing is more frequent than motion of consent in the body of man.

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This surcharge of the stomach, is caused either by the quality of the medicine, or by the quantity. The qualities are three: extreme bitter, as in aloes, coloquintida, &c. loathsome and of horrible taste, as in agarick, black hel-lebore, &c. and of secret malignity, and disagreement towards man's body, many times not appearing much in the taste; as in scammony, mechoachan, antimony, &c. And note well, that if there be any medicine that purgeth, and hath neither of the first two manifest qualities; it is to be held suspected as a kind of poison; for that it worketh either by corrosion, or by a secret malignity, and enmity to nature: and therefore such medicines are warily to be prepared and used. The quantity of that which is taken, doth also cause purging; as we see in a great quantity of new milk from the cow; yea and a great quantity of meat; for surfeits many times turn to purges, both upwards and downwards. Therefore we see generally, that the working of purging medicines cometh two or three hours after the medicines taken; for that the stomach first maketh a proof, whether it can concoct them. And the like happeneth after surfeits, or milk in too great quantity.

37. A second cause is mordication of the orifices of the parts; especially of the mesentery veins; as it is seen, that salt, or any such thing that is sharp and biting, put into the fundament, doth provoke the part to expel; and mustard provoketh sneezing: and any sharp thing to the eyes provoketh tears. And therefore we see that almost all purgers have a kind of twitching and vellication, besides the griping which cometh of wind. And if this mordication be in an over-high degree, it is little better than the corrosion of poison; as it cometh to pass sometimes in antimony, especially if it be given to bodies not replete with humours; for where humours abound, the humours save the parts.

38. THE third cause is attraction: for I do not deny, but that purging medicines have in them a direct force of attraction; as drawing plaisters have in surgery: and we see sage, or betony bruised, sneezing powder, and other powders or liquors (which the physicians call *errhines*;) put into the nose, draw phlegm and water from the head; and so it is in apophlegmatisms and gargarisms, that draw the rheum down by the palate. And by this virtue, no doubt, some purgers draw more one humour, and some another, according to the opinion received: as rhubarb draweth choler; senna melancholy; agarick phlegm, &c. but yet (more or less) they draw promiscuously. And note also, that besides sympathy between the purger and the humour, there is also another cause, why some medicines draw some humour more than another. And it is, for that some medicines work quicker than others: they that draw quick, draw only the lighter and more fluid humours; and they that draw slow, work upon the more tough and viscous humours. And therefore men must beware how they take rhubarb, and the like, alone familiarly; for it taketh only the lightest part of the humour away, and leaveth the mass of humours more obstinate. And the like may be said of wormwood, which is so much magnified.

39. THE fourth cause is flatuosity; for wind stirred moveth to expel: and we find that (in effect) all purgers have in them a raw spirit, or wind; which is the principal cause of torsion in the stomach and belly. And therefore purgers lose (most of them) the virtue, by decoction upon the fire; and for that cause are given chiefly in infusion, juice, or powder.

40. THE fifth cause is compression, or crushing: as when water is crushed out of a sponge: so we see that taking cold moveth looseness by contraction of the skin and outward parts; and so doth cold likewise cause rheums and

defluxions from the head; and some astringent plaisters crush out purulent matter. This kind of operation is not found in many medicines: myrobalanes have it; and it may be the barks of peaches; for this virtue requireth an astringion; but such an astringion as is not grateful to the body; (for a pleasing astringion doth rather bind in the humours; then expel them:) and therefore such astringion is found in things of an harsh taste.

41. THE sixth cause is lubrefaction and relaxation. As we see in medicines emollient; such as are milk, honey, mallows, lettice, mercurial, peltitory of the wall, and others. There is also a secret virtue of relaxation in cold: for the heat of the body bindeth the parts and humours together, which cold relaxeth: as it is seen in urine, blood, pottage, or the like; which, if they be cold, break and dissolve. And by this kind of relaxation, fear looseth the belly; because the heat retiring inwards towards the heart, the guts and other parts are relaxed; in the same manner as fear also causeth trembling in the sinews. And of this kind of purgers are some medicines made of mercury.

42. THE seventh cause is abstersion; which is plainly a scouring off, or incision of the more viscous humours, and making the humours more fluid; and cutting between them and the part: As is found in nitrous water; which scoureth linen cloth (speedily) from the foulness. But this incision must be by a sharpness, without astringion: which we find in salt, wormwood, oxymel, and the like.

43. THERE be medicines that move stools, and not urine; some other, urine, and not stools. Those that purge by stool, are such as enter not at all, or little into the mesentery veins; but either at the first are not digestible by the stomach, and therefore move immediately downwards to the guts; or else are afterwards rejected by the mesentery veins, and so turn likewise downwards to the guts; and of these two kinds are most purgers. But those that move urine, are such as are well digested of the stomach, and well received also of the mesentery veins; so they come as far as the liver, which sendeth urine to the bladder, as the whey of blood: and those medicines being opening and piercing, do fortify the operation of the liver, in sending down the wheyey part of the blood to the reins. For medicines urinate do not work by rejection and indigestion, as solutive do.

44. THERE be divers medicines, which in greater quantity move stool, and in smaller, urine: and so contrariwise, some that in greater quantity, move urine, and in smaller, stool. Of the former sort is rhubarb, and some others. The cause is, for that rhubarb is a medicine, which the stomach in a small quantity doth digest and overcome, (being not flatuous nor loathsome;) and so sendeth it to the mesentery veins; and so being opening, it helpeth down urine: but in a greater quantity, the stomach cannot overcome it, and so it goeth to the guts. Pepper by some of the ancients is noted to be of the second sort; which being in small quantity, moveth wind in the stomach and guts, and so expelleth by stool; but being in greater quantity, dissipateth the wind; and it self getteth to the mesentery veins, and so to the liver and reins; where, by heating and opening, it sendeth down urine more plentifully.

Experiments in consort touching meats and drinks that are most nourishing.

45. WE have spoken of evacuating of the body; we will now speak something of the filling of it by restoratives in consumptions and emaciating diseases. In vegetables, there is one part that is more nourishing than another; as grains and roots nourish more, than the leaves; in so much as the order
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of the folietanes was put down by the pope, as finding leaves unable to nourish man's body. Whether there be that difference in the flesh of living creatures, is not well inquired: as whether livers, and other entrails, be not more nourishing than the outward flesh. We find that amongst the *Romans*, a goose's liver was a great delicacy; infomuch as they had artificial means to make it fair and great; but whether it were more nourishing, appeareth not. It is certain, that marrow is more nourishing than fat. And I conceive that some decoction of bones and sinews, stamped and well strained, would be a very nourishing broth: We find also that *Scotch* skinck, (which is a pottage of strong nourishment) is made with the knees and sinews of beef, but long boiled: jelly also, which they use for a restorative, is chiefly made of knuckles of veal. The pulp that is within the crawfish or crab, which they spice and butter, is more nourishing than the flesh of the crab or crawfish. The yolks of eggs are clearly more nourishing than the whites. So that it should seem, that the parts of living creatures that lie more inwards, nourish more than the outward flesh; except it be the brain: which the spirits prey too much upon, to leave it any great virtue of nourishing. It seemeth for the nourishing of aged men, or men in consumptions, some such thing should be devised, as should be half *chylus*, before it be put into the stomach.

46. TAKE two large capons; parboil them upon a soft fire, by the space of an hour or more, till in effect all the blood be gone. Add in the decoction the pill of a sweet lemon, or a good part of the pill of a citron, and a little mace. Cut off the shanks, and throw them away. Then with a good strong chopping-knife, mince the two capons, bones and all, as small as ordinary minced meat; put them into a large neat boulder; then take a kilderkin, sweet, and well seasoned, of four gallons of beer, of 8 s. strength, new as it cometh from the tunning; make in the kilderkin a great bung-hole of purpose: then thrust into it the boulder (in which the capons are) drawn out in length; let it steep in it three days and three nights, the bung-hole open, to work; then close the bung-hole, and so let it continue a day and a half; then draw it into bottles, and you may drink it well after three days botteling; and it will last six weeks (approved). It drinketh fresh, flowreth and mantleth exceedingly; it drinketh not newish at all; it is an excellent drink for a consumption, to be drunk either alone, or carded with some other beer. It quencheth thirst, and hath no whit of windiness. Note, that it is not possible, that meat and bread, either in broths, or taken with drink, as is used, should get forth into the veins and outward parts, so finely and easily, as when it is thus incorporate, and made almost a *chylus* aforehand.

47. TRIAL would be made of the like brew with potado roots, or burr roots, or the pith of artichoaks, which are nourishing meats: it may be tried also with other flesh; as pheasant, partridge, young pork, pig, venison, especially of young deer, &c.

48. A mortres made with the brawn of capons, stamped, and strained, and mingled (after it is made) with like quantity (at the least) of almond butter, it is an excellent meat to nourish those that are weak; better than black-manger, or jelly: and so is the cullice of cocks, boiled thick with the like mixture of almond butter: for the mortres or cullice, of it self, is more savoury and strong, and not so fit for nourishing of weak bodies; but the almonds that are not of so high a taste as flesh, do excellently qualify it.

49. INDIAN maiz hath (of certain) an excellent spirit of nourishment; but

but it must be thoroughly boiled, and made into a maiz-cream like a barley-cream. I judge the same of rice, made into a cream; for rice is in *Turky*, and other countries of the east, most fed upon; but it must be thoroughly boiled in respect of the hardness of it: and also because otherwise it bindeth the body too much.

50. PISTACHOES, so they be good, and not musty, joined with almonds in almond milk; or made into a milk of themselves, like unto almond milk, but more green; are an excellent nourisher: But you shall do well, to add a little ginger, scraped, because they are not without some subtle windiness.

51. MILK warm from the cow, is found to be a great nourisher, and a good remedy in consumptions: but then you must put into it, when you milk the cow, two little bags; the one of powder of mint, the other of powder of red roses; for they keep the milk somewhat from turning, or curdling in the stomach; and put in sugar also, for the same cause, and partly for the taste's sake; but you must drink a good draught, that it may stay less time in the stomach, lest it curdle: and let the cup into which you milk the cow, be set in a greater cup of hot water, that you may take it warm. And cow milk thus prepared, I judge to be better for a consumption, than ass milk, which (it is true) turneth not so easily, but it is a little harsh; marry it is more proper for sharpness of urine, and exulceration of the bladder, and all manner of lenifings. Woman's milk likewise is prescribed, when all fail; but I commend it not, as being a little too near the juice of man's body, to be a good nourisher; except it be in infants, to whom it is natural.

52. OIL of sweet almonds, newly drawn, with sugar, and a little spice, spread upon bread toasted, is an excellent nourisher: but then to keep the oil from frying in the stomach, you must drink a good draught of mild beer after it; and to keep it from relaxing the stomach too much, you must put in a little powder of cinnamon.

53. THE yolks of eggs are of themselves so well prepared by nature for nourishment; as (so they be poached, or rare boiled) they need no other preparation or mixture; yet they may be taken also raw, when they are new laid with malmsey, or sweet wine; you shall do well to put in some few slices of eryngium roots, and a little ambergrice; for by this means, besides the immediate faculty of nourishment, such drink will strengthen the back; so that it will not draw down the urine too fast; for too much urine doth always hinder nourishment.

54. MINCING of meat, as in pies, and buttered minced meat, saveth the grinding of the teeth; and therefore (no doubt) it is more nourishing, especially in age, or to them that have weak teeth; but the butter is not so proper for weak bodies; and therefore it were good to moisten it with a little claret wine, pill of lemon, or orange, cut small, sugar, and a very little cinnamon, or nutmeg. As for chuets, which are likewise minced meat, instead of butter and fat, it were good to moisten them, partly with cream, or almond, or pistacho milk; or barley, or maiz cream; adding a little coriander seed and caraway seed, and a very little saffron. The more full handling of alimentation we reserve to the due place.

WE have hitherto handled the particulars which yield best, and easiest, and plentifullest nourishment; and now we will speak of the best means of conveying and converting the nourishment.

55. THE first means is, to procure that the nourishment may not be robbed

bed and drawn away; wherein that which we have already said is very material; to provide, that the reins draw not too strongly an over-great part of the blood into urine. To this add that precept of *Aristotle*, that wine be forborn in all consumptions; for that the spirits of the wine, do prey upon the roscid juice of the body, and inter-common with the spirits of the body, and so deceive and rob them of their nourishment. And therefore if the consumption growing from the weakness of the stomach, do force you to use wine; let it always be burnt; that the quicker spirits may evaporate; or at the least quenched with two little wedges of gold, six or seven times repeated. Add also this provision, that there be not too much expence of the nourishment, by exhaling and sweating: and therefore if the patient be apt to sweat, it must be gently restrained. But chiefly *Hippocrates's* rule is to be followed, who adviseth quite contrary to that which is in use: Namely, that the linen, or garment next the flesh, be in winter dry, and oft changed; and in summer seldom changed, and smeared over with oil; for certain it is, that any substance that is fat, doth a little fill the pores of the body, and stay sweat, in some degree: But the more cleanly way is, to have the linen smeared lightly over with oil of sweet almonds; and not to forbear shifting as oft as is fit.

56. THE second means is, to send forth the nourishment into the parts more strongly; for which the working must be by strengthening of the stomach; and in this, because the stomach is chiefly comforted by wine and hot things, which otherwise hurt; it is good to resort to outward applications to the stomach: Wherein it hath been tried, that the quilts of roses, spices, mastick, wormwood, mint, &c. are nothing so helpful, as to take a cake of new bread, and to bedew it with a little sack, or alicant; and to dry it; and after it be dried a little before the fire, to put it within a clean napkin, and to lay it to the stomach; for it is certain, that all flower hath a potent virtue of astringency; in so much as it hardeneth a piece of flesh, or a flower, that is laid in it: and therefore a bag quilted with bran, is likewise very good; but it drieth somewhat too much, and therefore it must not lie long.

57. THE third means (which may be a branch of the former) is to send forth the nourishment the better by sleep. For we see, that bears, and other creatures that sleep in the winter, wax exceeding fat: and certain it is (as it is commonly believed) that sleep doth nourish much; both for that the spirits do less spend the nourishment in sleep, than when living creatures are awake: and because (that which is to the present purpose) it helpeth to thrust out the nourishment into the parts. Therefore in aged men, and weak bodies, and such as abound not with choler, a short sleep after dinner doth help to nourish; for in such bodies there is no fear of an over-hasty digestion, which is the inconvenience of postmeridian sleeps. Sleep also in the morning, after the taking of somewhat of easy digestion; as milk from the cow, nourishing broth, or the like, doth further nourishment: but this would be done sitting upright, that the milk or broth may pass the more speedily to the bottom of the stomach.

58. THE fourth means is to provide that the parts themselves may draw to them the nourishment strongly. There is an excellent observation of *Aristotle*; that a great reason, why plants (some of them) are of greater age than living creatures, is, for that they yearly put forth new leaves and boughs; whereas living creatures put forth (after their period of growth) nothing that is young, but hair and nails, which are excrements, and no parts. And

it is most certain, that whatsoever is young, doth draw nourishment better than that which is old: and then (that which is the mystery of that observation) young boughs, and leaves, calling the sap up to them; the same nourisheth the body in the passage. And this we see notably proved also, in that the oft cutting, or polling of hedges, trees, and herbs, doth conduce much to their lasting. Transfer therefore this observation to the helping of nourishment in living creatures: the noblest and principal use whereof is, for the prolongation of life; restauration of some degree of youth, and inteneration of the parts: for certain it is, that there are in living creatures parts that nourish and repair easily, and parts that nourish and repair hardly: and you must refresh and renew those that are easy to nourish, that the other may be refreshed, and (as it were) drink in nourishment in the passage. Now we see that draught oxen, put into a good pasture, recover the flesh of young beef; and men after long emaciating diets wax plump and fat, and almost new: so that you may surely conclude, that the frequent and wise use of those emaciating diets, and of purgings, and perhaps of some kind of bleeding, is a principal means of prolongation of life, and restoring some degree of youth: for as we have often said, death cometh upon living creatures like the torment of *Mezentius*:

*Mortua quinetiam jungebat corpora vidis,
Componens manibusque manus, atque oribus ora.* Æn. 8. v. 485.

For the parts in man's body easily reparable, (as spirits, blood and flesh) die in the embracement of the parts hardly reparable, (as bones, nerves, and membranes;) and likewise some entrails (which they reckon amongst the spermatical parts) are hard to repair: though that division of spermatical and menstrual parts be but a conceit. And this same observation also may be drawn to the present purpose of nourishing emaciated bodies: and therefore gentle friction draweth forth the nourishment, by making the parts a little hungry, and heating them; whereby they call forth nourishment the better. This friction I wish to be done in the morning. It is also best done by the hand, or a piece of scarlet wooll, wet a little with oil of almonds, mingled with a small quantity of bay-salt, or saffron; we see that the very currying of horses doth make them fat, and in good liking.

59. THE fifth means is, to further the very act of assimilation of nourishment; which is done by some outward emollients, that make the parts more apt to assimilate. For which I have compounded an ointment of excellent odour, which I call *Roman* ointment; *vide* the receipt. The use of it would be between sleeps; for in the latter sleep the parts assimilate chiefly.

Experiments solitary touching Filum medicinale.

60. THERE be many medicines, which by themselves would do no cure, but perhaps hurt; but being applied in a certain order, one after another, do great cures. I have tried (myself) a remedy for the gout, which hath seldom failed, but driven it away in twenty four hours space: it is first to apply a poultis, of which *vide* the receipt; and then a bath or fomentation, of which *vide* the receipt; and then a plaister, *vide* the receipt. The poultis relaxeth the pores, and maketh the humour apt to exhale. The fomentation calleth forth the humour by vapours; but yet in regard of the way made by the poultis, draweth gently; and therefore draweth the humours out, and doth not draw more to it; for it is a gentle fomentation, and hath withal a mixture (though very little) of some stupefactive. The plaister is a moderate

moderate astringent plaister, which repelleth new humour from falling. The poultis alone would make the part more soft and weak, and apter to take the defluxion and impressiion of the humour. The fomentation alone, if it were too weak, without way made by the poultis, would draw forth little ; if too strong, it would draw to the part, as well as draw from it. The plaister alone would pen the humour already contained in the part, and so exasperate it, as well as forbid new humour. Therefore they must be all taken in order, as is said. The poultis is to be laid to for two or three hours : the fomentation for a quarter of an hour, or somewhat better, being used hot, and seven or eight times repeated : the plaister to continue on still, till the part be well confirmed.

Experiments solitary touching cure by custom.

61. THERE is a secret way of cure, (unpractised) by assuetude of that which in it self hurteth. Poisons have been made, by some, familiar, as hath been said. Ordinary keepers of the sick of the plague; are seldom infected. Enduring of tortures, by custom, hath been made more easy : the brooking of enormous quantity of meats, and so of wine or strong drink, hath been, by custom, made to be without surfeit or drunkenness. And generally diseases that are chronical, as coughs, phthificks, some kinds of palsies, lunacies, &c. are most dangerous at the first : therefore a wise physician will consider whether a disease be incurable ; or whether the just cure of it be not full of peril ; and if he find it to be such, let him resort to palliation ; and alleviate the symptom, without busying himself too much with the perfect cure : and many times (if the patient be indeed patient) that course will exceed all expectation. Likewise the patient himself may strive, by little and little, to overcome the symptom in the exacerbation, and so, by time, turn suffering into nature.

Experiment solitary touching cure by excess.

62. DIVERS diseases, especially chronical, (such as quartan agues) are sometimes cured by surfeit and excesses : as excess of meat, excess of drink, extraordinary fasting, extraordinary stirring or lassitude, and the like. The cause is, for that diseases of continuance get an adventitious strength from custom, besides their material cause from the humours : so that the breaking of the custom doth leave them only to their first cause ; which if it be any thing weak will fall off. Besides, such excesses do excite and spur nature, which thereupon rises more forcibly against the disease.

Experiment solitary touching cure by motion of consent.

63. THERE is in the body of man a great consent in the motion of the several parts. We see, it is children's sport, to prove whether they can rub upon their breast with one hand, and pat upon their forehead with another ; and straightways they shall sometimes rub with both hands, or pat with both hands. We see, that when the spirits that come to the nostrils, expel a bad scent, the stomach is ready to expel by vomit. We find that in consumptions of the lungs, when nature cannot expel by cough, men fall into fluxes of the belly, and then they die. So in pestilent diseases, if they cannot be expelled by sweat, they fall likewise into looseness ; and that is commonly mortal. Therefore physicians should ingeniously contrive, how by motions that are in their power, they may excite inward motions that are not in their power, by consent : as by the stench of feathers, or the like, they cure the rising of the mother.

Experiment solitary touching cure of diseases, which are contrary to predisposition.

64. HIPPOCRATES aphorism, in *morbis minus*, is a good profound aphorism. It importeth, that diseases, contrary to the complexion, age, sex, season of the year, diet, &c. are more dangerous than those that are concurrent. A man would think it should be otherwise; for that, when the accident of sickness, and the natural disposition, do second the one the other, the disease should be more forcible: and so (no doubt) it is; if you suppose like quantity of matter. But that which maketh good the aphorism, is, because such diseases do shew a greater collection of matter, by that they are able to overcome those natural inclinations to the contrary. And therefore in diseases of that kind, let the physician apply himself more to purgation, than to alteration; because the offence is in the quantity; and the qualities are rectified of themselves.

Experiment solitary touching preparations before purging, and settling of the body afterward.

65. PHYSICIANS do wisely prescribe, that there be preparatives used before just purgations; for certain it is, that purgers do many times great hurt, if the body be not accommodated, both before and after the purging. The hurt that they do, for want of preparation before purging, is by the sticking of the humours, and their not coming fair away; which causeth in the body great perturbations, and ill accidents, during the purging; and also the diminishing and dulling of the working of the medicine it self, that it purgeth not sufficiently; therefore the work of preparation is double; to make the humours fluid and mature, and to make the passages more open: for both those help to make the humours pass readily. And for the former of these, syrups are most profitable; and for the latter, apozemes, or preparing broths; clysters also help lest the medicine stop in the guts, and work gripingly. But it is true, that bodies abounding with humours, and fat bodies, and open weather, are preparatives in themselves; because they make the humours more fluid. But let a physician beware, how he purge after hard frosty weather, and in a lean body, without preparation. For the hurt that they may do after purging, it is caused by the lodging of some humours in ill places: for it is certain, that there be humours, which somewhere placed in the body, are quiet, and do little hurt; in other places, (especially passages) do much mischief. Therefore it is good, after purging, to use apozemes and broths, not so much opening as those used before purging; but absterfve and mundifying clysters also are good to conclude with, to draw away the reliques of the humours, that may have descended to the lower region of the body.

Experiment solitary touching stanching of blood.

66. BLOOD is stanch'd divers ways. First by astringents, and repercussive medicines. Secondly by drawing of the spirits and blood inwards; which is done by cold; as iron or a stone laid to the neck, doth stanch the bleeding at the nose; also it hath been tried, that the testicles being put into sharp vinegar, hath made a sudden recess of the spirits, and stanch'd blood. Thirdly by the recess of the blood by sympathy. So it hath been tried, that the part that bleedeth, being thrust into the body of a capon, or sheep, new ript and bleeding, hath stanch'd blood; the blood, as it seemeth, sucking and drawing

drawing up, by similitude of substance, the blood it meeteth with; and so it self going back. Fourthly by custom and time; so the Prince of *Orange*, in his first hurt, by the *Spanish* boy, could find no means to stanch the blood, either by medicine or ligament; but was fain to have the orifice of the wound stopped by mens thumbs, succeeding one another, for the space at the least of two days; and at the last the blood by custom only retired. There is a fifth way also in use, to let blood in an adverse part, for a revulsion.

Experiment solitary touching change of aliments and medicines.

67. IT helpeth, both in medicine and aliment, to change and not to continue the same medicine and aliment still. The cause is, for that nature by continual use of any thing, groweth to a satiety and dulness, either of appetite or working. And we see that assuetude of things hurtful, doth make them lose their force to hurt; as poison, which with use some have brought themselves to brook. And therefore it is no marvel, though things helpful by custom lose their force to help: I count intermission almost in the same thing with change; for that, that hath been intermitted, is after a sort new.

Experiment solitary touching diets.

68. IT is found by experience, that in diets of guaiacum, farza, and the like, (especially if they be strict) the patient is more troubled in the beginning, than after continuance; which hath made some of the more delicate sort of patients give them over in the midst; supposing that if those diets trouble them so much at first, they shall not be able to endure them to the end. But the cause is, for that all those diets do dry up humours, rheums, and the like; and they cannot dry up until they have first attenuated; and while the humour is attenuated, it is more fluid than it was before, and troubleth the body a great deal more, until it be dried up and consumed. And therefore patients must expect a due time, and not keck at them at the first.

Experiments in consort touching the production of cold.

69. THE producing of cold is a thing very worthy the inquisition; both for the use and disclosure of causes. For heat and cold are nature's two hands, whereby she chiefly worketh: and heat we have in readiness, in respect of the fire; but for cold we must stay till it cometh, or seek it in deep caves, or high mountains: and when all is done, we cannot obtain it in any great degree: for furnaces of fire are far hotter than a summer's sun; but vaults or hills are not much colder than a winter's frost.

THE first means of producing cold, is that which nature presenteth us withal; namely, the expiring of cold out of the inward parts of the earth in winter, when the sun hath no power to overcome it; the earth being (as hath been noted by some) *primum frigidum*. This hath been asserted, as well by ancient, as by modern philosophers: it was the tenet of *Parmenides*. It was the opinion of the author of the discourse in *Plutarch*, (for I take it, that book was not *Plutarch's* own) *de primo frigido*. It was the opinion of *Teleseus*, who hath renewed the philosophy of *Parmenides*, and is the best of the novelists.

70. THE second cause of cold is the contact of cold bodies; for cold is active and transitive into bodies adjacent, as well as heat: which is seen in those things that are touched with snow or cold water. And therefore, whosoever will be an inquirer into nature, let him resort to a conservatory of snow and

ice; such as they use for delicacy, to cool wine in summer: which is a poor and contemptible use, in respect of other uses, that may be made of such conservatories.

71. THE third cause is the primary nature of all tangible bodies: for it is well to be noted, that all things whatsoever (tangible) are of themselves cold; except they have an accessory heat by fire, life, or motion: For even the spirit of wine, or chymical oils, which are so hot in operation, are to the first touch cold; and air it self compressed, and condensed a little by blowing, is cold.

72. THE fourth cause is the density of the body; for all dense bodies are colder than most other bodies, as metals, stone, glass; and they are longer in heating than softer bodies. And it is certain, that earth, dense, tangible, hold all of the nature of cold. The cause is, for that all matters tangible being cold, it must needs follow, that where the matter is most congregate, the cold is the greater.

73. THE fifth cause of cold, or rather of increase and vehemency of cold, is a quick spirit inclosed in a cold body: as will appear to any that shall attentively consider of nature in many instances. We see nitre (which hath a quick spirit) is cold; more cold to the tongue than a stone; so water is colder than oil, because it hath a quicker spirit; for all oil, though it hath the tangible parts better digested than water, yet hath it a duller spirit: so snow is colder than water, because it hath more spirit within it: so we see that salt put to ice (as in the producing of the artificial ice) increaseth the activity of cold: so some *insecta* which have spirit of life, as snakes and silk-worms, are to the touch cold. So quicksilver is the coldest of metals, because it is fullest of spirit.

74. THE sixth cause of cold is the chasing and driving away of spirits, such as have some degree of heat: for the banishing of the heat must needs leave any body cold. This we see in the operation of opium, and stupefactives, upon the spirits of living creatures: and it were not amiss to try opium, by laying it upon the top of a weather-glass, to see whether it will contract the air: but I doubt it will not succeed; for besides that the virtue of opium will hardly penetrate through such a body as glass, I conceive that opium, and the like, make the spirits fly rather by malignity, than by cold.

75. SEVENTHLY, the same effect must follow upon the exhaling or drawing out of the warm spirits, that doth upon the flight of the spirits. There is an opinion, that the moon is magnetical of heat, as the sun is of cold and moisture: it were not amiss therefore to try it, with warm waters; the one exposed to the beams of the moon, the other with some skreen betwixt the beams of the moon and the water; as we use to the sun for shade; and to see whether the former will cool sooner. And it were also good to inquire, what other means there may be, to draw forth the exile heat, which is in the air; for that may be a secret of great power to produce cold weather.

Experiments in consort touching the version and transmutation of air into water.

WE have formerly set down the means of turning air into water, in the experiment 27. But because it is *magnale naturae*, and tendeth to the subduing of a very great effect, and is also of manifold use, we will add some instances in consort that give light thereunto.

76. IT is reported by some of the ancients, that sailors have used, every night, to hang fleeces of wool on the sides of their ships, the wool towards the water; and that they have crushed fresh water out of them, in the morning, for their use. And thus much we have tried, that a quantity of wool tied loose together, being let down into a deep well, and hanging in the middle, some three fathom from the water, for a night, in the winter-time; increased in weight (as I now remember) to a fifth part.

77. IT is reported by one of the ancients, that in *Lydia*, near *Pergamus*, there were certain workmen, in time of wars fled into caves; and the mouth of the caves being stopped by the enemies, they were famished. But long time after the dead bones were found; and some vessels which they had carried with them; and the vessels full of water; and that water thicker, and more towards ice, than common water: which is a notable instance of condensation and induration by burial under earth, (in caves) for a long time; and of version also (as it should seem) of air into water; if any of those vessels were empty. Try therefore a small bladder hung in snow, and the like in nitre, and the like in quicksilver: and if you find the bladders fallen or shrunk, you may be sure the air is condensed by the cold of those bodies, as it would be in a cave under earth.

78. IT is reported of very good credit, that in the *East-Indies*, if you set a tub of water open in a room where cloves are kept, it will be drawn dry in twenty four hours; though it stand at some distance from the cloves. In the country, they use many times, in deceit, when their wool is new shorn, to set some pails of water by in the same room, to increase the weight of the wool. But it may be, that the heat of the wool, remaining from the body of the sheep, or the heat gathered by the lying close of the wool, helpeth to draw the watry vapour; but that is nothing to the version.

79. IT is reported also credibly, that wool new shorn, being laid casually upon a vessel of verjuice, after some time, had drunk up a great part of the verjuice, though the vessel were whole without any flaw, and had not the bung-hole open. In this instance, there is (upon the by) to be noted, the percolation or suing of the verjuice through the wood; for verjuice of it self would never have passed through the wood: so as, it seemeth, it must be first in a kind of vapour, before it pass.

80. IT is especially to be noted, that the cause that doth facilitate the version of air into water, when the air is not in gross but subtilly mingled with tangible bodies, is, (as hath been partly touched before) for that tangible bodies have an antipathy with air; and if they find any liquid body that is more dense near them, they will draw it: and after they have drawn it, they will condense it more, and in effect incorporate it; for we see that a sponge, or wool, or sugar, or a woollen cloth, being put but in part in water, or wine, will draw the liquor higher, and beyond the place: where the water or wine cometh. We see also, that wood, lute-strings, and the like, do swell in moist seasons: as appeareth by the breaking of the strings, the hard turning of the pegs, and the hard drawing forth of boxes, and opening of wainscot doors; which is a kind of infusion: and is much like to an infusion in water, which will make wood to swell: as we see in the filling of the chops of bowles, by laying them in water. But for that part of these experiments which concerneth attraction, we will reserve it to the proper title of attraction.

81. THERE is also a version of air into water seen in the sweating of marbles and other stones; and of wainscot before and in moist weather. This must be, either by some moisture the body yieldeth; or else by the moist air thickned

thickned against the hard body. But it is plain, that it is the latter ; for that we see wood painted with oil colour, will sooner gather drops in a moist night, than wood alone ; which is caused by the smoothness and closeness ; which letteth in no part of the vapour, and so turneth it back, and thickeneth it into dew. We see also, that breathing upon a glass, or smooth body, giveth a dew ; and in frosty mornings (such as we call rime frosts) you shall find drops of dew upon the inside of glass windows ; and the frost it self upon the ground, is but a version or condensation, of the moist vapours of the night, into a watry substance : dews likewise and rain, are but the returns of moist vapours condensed ; the dew, by the cold only of the sun's departure, which is the gentler cold ; rains, by the cold of that which they call the middle region of the air ; which is the more violent cold.

82. IT is very probable (as hath been touched) that that which will turn water into ice, will likewise turn air some degree nearer unto water. Therefore try the experiment of the artificial turning water into ice (whereof we shall speak in another place) with air in place of water, and the ice about it. And although it be a greater alteration to turn air into water, than water into ice ; yet there is this hope, that by continuing the air longer time, the effect will follow : for that artificial conversion of water into ice, is the work of a few hours ; and this of air may be tried by a month's space, or the like.

Experiments in consort touching induration of bodies.

INDURATION, or lapidification of substances more soft, is likewise another degree of condensation ; and is a great alteration in nature. The effecting and accelerating thereof is very worthy to be inquired. It is effected by three means. The first is by cold ; whose property is to condense and constipate, as hath been said. The second is by heat ; which is not proper but by consequence ; for the heat doth attenuate ; and by attenuation doth send forth the spirit and moister part of a body ; and upon that, the more gross of the tangible parts do contract and serre themselves together ; both to avoid *vacuum* (as they call it) and also to munite themselves against the force of the fire, which they have suffered. And the third is by assimilation ; when a hard body assimilateth a soft, being contiguous to it.

THE examples of induration, taking them promiscuously, are many : as the generation of stones within the earth, which at the first are but rude earth or clay : and so of minerals, which come (no doubt) at first of juices concrete, which afterward indurate : and so of porcellane, which is an artificial cement, buried in the earth a long time ; and so the making of brick and tile : also the making of glass of a certain sand and brake-roots, and some others matters : also the exudations of rock-diamonds and crystal, which harden with time : also the induration of bead-amber, which at first is a soft substance ; as appeareth by the flies and spiders which are found in it ; and many more : but we will speak of them distinctly.

83. FOR indurations by cold, there be few trials of it ; for we have no strong or intense cold here on the surface of the earth, so near the beams of the sun, and the heavens. The likeliest trial is by snow and ice ; for as snow and ice, especially being holpen and their cold activated by nitre or salt, will turn water into ice, and that in a few hours ; so it may be, it will turn wood or stiff clay into stone, in longer time. Put therefore, into a conserving pit of snow and ice, (adding some quantity of salt and nitre) a piece of wood, or a piece of tough clay, and let it lie a month or more.

84. ANOTHER trial is by metalline waters, which have virtual cold in them.

them. Put therefore wood or clay into smiths water, or other metalline water, and try whether it will not harden in some reasonable time. But I understand it of metalline waters, that come by washing or quenching; and not of strong waters that come by dissolution; for they are too correlative to consolidate.

85. IT is already found, that there are some natural spring-waters, that will insapitate wood; so that you shall see one piece of wood, whereof the part above the water shall continue wood; and the part under the water shall be turned into a kind of gravelly stone. It is likely those waters are of some metalline mixture; but there would be more particular inquiry made of them. It is certain, that an egg was found, having lain many years in the bottom of a moat, where the earth had somewhat overgrown it; and this egg was come to the hardness of a stone; and had the colours of the white and yolk perfect: and the shell shining in small grains like sugar, or alabaster.

86. ANOTHER experience there is of induration by cold, which is already found; which is, that metals themselves are hardened by often heating and quenching in cold water: for cold ever worketh most potently upon heat precedent.

87. FOR induration by heat, it must be considered, that heat, by the exhaling of the moister parts, doth either harden the body, as in bricks, tiles, &c. or if the heat be more fierce, maketh the grosser part it self run and melt; as in the making of ordinary glass; and in the vitrification of earth, (as we see in the inner parts of furnaces;) and in the vitrification of brick, and of metals. And in the former of these, which is the hardening by baking without melting, the heat hath these degrees; first, it indurath; and then maketh fragile; and lastly it doth incinerate and calcinate.

88. BUT if you desire to make an induration with toughness, and less fragility, a middle way would be taken; which is that which *Aristotle* hath well noted; but would be thoroughly verified. It is to decoct bodies in water for two or three days; but they must be such bodies into which the water will not enter; as stone and metal: For if they be bodies, into which the water will enter, then long seething will rather soften than indurate them; as hath been tried in eggs, &c. therefore softer bodies must be put into bottles; and the bottles hung into water seething, with the mouths open above the water, that no water may get in; for by this means the virtual heat of the water will enter; and such a heat, as will not make the body adust, or fragile; but the substance of the water will be shut out. This experiment we made; and it sorted thus. It was tried with a piece of free-stone, and with pewter, put into the water at large. The free-stone we found received in some water; for it was softer and easier to scrape, than a piece of the same stone kept dry. But the pewter into which no water could enter, became more white, and liker to silver, and less flexible, by much. There were also put into an earthen bottle, placed as before, a good pellet of clay, a piece of cheese, a piece of chalk, and a piece of free-stone. The clay came forth almost of the hardness of a stone; the cheese likewise very hard, and not well to be cut: the chalk and the free-stone much harder than they were. The colour of the clay inclined not a whit to the colour of brick, but rather to white, as in ordinary drying by the sun. Note, that all the former trials were made by a boiling upon a good hot fire, renewing the water as it consumed, with other hot water; but the boiling was but for twelve hours only; and it is like that the experiment would have been more effectual,

effectual, if the boiling had been for two or three days, as we prescribed before.

89. As touching affimilation, (for there is a degree of affimilation even in inanimate bodies) we see examples of it in some stones in clay-grounds, lying near to the top of the earth, where pebble is; in which you may manifestly see divers pebbles gathered together, and a crust of cement or stone between them, as hard as the pebbles themselves: and it were good to make a trial of purpose, by taking clay, and putting in it divers pebble stones, thick set, to see whether in continuance of time, it will not be harder than other clay of the same lump, in which no pebbles are set. We see also in ruins of old walls, especially towards the bottom, the mortar will become as hard as the brick: we see also, that the wood on the sides of vessels of wine, gathereth a crust of tartar, harder than the wood it self; and scales likewise grow to the teeth, harder than the teeth themselves.

90. MOST of all, induration by affimilation appeareth in the bodies of trees and living creatures: for no nourishment that the tree receiveth, or that the living creature receiveth, is so hard as wood, bone, or horn, &c. but is indurated after by affimilation.

Experiment solitary touching the version of water into air.

91. THE eye of the understanding, is like the eye of the sense: for as you may see great objects through small crannies, or levels; so you may see great axioms of nature, through small and contemptible instances. The speedy depredation of air upon watry moisture, and version of the same into air, appeareth in nothing more visible, than in the sudden discharge, or vanishing, of a little cloud of breath, or vapour, from glass, or the blade of a sword, or any such polished body; such as doth not at all detain or imbibe the moisture; for the mistiness scattereth and breaketh up suddenly. But the like cloud, if it were oily or fatty, will not discharge; not because it sticketh faster; but because air preyeth upon water; and flame, and fire, upon oil; and therefore, to take out a spot of grease, they use a coal upon brown paper; because fire worketh upon grease, or oil, as air doth upon water. And we see paper oiled, or wood oiled, or the like, last long moist; but wet with water, dry or putrify sooner. The cause is, for that air meddleth little with the moisture of oil.

Experiment solitary touching the force of union.

92. THERE is an admirable demonstration in the same trifling instance of the little cloud upon glass, or gems, or blades of swords, of the force of union, even in the least quantities, and weakest bodies, how much it conduceth to preservation of the present form, and the resisting of a new. For mark well the discharge of that cloud; and you shall see it ever break up, first in the skirts, and last in the midst. We see likewise, that much water draweth forth the juice of the body infused; but little water is imbibed by the body: and this is a principal cause, why in operation upon bodies for their version or alteration, the trial in great quantities doth not answer the trial in small; and so deceiveth many; for that (I say) the greater body resisteth more any alteration of form, and requireth far greater strength in the active body, that should subdue it.

Experiment solitary touching the producing of feathers and hairs of divers colours.

93. WE have spoken before, in the fifth instance, of the cause of orient colours in birds; which is by the fineness of the strainer; we will now endeavour

deavour to reduce the same axiom to a work. For this writing of our *Sylva Sylvarum*, is (to speak properly) not natural history, but a high kind of natural magick. For it is not a description only of nature, but a breaking of nature, into great and strange works. Try therefore the anointing over of pigeons, or other birds, when they are but in their down; or of whelps, cutting their hair as short as may be; or of some other beast; with some ointment, that is not hurtful to the flesh; and that will harden and stick very close; and see whether it will not alter the colours of the feathers or hair. It is received, that the pulling off the first feathers of birds clean, will make the new come forth white: and it is certain, that white is a penurious colour, and where moisture is scant. So blue violets, and other flowers, if they be starved, turn pale and white; birds and horses, by age or scars, turn white: and the hoar hairs of men come by the same reason. And therefore in birds, it is very likely, that the feathers that come first, will be many times of divers colours, according to the nature of the bird; for that the skin is more porous; but when the skin is more shut and close, the feathers will come white. This is a good experiment, not only for the producing of birds and beasts of strange colours; but also for the disclosure of the nature of colours themselves; which of them require a finer porosity, and which a grosser.

Experiment solitary touching the nourishment of living creatures before they be brought forth.

94. It is a work of providence, that hath been truly observed by some; that the yolk of the egg conduceth little to the generation of the bird, but only to the nourishment of the same: for if a chicken be opened, when it is new hatched; you shall find much of the yolk remaining. And it is needful, that birds that are shaped without the female's womb, have in the egg, as well matter of nourishment, as matter of generation for the body. For after the egg is laid, and severed from the body of the hen; it hath no more nourishment from the hen; but only a quickning heat when she sitteth. But beasts and men need not the matter of nourishment within themselves; because they are shaped within the womb of the female, and are nourished continually from her body.

Experiments in consort touching sympathy and antipathy for medicinal use.

95. IT is an inveterate and received opinion, that *cantharides* applied to any part of the body, touch the bladder, and exulcerate it, if they stay on long. It is likewise received, that a kind of stone, which they bring out of the *West-Indies*, hath a peculiar force to move gravel, and to dissolve the stone; in so much, as laid but to the wrist, it hath so forcibly sent down gravel, as men have been glad to remove it, it was so violent.

96. IT is received and confirmed by daily experience, that the soles of the feet have great affinity with the head, and the mouth of the stomach: as we see, going wet-shod, to those that use it not, affecteth both: applications of hot powders to the feet attenuate first, and after dry the rheum: and therefore a physician that would be mystical, prescribeth, for the cure of the rheum, that a man should walk continually upon a camomile alley; meaning, that he should put camomile within his socks. Likewise pigeons bleeding, applied to the soles of the feet, ease the head: and soporiferous medicines applied unto them, provoke sleep.

97. IT seemeth, that as the feet have a sympathy with the head; so the

wrists and hands have a sympathy with the heart; we see the affects and passions of the heart and spirits are notably disclosed by the pulse: and it is often tried, that juices of stock-gilly-flowers, rose-campian, garlick, and other things, applied to the wrists, and renewed, have cured long agues. And I conceive, that washing, with certain liquors, the palms of the hands doth much good: and they do well in heats of agues, to hold in the hands eggs of alabaster, and balls of crystal.

OF these things we shall speak more, when we handle the title of sympathy and antipathy in the proper place.

Experiment solitary touching the secret processes of nature.

98. THE knowledge of man (hitherto) hath been determined by the view, or sight; so that whatsoever is invifible, either in respect of the fineness of the body it self; or the smallness of the parts; or of the subtilty of the motion; is little inquired. And yet these be the things that govern nature principally; and without which, you cannot make any true *analysis* and indication of the proceedings of nature. The spirits or pneumatics, that are in all tangible bodies, are scarce known. Sometimes they take them for *vacuum*; whereas they are the most active of bodies. Sometimes they take them for air; from which they differ exceedingly, as much as wine from water; and as wood from earth. Sometimes they will have them to be natural heat, or a portion of the element of fire; whereas some of them are crude and cold. And sometimes they will have them to be the virtues and qualities of the tangible parts, which they see; whereas they are things by themselves. And then, when they come to plants and living creatures, they call them souls. And such superficial speculations they have; like prospectives, that shew things inward, when they are but paintings. Neither is this a question of words, but infinitely material in nature. For spirits are nothing else but a natural body, rarified to a proportion, and included in the tangible parts of bodies, as in an integument. And they be no less differing one from the other, than the dense or tangible parts; and they are in all tangible bodies whatsoever, more or less; and they are never (almost) at rest: and from them, and their motions, principally proceed arefaction, colliquation, concoction, maturation, putrefaction, vivification, and most of the effects of nature: for, as we have figured them in our *Sapientia veterum*, in the fable of *Proserpina*, you shall in the infernal regiment hear little doings of *Pluto*, but most of *Proserpina*: for tangible parts in bodies are stupid things; and the spirits do (in effect) all. As for the differences of tangible parts in bodies, the industry of the chymists hath given some light, in discerning by their separations, the oily, crude, pure, impure, fine, gross parts of bodies, and the like. And the physicians are content to acknowledge, that herbs and drugs have divers parts; as that opium hath a stupefactive part, and a heating part; the one moving sleep, the other a sweat following; and that rhubarb hath purging parts, and astringent parts, &c. But this whole inquisition is weakly and negligently handled. And for the more subtle differences of the minute parts, and the posture of them in the body, (which also hath great effects) they are not at all touched: as for the motions of the minute parts of bodies, which do so great effects, they have not been observed at all; because they are invifible, and incur not to the eye; but yet they are to be apprehended by experience: as *Democritus* said well, when they charged him to hold, that the world was made of such little moats, as were seen in the sun; *atomus* (saith he) *necessitate rationis & experientiae esse convincitur; atomum*

mum enim nemounquam vidit. And therefore the tumult in the parts of solid bodies, when they are compressed, which is the cause of all flight of bodies through the air, and of other mechanical motions, (as hath been partly touched before, and shall be thoroughly handled in due place) is not seen at all. But nevertheless, if you know it not, or inquire it not attentively and diligently, you shall never be able to discern, and much less to produce, a number of mechanical motions. Again, as to the motions corporal, within the enclosures of bodies, whereby the effects (which were mentioned before) pass between the spirits and the tangible parts, (which are arefaction, colliquation, concoction, maturation, &c.) they are not at all handled. But they are put off by the names of virtues, and natures, and actions, and passions, and such other logical words.

Experiment solitary touching the power of heat.

99. It is certain, that of all powers in nature, heat is the chief; both in the frame of nature, and in the works of art. Certain it is likewise, that the effects of heat are most advanced, when it worketh upon a body without loss or dissipation of the matter; for that ever betrayeth the account. And therefore it is true, that the power of heat is best perceived in distillations, which are performed in close vessels and receptacles. But yet there is a higher degree; for howsoever distillations do keep the body in cells and cloysters, without going abroad, yet they give space unto bodies to turn into vapour; to return into liquor; and to separate one part from another. So as nature doth expatiate, although it hath not full liberty: whereby the true and ultimate operations of heat are not attained. But if bodies may be altered by heat, and yet no such reciprocation of rarefaction, and of condensation, and of separation, admitted; then it is like that this *Proteus* of matter, being held by the sleeves, will turn and change into many *metamorphoses*. Take therefore a square vessel of iron, in form of a cube, and let it have good thick and strong sides. Put into it a cube of wood, that may fill it as close as may be; and let it have a cover of iron, as strong (at least) as the sides; and let it be well luted, after the manner of the chymists. Then place the vessel within burning coals, kept quick kindled for some few hours space. Then take the vessel from the fire, and take off the cover, and see what is become of the wood. I conceive, that, since all inflammation and evaporation are utterly prohibited, and the body still turned upon it self, that one of these two effects will follow: either that the body of the wood will be turned into a kind of *amalgama*, (as the chymists call it;) or that the finer part will be turned into air, and the grosser stick as it were baked, and incrustate upon the sides of the vessel; being become of a denser matter, than the wood it self, crude. And for another trial, take also water, and put it in the like vessel, stopped as before; but use a gentler heat, and remove the vessel sometimes from the fire; and again, after some small time, when it is cold, renew the heating of it; and repeat this alteration some few times: and if you can once bring to pass, that the water, which is one of the simplest of bodies, be changed in colour, odour, or taste, after the manner of compound bodies, you may be sure that there is a great work wrought in nature, and a notable entrance made into strange changes of bodies, and productions: and also a way made to do that by fire, in small time, which the sun and age do in long time. But of the admirable effects of this distillation in close, (for so we call it) which is like the wombs and matrices of living creatures, where nothing expireth nor separateth; we will speak fully, in the due place;

not that we aim at the making of *Paracelsus* pygmies, or any such prodigious follies; but that we know the effects of heat will be such, as will scarce fall under the conceit of man, if the force of it be altogether kept in.

Experiment solitary touching the impossibility of annihilation.

100. THERE is nothing more certain in nature, than that it is impossible for any body to be utterly annihilated; but that, as it was the work of the omnipotency of God, to make somewhat of nothing; so it requireth the like omnipotency to turn somewhat into nothing. And therefore it is well said by an obscure writer of the sect of the chymists; that there is no such way to effect the strange transmutations of bodies, as to endeavour and urge by all means, the reducing of them to nothing. And herein is contained also a great secret of preservation of bodies from change; for if you can prohibit, that they neither turn into air, because no air cometh to them; nor go into the bodies adjacent, because they are utterly heterogeneous; nor make a round and circulation within themselves; they will never change, though they be in their nature never so perishable or mutable. We see, how flies, and spiders, and the like, get a sepulchre in amber, more durable than the monument and embalming of the body of any king. And I conceive the like will be of bodies put into quick-silver. But then they must be but thin, as a leaf, or a piece of paper or parchment; for if they have a greater craftitude, they will alter in their own body, though they spend not. But of this, we shall speak more, when we handle the title of conservation of bodies.



N A T U -

N A T U R A L H I S T O R Y.

C E N T. II.

Experiments in consort touching musick.

MUSICK in the practick, hath been well pursued ; and in good variety ; but in the theory, and especially in the yielding of the causes of the practick, very weakly ; being reduced into certain mystical subtilties, of no use, and not much truth. We shall therefore, after our manner, join the contemplative and active part together.

101. ALL sounds, are either musical sounds, which we call tones ; whereunto there may be an harmony ; which sounds are ever equal ; as singing, the sounds of stringed and wind-instruments, the ringing of bells, &c. or immusical sounds, which are ever unequal ; such as are the voice in speaking, all whisperings, all voices of beasts and birds, (except they be singing birds ;) all percussions of stones, wood, parchment, skins, (as in drums ;) and infinite others.

102. THE sounds that produce tones, are ever from such bodies, as are in their parts and pores equal ; as well as the sounds themselves are equal ; and such are the percussions of metal, as in bells ; of glass, as in the flapping of a drinking glass ; of air, as in mens voices whilst they sing ; in pipes, whistles, organs, stringed instruments, &c. and of water, as in the nightingale pipes of regals, or organs, and other hydraulicks ; which the ancients had, and *Nero* did so much esteem, but are now lost. And if any man think, that the string of the bow, and the string of the viol, are neither of them equal bodies ; and yet produce tones ; he is in an error. For the sound is not created between the bow or *plectrum*, and the string ; but between the string and the air ; no more than it is between the finger or quill, and the string in other instruments. So there are (in effect) but three percussions that create tones ; percussions of metals, (comprehending glass, and the like) percussions of air, and percussions of water.

103. THE *diapason* or eight in musick is the sweetest concord ; in so much as it is in effect an unison ; as we see in lutes, that are strung in the base strings with two strings, one an eight above another ; which make but as one sound. And every eight note in ascent, (as from eight to fifteen, from fifteen to twenty two, and so *in infinitum*) are but scales of *diapason*. The cause is dark, and hath not been rendred by any ; and therefore would be better contemplated. It seemeth that air, (which is the subject of sounds)

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in sounds that are not tones, (which are all unequal, as hath been said) admitteth much variety; as we see in the voices of living creatures; and likewise in the voices of several men, (for we are capable to discern several men by their voices;) and in the conjugation of letters, whence articulate sounds proceed; which of all others are most various. But in the sounds which we call tones, (that are ever equal) the air is not able to cast it self into any such variety; but is forced to recur into one and the same posture or figure, only differing in greatness and smallness. So we see figures may be made of lines, crooked and straight, in infinite variety, where there is inequality; but circles or squares or triangles equilateral, (which are all figures of equal lines) can differ but in greater or lesser.

104. IT is to be noted (the rather lest any man should think, that there is any thing in this number of eight, to create the *diapason*) that this computation of eight, is a thing rather received, than any true computation. For a true computation ought ever to be, by distribution into equal portions. Now there be intervenient in the rise of eight (in tones) two beemolls, or half notes; so as if you divide the tones equally, the eight is but seven whole and equal notes; and if you subdivide that into half notes, (as it is in the stops of a lute) it maketh the number of thirteen.

105. YET this is true; that in the ordinary rises and falls of the voice of man (not measuring the tone by whole notes, and half notes, which is the equal measure;) there fall out to be two beemolls (as hath been said) between the unison and the *diapason*: and this varying is natural. For if a man would endeavour to raise or fall his voice, still by half notes, like the stops of a lute; or by whole notes alone without halves, as far as an eight; he will not be able to frame his voice unto it. Which sheweth, that after every three whole notes, nature requireth, for all harmonical use, one half note to be interposed.

106. IT is to be considered, that whatsoever virtue is in numbers, for conducting to concent of notes, is rather to be ascribed to the ante-number, than to the entire number; as namely, that the sound returneth after six, or after twelve; so that the seventh or the thirteenth is not the matter, but the sixth or the twelfth; and the seventh and the thirteenth are but the limits and boundaries of the return.

107. THE concords in musick which are perfect or semiperfect, between the unison, and the *diapason*, are the fifth, which is the most perfect; the third next; and the sixth which is more harsh: and as the ancients esteemed, and so do my self and some other yet, the fourth which they call *diateffaron*. As for the tenth, twelfth, thirteenth, and so *in infinitum*; they be but recurrences of the former; *viz.* of the third, the fifth, and the sixth; being an eight respectively from them.

108. FOR discords, the second and the seventh are of all others the most odious, in harmony, to the sense; whereof the one is next above the unison, the other next under the *diapason*: which may shew, that harmony requireth a competent distance of notes.

109. IN harmony, if there be not a discord to the base, it doth not disturb the harmony, though there be a discord to the higher parts; so the discord be not of the two that are odious; and therefore the ordinary concent of four parts consisteth of an eight, a fifth, and a third to the base; but that fifth is a fourth to the treble, and the third is a sixth. And the cause is, for that the base striking more air, doth overcome and drown the treble, (unless the discord be very odious;) and so hideth a small imperfection. For we see,

that in one of the lower strings of a lute, there soundeth not the sound of the treble, nor any mixt sound, but only the sound of the base.

110. WE have no musick of quarter-notes; and it may be, they are not capable of harmony; for we see the half-notes themselves do but interpose sometimes. Nevertheless we have some slides or relishes of the voice, or strings, as it were continued without notes, from one tone to another, rising or falling, which are delightful.

111. THE causes of that which is pleasing or ingrate to the hearing, may receive light by that which is pleasing or ingrate to the sight. There be two things pleasing to the sight (leaving pictures and shapes aside, which are but secondary objects; and please or displease but in memory) these two are colours and order. The pleasing of colour symbolizeth with the pleasing of any single tone to the ear; but the pleasing of order doth symbolize with harmony. And therefore we see in garden-knots, and the frets of houses, and all equal and well-answering figures, (as globes, pyramids, cones, cylinders, &c.) how they please; whereas unequal figures are but deformities. And both these pleasures, that of the eye, and that of the ear, are but the effects of equality, good proportion, or correspondence: so that (out of question) equality, and correspondence, are the causes of harmony. But to find the proportion of that correspondence, is more abstruse; whereof notwithstanding we shall speak somewhat, (when we handle tones) in the general enquiry of sounds.

112. TONES are not so apt altogether to procure sleep, as some other sounds; as the wind, the purling of water, humming of bees, a sweet voice of one that readeth, &c. The cause whereof is, for that tones, because they are equal and slide not, do more strike and erect sense than the other. And overmuch attention hindreth sleep.

113. THERE be in musick certain figures or tropes; almost agreeing with the figures of rhetoric; and with the affections of the mind, and other senses. First, the division and quavering, which please so much in musick, have an agreement with the glittering of light; as the moon-beams playing upon a wave. Again, the falling from a discord to a concord, which maketh great sweetness in musick, hath an agreement with the affections, which are reintegrated to the better, after some dislikes: it agreeth also with the taste, which is soon glutted with that which is sweet alone. The sliding from the close or cadence, hath an agreement with the figure in rhetoric, which they call *praeter expectatum*; for there is a pleasure even in being deceived. The reports, and fuges, have an agreement with the figures in rhetoric, of repetition and traduction. The *tripla's*, and changing of times, have an agreement with the changes of motions; as when galliard time, and measure time, are in the medley of one dance.

114. IT hath been anciently held and observed, that the sense of hearing, and the kinds of musick, have most operation upon manners; as to encourage men, and make them warlike; to make them soft and effeminate; to make them grave; to make them light; to make them gentle and inclin'd to pity, &c. The cause is, for that the sense of hearing striketh the spirits more immediately, than the other senses; and more incorporeally than the smelling: for the sight, taste, and feeling, have their organs, not of so present and immediate access to the spirits, as the hearing hath. And as for the smelling, (which indeed worketh also immediately upon the spirits, and is forcible while the object remaineth) it is with a communication of the breath, or vapour of the object odorate: but harmony entring easily, and mingling not

at all, and coming with a manifest motion ; doth by custom of often affecting the spirits, and putting them into one kind of posture, alter not a little the nature of the spirits, even when the object is removed. And therefore we see, that tunes and airs, even in their own nature, have in themselves some affinity with the affections ; as there be merry tunes, doleful tunes, solemn tunes ; tunes inclining mens minds to pity ; warlike tunes, &c. So as it is no marvel if they alter the spirits, considering that tunes have a predisposition to the motion of the spirits in themselves. But yet it hath been noted, that though this variety of tunes doth dispose the spirits to variety of passions, conform unto them, yet generally musick feedeth that disposition of the spirits which it findeth. We see also, that several airs, and tunes, do please several nations and persons, according to the sympathy they have with their spirits.

Experiments in consort touching sounds ; and first touching the nullity and entity of sounds.

PERSPECTIVE hath been with some diligence inquired ; and so hath the nature of sounds, in some sort, as far as concerneth musick : But the nature of sounds in general hath been superficially observed. It is one of the subtlest pieces of nature. And besides, I practise, as I do advise ; which is, after long inquiry of things, immerse in matter, to interpose some subject which is immateriate, or less materiate ; such as this of sounds ; to the end, that the intellect may be rectified, and become not partial.

115. IT is first to be considered, what great motions there are in nature, which pass without sound or noise. The heavens turn about in a most rapid motion, without noise to us perceived ; though in some dreams they have been said to make an excellent musick. So the motions of the comets, and fiery meteors (as *stella cadens*, &c.) yield no noise. And if it be thought, that it is the greatness of distance from us, whereby the sound cannot be heard ; we see that lightnings and coruscations, which are near at hand, yield no sound neither : And yet in all these, there is a percussion and division of the air. The winds in the upper region (which move the clouds above, which we call the rack, and are not perceived below) pass without noise. The lower winds in a plain, except they be strong, make no noise ; but amongst trees, the noise of such winds will be perceived. And the winds (generally) when they make a noise, do ever make it unequally, rising and falling, and sometimes (when they are vehement) trembling at the height of their blast. Rain or hail falling (though vehemently) yieldeth no noise in passing through the air, till it fall upon the ground, water, houses, or the like. Water in a river (though a swift stream) is not heard in the channel, but runneth in silence, if it be of any depth ; but the very stream upon shallows, of gravel, or pebble, will be heard. And waters, when they beat upon the shore, or are straitned, (as in the falls of bridges) or are dashed against themselves, by winds, give a roaring noise. Any piece of timber, or hard body, being thrust forwards by another body contiguous, without knocking, giveth no noise. And so bodies in weighing one upon another, though the upper body press the lower body down, make no noise. So the motion in the minute parts of any solid body, (which is the principal cause of violent motion, though unobserved) passeth without sound ; for that sound that is heard sometimes, is produced only by the breaking of the air ; and not by the impulsion of the parts. So it is manifest, that where the antierior body giveth way, as fast as the posterior cometh on, it maketh no noise, be the motion never so great or swift.

116. AIR

116. AIR open, and at large, maketh no noise, except it be sharply percussed; as in the sound of a string, where air is percussed by a hard and stiff body, and with a sharp loose: for if the string be not strained, it maketh no noise. But where the air is pent and straitned, there breath or other blowing, (which carry but a gentle percussion) suffice to create sound; as in pipes and wind-instruments. But then you must note, that in recorders, which go with a gentle breath, the concave of the pipe, were it not for the fipple that straitneth the air, (much more than the simple concave) would yield no sound. For as for other wind-instruments, they require a forcible breath; as trumpets, cornets, hunters-horns, &c. which appeareth by the blown cheeks of him that windeth them. Organs also are blown with a strong wind by the bellows. And note again, that some kind of wind-instruments are blown at a small hole in the side, which straitneth the breath at the first entrance; the rather, in respect of their traverse and stop above the hole, which performeth the fipples part; as it is seen in flutes and fifes, which will not give sound by a blast at the end, as recorders, &c. do. Likewise in all whistling, you contract the mouth; and to make it more sharp, men sometimes use their finger. But in open air, if you throw a stone or a dart, they give no sound: no more do bullets, except they happen to be a little hollowed in the casting; which hollownes penneth the air: nor yet arrows, except they be ruffled in their feathers, which likewise penneth the air. As for small whistles or shepherds oaten pipes, they give a sound because of their extreme slenderness, whereby the air is more pent, than in a wider pipe. Again, the voices of men and living creatures pass through the throat, which penneth the breath. As for the *Jews* harp it is a sharp percussion; and besides, hath the advantage of penning the air in the mouth.

117. SOLID bodies, if they be very softly percussed, give no sound; as when a man treadeth very softly upon boards. So chests or doors in fair weather, when they open easily, give no sound. And cart-wheels squeak not when they are liquored.

118. THE flame of tapers or candles, though it be a swift motion and breaketh the air, yet passeth without sound. Air in ovens, though (no doubt) it doth (as it were) boil and dilate it self, and is repercussed; yet it is without noise.

119. FLAME percussed by air, giveth a noise; as in blowing of the fire by bellows; greater, than if the bellows should blow upon the air it self. And so likewise flame percussing the air strongly, (as when flame suddenly taketh and openeth) giveth a noise; so great flames, while the one impelleth the other, give a bellowing sound.

120. THERE is a conceit runneth abroad, that there should be a white powder, which will discharge a piece without noise; which is a dangerous experiment if it should be true: for it may cause secret murders. But it seemeth to me impossible; for, if the air pent be driven forth and strike the air open, it will certainly make a noise. As for the white powder, (if any such thing be, that may extinguish or dead the noise) it is like to be a mixture of petre and sulphur, without coal. For petre alone will not take fire. And if any man think, that the sound may be extinguished or deaded, by discharging the pent air, before it cometh to the mouth of the piece and to the open air; that is not probable; for it will make more divided sounds; as if you should make a cross barrel hollow, through the barrel of a piece, it may be, it would give several sounds, both at the nose and at the sides. But I conceive, that if it were possible to bring to pass, that there should be

no air pent at the mouth of the piece, the bullet might fly with small or no noise. For first it is certain, there is no noise in the percussio of the flame upon the bullet. Next the bullet, in piercing through the air, maketh no noise; as hath been said. And then, if there be no pent air that striketh upon open air, there is no cause of noise; and yet the flying of the bullet will not be stayed. For that motion (as hath been oft said) is in the parts of the bullet, and not in the air. So as trial must be made by taking some small concave of metal, no more than you mean to fill with powder; and laying the bullet in the mouth of it, half out into the open air.

121. I heard it affirmed by a man, that was a great dealer in secrets, but he was but vain; that there was a conspiracy (which himself hindred) to have killed Queen *Mary*, sister to Queen *Elizabeth*, by a burning glass, when she walked in Saint *James's* park, from the leads of the house. But thus much (no doubt) is true; that if burning glasses could be brought to a great strength, (as they talk generally of burning glasses, that are able to burn a navy) the percussio of the air alone, by such a burning glass, would make no noise; no more than is found in coruscations and lightnings, without thunders.

122. I suppose, that impressio of the air with sounds asketh a time to be conveyed to the sense; as well as the impressio of species visible. Or else they will not be heard. And therefore, as the bullet moveth so swift, that it is invisible; so the same swiftness of motion maketh it inaudible: for we see, that the apprehension of the eye, is quicker than that of the ear.

123. ALL eruptions of air, though small and slight, give an entity of sound, which we call crackling, puffing, spitting, &c. as in bay-salt and bay-leaves, cast into the fire; so in chestnuts, when they leap forth of the ashes; so in green wood laid upon the fire, especially roots; so in candles that spit flame, if they be wet; so in rasping, sneezing, &c. so in a rose leaf gathered together into the fashion of a purse, and broken upon the forehead, or back of the hand, as children use.

Experiments in consort touching production, conservation, and delation of sounds; and the office of the air therein.

124. THE cause given of sound, that it would be an elision of the air, (whereby, if they mean any thing, they mean a cutting or dividing, or else an attenuating of the air) is but a term of ignorance; and the motion is but a catch of the wit upon a few instances; as the manner is in the philosophy received. And it is common with men, that if they have gotten a pretty expression, by a word of art, that expression goeth current; though it be empty of matter. This conceit of elision, appeareth most manifestly to be false, in that the sound of a bell, string, or the like, continueth melting some time after the percussio; but ceaseth straightways, if the bell, or string, be touched and stayed: whereas, if it were the elision of the air that made the sound, it could not be, that the touch of the bell or string should extinguish so suddenly that motion, caused by the elision of the air. This appeareth yet more manifestly, by chiming with a hammer, upon the outside of a bell; for the sound will be according to the inward concave of the bell; whereas the elision or attenuation of the air, cannot be but only between the hammer and the outside of the bell. So again, if it were an elision, a broad hammer, and a bodkin, struck upon metal, would give a diverse tone, as well as a diverse loudness: but they do not so; for though the sound of the one be louder, and of the other softer, yet the tone is the same.

Besides, in echoes (whereof some are as loud as the original voice) there is no new elision, but a repercussion only. But that which convinceth it most of all is, that sounds are generated, where there is no air at all. But these and the like conceits, when men have cleared their understanding, by the light of experience, will scatter and break up like a mist.

125. IT is certain, that sound is not produced at the first, but with some local motion of the air or flame, or some other medium; nor yet without some resistance, either in the air or the body percussed. For if there be a mere yielding or cession, it produceth no sound; as hath been said. And therein sounds differ from light and colours, which pass through the air, or other bodies, without any local motion of the air; either at the first, or after. But you must attentively distinguish, between the local motion of the air (which is but *vehiculum causae*, a carrier of the sounds) and the sounds themselves, conveyed in the air. For as to the former, we see manifestly, that no sound is produced, (no not by air it self against other air, as in organs, &c.) but with a perceptible blast of the air; and with some resistance of the air stricken. For even all speech, (which is one of the gentlest motions of air) is with expulsion of a little breath. And all pipes have a blast, as well as a sound. We see also manifestly, that sounds are carried with wind: and therefore sounds will be heard further with the wind, than against the wind; and likewise do rise and fall with the intensification or remission of the wind. But for the impression of the sound, it is quite another thing; and is utterly without any local motion of the air, perceptible; and in that resembleth the species visible: for after a man hath lured, or a bell is rung, we cannot discern any perceptible motion (at all) in the air along as the sound goeth; but only at the first. Neither doth the wind (as far as it carrieth a voice) with the motion thereof, confound any of the delicate and articulate figurations of the air, in variety of words. And if a man speak a good loudness against the flame of a candle, it will not make it tremble much; though most, when those letters are pronounced which contract the mouth; as *F*, *S*, *V*, and some others. But gentle breathing, or blowing without speaking, will move the candle far more. And it is the more probable, that sound is without any local motion of the air, because as it differeth from the sight, in that it needeth a local motion of the air at first; so it paralleleth in so many other things with the sight, and radiation of things visible; which (without all question) induce no local motion in the air, as hath been said.

126. NEVERTHELESS it is true, that upon the noise of thunder, and great ordnance, glass windows will shake; and fishes are thought to be frayed with the motion, caused by noise upon the water. But these effects are from the local motion of the air, which is a concomitant of the sound, (as hath been said) and not from the sound.

127. IT hath been anciently reported, and is still received, that extreme applauses and shouting of people assembled in great multitudes, have so rarefied and broken the air, that birds flying over have fallen down, the air being not able to support them. And it is believed by some, that great ringing of bells in populous cities hath chased away thunder; and also dissipated pestilent air: all which may be also from the concussion of the air, and not from the sound.

128. A very great sound, near hand, hath stricken many deaf; and at the instant they have found, as it were, the breaking of a skin or parchment in their ear: and my self standing near one that lured loud and shrill,

had suddenly an offence, as if somewhat had broken, or been dislocated in my ear; and immediately after a loud ringing (not an ordinary ringing or hissing, but far louder and differing;) so as I feared some deafness. But after some half quarter of an hour it vanished. This effect may be truly referred unto the sound: for (as is commonly received) an over-potent object doth destroy the sense; and spiritual species (both visible and audible) will work upon the sensories, though they move not any other body.

129. IN relation of sounds, the enclosure of them preserveth them, and causeth them to be heard further. And we find in rolls of parchment or trunks, the mouth being laid to the one end of the roll of parchment or trunk, and the ear to the other, the sound is heard much farther than in the open air. The cause is, for that the sound spendeth, and is dissipated in the open air; but in such concaves it is conserved and contracted. So also in a piece of ordnance, if you speak in the touch-hole, and another lay his ear to the mouth of the piece, the sound passeth and is far better heard than in the open air.

130. IT is further to be considered, how it proveth and worketh, when the sound is not enclosed all the length of his way, but passeth partly through open air; as where you speak some distance from a trunk; or where the ear is some distance from the trunk at the other end; or where both mouth and ear are distant from the trunk. And it is tried, that in a long trunk of some eight or ten foot, the sound is holpen, though both the mouth and the ear be a handful or more from the ends of the trunk; and somewhat more holpen, when the ear of the hearer is near, than when the mouth of the speaker. And it is certain, that the voice is better heard in a chamber from abroad, than abroad from within the chamber.

131. As the enclosure that is round about and entire, preserveth the sound; so doth a semi-concave, though in a less degree. And therefore, if you divide a trunk, or a cane into two, and one speak at the one end, and you lay your ear at the other, it will carry the voice further, than in the air at large. Nay further, if it be not a full semi-concave, but if you do the like upon the mast of a ship, or a long pole, or a piece of ordnance, (though one speak upon the surface of the ordnance, and not at any of the bores;) the voice will be heard farther than in the air at large.

132. IT would be tried, how, and with what proportion of disadvantage the voice will be carried in an horn, which is a line arched; or in a trumpet, which is a line retorted; or in some pipe that were sinuous.

133. IT is certain, (howsoever it crosses the received opinion) that sounds may be created without air, though air be the most favourable deferent of sounds. Take a vessel of water, and knap a pair of tongs some depth within the water, and you shall hear the sound of the tongs well, and not much diminished; and yet there is no air at all present.

134. TAKE one vessel of silver, and another of wood, and fill each of them full of water, and then knap the tongs together, as before, about an handful from the bottom, and you shall find the sound much more resounding from the vessel of silver, than from that of wood: and yet if there be no water in the vessel, so that you knap the tongs in the air, you shall find no difference between the silver and the wooden vessel. Whereby, beside the main point of creating sound without air, you may collect two things: the one, that the sound communicateth with the bottom of the vessel; the other, that such a communication passeth far better through water than air.

135. STRIKE

135. STRIKE any hard bodies together, in the midst of a flame; and you shall hear the sound with little difference from the sound in the air.

136. THE pneumatical part which is in all tangible bodies, and hath some affinity with the air, performeth, in some degree, the parts of the air; as when you knock upon an empty barrel, the sound is (in part) created by the air on the outside; and (in part) by the air in the inside: for the sound will be greater or lesser, as the barrel is more empty or more full; but yet the sound participateth also with the spirit in the wood, through which it passeth, from the outside to the inside: and so it cometh to pass in the chiming of bells on the outside; where also the sound passeth to the inside: and a number of other like instances, whereof we shall speak more when we handle the communication of sounds.

137. IT were extreme grossness to think, (as we have partly touched before) that the sound in strings is made or produced between the hand and the string, or the quill and the string, or the bow and the string: for those are but *vehicula motus*, passages to the creation of the sound, the sound being produced between the string and the air; and that not by any impulsion of the air from the first motion of the string; but by the return or result of the string, which was strained by the touch to his former place: which motion of result is quick and sharp; whereas the first motion is soft and dull. So the bow tortureth the string continually, and thereby holdeth it in a continual trepidation.

Experiments in consort touching the magnitude and exility and damps of sounds.

138. TAKE a trunk, and let one whistle at the one end, and hold your ear at the other, and you shall find the sound strike so sharp, as you can scarce endure it. The cause is, for that sound diffuseth it self in round, and so spendeth it self; but if the sound, which would scatter in open air, be made to go all into a canal, it must needs give greater force to the sound. And so you may note, that enclosures do not only preserve sound, but also increase and sharpen it.

139. A hunter's horn being greater at one end than at the other, doth increase the sound more, than if the horn were all of an equal bore. The cause is, for that the air and sound being first contracted at the lesser end, and afterwards having more room to spread at the greater end, do dilate themselves; and in coming out strike more air; whereby the sound is the greater and baser. And even hunters horns, which are sometimes made straight, and not oblique, are ever greater at the lower end. It would be tried also in pipes, being made far larger at the lower end: or being made with a belly towards the lower end; and then issuing into a straight concave again.

140. THERE is in Saint James's fields a conduit of brick, unto which joineth a low vault; and at the end of that a round house of stone: and in the brick conduit there is a window; and in the round house a slit or rift of some little breadth: if you cry out in the rift, it will make a fearful roaring at the window. The cause is the same with the former; for that all concaves, that proceed from more narrow to more broad, do amplify the sound at the coming out.

141. HAWKS bells, that have holes in the sides, give a greater ring, than if the pellet did strike upon brass in the open air. The cause is the same with the first instance of the trunk; namely, for that the sound inclosed with the sides of the bell, cometh forth at the holes unspent and more strong.

142. IN

142. IN drums, the closeness round about that preserveth the sound from dispersing, maketh the noise come forth at the drum-hole, far more loud and strong, than if you should strike upon the like skin, extended in the open air. The cause is the same with the two precedent.

143. SOUNDS are better heard, and farther off, in an evening or in the night, than at the noon or in the day. The cause is, for that in the day, when the air is more thin, (no doubt) the sound pierceth better; but when the air is more thick (as in the night) the sound spendeth and spreadeth abroad less: and so it is a degree of enclosure. As for the night, it is true also that the general silence helpeth.

144. THERE be two kinds of reflexions of sounds; the one at distance, which is the echo; wherein the original is heard distinctly, and the reflexion also distinctly; of which we shall speak hereafter: the other in concurrence; when the sound reflecting (the reflexion being near at hand) returneth immediately upon the original, and so iterateth it not, but amplifieth it. Therefore we see, that musick upon the water soundeth more; and so likewise musick is better in chambers wainscotted than hanged.

145. THE strings of a lute, or viol, or virginals, do give a far greater sound, by reason of the knot and board and concave underneath, than if there were nothing but only the flat of a board without that hollow and knot, to let in the upper air into the lower. The cause is the communication of the upper air with the lower; and penning of both from expence or dispersing.

146. AN *Irish* harp hath open air on both sides of the strings: and it hath the concave or belly not along the strings, but at the end of the strings. It maketh a more resounding sound than a bandora, orpharion, or cittern, which have likewise wire-strings. I judge the cause to be, for that open air on both sides helpeth, so that there be a concave; which is therefore best placed at the end.

147. IN a virginal, when the lid is down, it maketh a more exile sound, than when the lid is open. The cause is, for that all shutting in of air, where there is no competent vent, dampeth the sound: which maintaineth likewise the former instance; for the belly of the lute or viol doth pen the air somewhat.

148. THERE is a church at *Gloucester*, (and as I have heard the like is in some other places) where if you speak against a wall softly, another shall hear your voice better a good way off, than near at hand. Enquire more particularly of the frame of that place. I suppose there is some vault or hollow or isle, behind the wall, and some passage to it towards the farther end of that wall, against which you speak; so as the voice of him that speaketh slideth behind the wall, and then entrench at some passage, and communicateth with the air of the hollow; for it is preserved somewhat by the plain wall; but that is too weak to give a sound audible, till it hath communicated with the back air.

149. STRIKE upon a bow-string, and lay the horn of the bow near your ear, and it will increase the sound, and make a degree of a tone. The cause is, for that the sensory, by reason of the close holding, is percussed before the air disperseth. The like is, if you hold the horn betwixt your teeth: But that is a plain delation of the sound, from the teeth to the instrument of hearing; for there is a great intercourse between those two parts; as appeareth by this, that a harsh grating tune setteth the teeth on edge. The like falleth

falleth out, if the horn of the bow be put upon the temples ; but that is but the slide of the found from thence to the ear.

150. IF you take a rod of iron or brass, and hold the one end to your ear, and strike upon the other, it maketh a far greater found than the like stroke upon the rod, not so made contiguous to the ear. By which, and by some other instances that have been partly touched, it should appear ; that sounds do not only slide upon the surface of a smooth body, but do also communicate with the spirits, that are in the pores of the body.

151. I remember in *Trinity College* in *Cambridge*, there was an upper chamber, which being thought weak in the roof of it, was supported by a pillar of iron of the bigness of one's arm in the midst of the chamber ; which if you had struck, it would make a little flat noise in the room where it was struck, but it would make a great bomb in the chamber beneath.

152. THE found which is made by buckets in a well, when they touch upon the water, or when they strike upon the side of the well, or when two buckets dash the one against the other, these sounds are deeper and fuller than if the like percussion were made in the open air. The cause is the penning and enclosure of the air in the concave of the well.

153. BARRELS placed in a room under the floor of a chamber, make all noises in the same chamber more full and refounding.

So that there be five ways (in general) of majoration of sounds : enclosure simple ; enclosure with dilatation ; communication ; reflexion concurrent ; and approach to the sensory.

154. FOR exility of the voice or other sounds ; it is certain that the voice doth pass through solid and hard bodies if they be not too thick : And through water, which is likewise a very close body ; and such an one as letteth not in air. But then the voice, or other found, is reduced by such passage to a great weakness or exility. If therefore you stop the holes of a hawk's bell, it will make no ring, but a flat noise or rattle. And so doth the *aetites* or eagle-stone, which hath a little stone within it.

155. AND as for water, it is a certain trial : let a man go into a bath, and take a pail, and turn the bottom upward, and carry the mouth of it (even) down to the level of the water, and so press it down under the water, some handful and an half, still keeping it even, that it may not tilt on either side, and so the air get out : then let him that is in the bath, dive with his head so far under water, as he may put his head into the pail, and there will come as much air bubbling forth, as will make room for his head. Then let him speak, and any that shall stand without shall hear his voice plainly ; but yet made extream sharp and exile, like the voice of puppets : but yet the articulate sounds of the words will not be confounded. Note, that it may be much more handsomely done, if the pail be put over the man's head above water, and then he cower down, and the pail be pressed down with him. Note that a man must kneel or sit, that he may be lower than the water. A man would think that the *Sicilian* poet had knowledge of this experiment ; for he saith, that *Hercules's* page *Hylas* went with a water-pot to fill it at a pleasant fountain that was near the shore, and that the nymphs of the fountain fell in love with the boy, and pulled him under water, keeping him alive ; and that *Hercules* missing his page, called him by his name aloud, that all the shore rang of it ; and that *Hylas* from within the water answered his master ; but (that which is to the present purpose) with so small and exile a voice, as *Hercules* thought he had been three miles off, when the fountain (indeed) was fast by.

156. IN lutes and instruments of strings, if you stop a string high, (whereby it hath less scope to tremble) the sound is more treble, but yet more dead.

157. TAKE two faucers, and strike the edge of the one against the bottom of the other, within a pail of water; and you shall find, that as you put the faucers lower and lower, the sound groweth more flat; even while part of the faucer is above the water: but that flatness of sound is joined with a harshness of sound; which no doubt is caused by the inequality of the sound, which cometh from the part of the faucer under the water, and from the part above. But when the faucer is wholly under the water, the sound becometh more clear, but far more low; and as if the sound came from afar off.

158. A soft body dampeth the sound much more than a hard; as if a bell hath cloth or silk wrapped about it, it deadeth the sound more than if it were wood. And therefore in clericals the keys are lined; and in colleges they use to line the tablemen.

159. TRIAL was made in a recorder after these several manners. The bottom of it was set against the palm of the hand, stopped with wax round about, set against a damask cushion; thrust into sand; into ashes; into water, (half an inch under the water) close to the bottom of a silver basin; and still the tone remained: but the bottom of it was set against a woollen carpet; a lining of plush; a lock of wool, (though loosely put in) against snow; and the sound of it was quite deadened, and but breath.

160. IRON hot produceth not so full a sound as when it is cold; for while it is hot, it appeareth to be more soft and less resounding. So likewise warm water, when it falleth, maketh not so full a sound as cold: And I conceive it is softer, and nearer the nature of oil; for it is more slippery, as may be perceived in that it scowreth better.

161. LET there be a recorder made with two fipples, at each end one; the trunk of it of the length of two recorders, and the holes answerable towards each end; and let two play the same lesson upon it at an unison; and let it be noted whether the sound be confounded, or amplified, or dulled. So likewise let a cross be made of two trunks (throughout) hollow; and let two speak, or sing, the one long ways, the other traverse: and let two hear at the opposite ends; and note, whether the sound be confounded, amplified, or dulled. Which two instances will also give light to the mixture of sounds, whereof we shall speak hereafter.

162. A bellows blown in at the hole of a drum, and the drum then stricken, maketh the sound a little flatter, but no other apparent alteration. The cause is manifest; partly for that it hindreth the issue of the sound; and partly for that it maketh the air, being blown together, less moveable.

Experiments in consort touching the loudness or softness of sounds, and their carriage at longer or shorter distance.

163. The loudness and softness of sounds, is a thing distinct from the magnitude and exility of sounds; for a base string, though softly stricken, giveth the greater sound; but a treble string, if hard stricken, will be heard much farther off. And the cause is, for that the base string striketh more air, and the treble less air, but with a sharper percussion.

164. IT is therefore the strength of the percussion, that is a principal cause of the loudness or softness of sounds; as in knocking harder or softer; winding of a horn stronger or weaker; ringing of a hand-bell harder or softer,

¶c.

¶ And the strength of this percussio consisteth as much or more in the hardness of the body percussed, as in the force of the body percussing: for if you strike against a cloth, it will give a less sound; if against wood, a greater; if against metal, yet a greater; and in metals, if you strike against gold (which is the more pliant) it giveth the flatter sound; if against silver or brass, the more ringing sound. As for air, where it is strongly pent, it matcheth a hard body. And therefore we see in discharging of a piece, what a great noise it maketh. We see also, that the charge with bullet, or with paper wet and hard stopped, or with powder alone rammed in hard, maketh no great difference in the loudness of the report.

165. THE sharpness or quickness of the percussio, is a great cause of the loudness, as well as the strength: as in a whip or wand, if you strike the air with it; the sharper and quicker you strike it, the louder sound it giveth. And in playing upon the lute or virginals, the quick stroke or touch is a great life to the sound. The cause is, for that the quick striking cutteth the air speedily; whereas the soft striking doth rather beat than cut.

Experiments in consort touching the communication of sounds.

THE communication of sounds (as in bellies of lutes, empty vessels, &c.) hath been touched *obiter* in the mensuration of sounds; but it is fit also to make a title of it apart.

166. THE experiment for greatest demonstration of communication of sounds, is the chiming of bells; where if you strike with a hammer upon the upper part, and then upon the midst, and then upon the lower, you shall find the sound to be more treble and more base, according unto the concave on the inside, though the percussio be only on the outside.

167. WHEN the sound is created between the blast of the mouth and the air of the pipe, it hath nevertheless some communication with the matter of the sides of the pipe, and the spirits in them contained; for in a pipe, or trumpet, of wood and brass, the sound will be divers; so if the pipe be covered with cloth or silk, it will give a divers sound from that it would do of it self; so if the pipe be a little wet on the inside, it will make a differing sound from the same pipe dry.

168. THAT sound made within water, doth communicate better with a hard body through water, than made in air it doth with air; *vide experimentum* 134.

Experiments in consort touching equality and inequality of sounds.

WE have spoken before (in the inquisition touching musick) of musical sounds, whereunto there may be a concord or discord in two parts; which sounds we call tones; and likewise of immusical sounds; and have given the cause, that the tone proceedeth of equality, and the other of inequality. And we have also expressed there, what are the equal bodies that give tones, and what are the unequal that give none. But now we shall speak of such inequality of sounds, as proceedeth not from the nature of the bodies themselves, but is accidental; either from the roughness or obliquity of the passage, or from the doubling of the percussio, or from the trepidation of the motion.

169. A bell, if it have a rift in it, whereby the sound hath not a clear passage, giveth a hoarse and jarring sound; so the voice of man, when by cold taken the vessel groweth rugged, and (as we call it) furred, becometh hoarse. And in these two instances the sounds are ingrate, because they are merely un-

equal: but if they be unequal in equality, then the sound is grateful but purling.

170. ALL instruments that have either returns, as trumpets, or flexions, as cornets; or are drawn up, and put from, as sackbuts; have a purling sound: but the recorder, or flute, that have none of these inequalities, give a clear sound. Nevertheless, the recorder it self, or pipe moistened a little in the inside, soundeth more solemnly, and with a little purling or hissing. Again, a wreathed string, such as are in the base strings of bandora's, giveth also a purling sound.

171. BUT a lute-string, if it be merely unequal in its parts, giveth a harsh and untuneable sound; which strings we call false, being bigger in one place than in another, and therefore wire-strings are never false. We see also, that when we try a false lute-string, we use to extend it hard between the fingers, and to fillip it; and if it giveth a double species, it is true; but if it giveth a treble, or more, it is false.

172. WATERS, in the noise they make as they run, represent to the ear a trembling noise; and in regals, (where they have a pipe they call the nightingale-pipe, which containeth water) the sound hath a continual trembling: and children have also little things they call cocks, which have water in them; and when they blow or whistle in them, they yield a trembling noise; which trembling of water hath an affinity with the letter *L*. All which inequalities of trepidation are rather pleasant than otherwise.

173. ALL base notes, or very treble notes, give an asper sound; for that the base striketh more air, than it can well strike equally: and the treble cutteth the air so sharp, as it returneth too swift to make the sound equal: and therefore a mean or tenor is the sweetest part.

174. WE know nothing that can at pleasure make a musical or unmusical sound by voluntary motion, but the voice of man and birds. The cause is (no doubt) in the wescil or wind-pipe, (which we call *aspera arteria*;) which being well extended, gathereth equality; as a bladder that is wrinkled, if it be extended, becometh smooth. The extension is always more in tones than in speech: therefore the inward voice or whisper can never give a tone. And in singing, there is (manifestly) a greater working and labour of the throat, than in speaking; as appeareth in the thrusting out or drawing in of the chin, when we sing.

175. THE humming of bees is an unequal buzzing, and is conceived by some of the ancients, not to come forth at their mouth, but to be an inward sound; but (it may be) it is neither; but from the motion of their wings; for it is not heard but when they stir.

176. ALL metals quenched in water give a sibilation or hissing sound; (which hath an affinity with the letter *Z*) notwithstanding the sound be created between the water or vapour, and the air. Seething also, if there be but small store of water in a vessel, giveth a hissing sound; but boiling in a full vessel giveth a bubbling sound, drawing somewhat near to the cocks used by children.

177. TRIAL would be made, whether the inequality or interchange of the medium will not produce an inequality of sound; as if three bells were made one within another, and air betwixt each; and then the outermost bell were chimed with a hammer, how the sound would differ from a simple bell. So likewise take a plate of brass, and a plank of wood, and join them close together, and knock upon one of them, and see if they do not give an unequal sound. So make two or three partitions of wood in a hogthead,

with holes or knots in them; and mark the difference of their sound from the sound of an hoghead without such partitions.

Experiments in consort touching the more treble, and the more base tones, or musical sounds.

178. IT is evident, that the percussing of the greater quantity of air, causeth the baser sound; and the less quantity the more treble sound. The percussing of the greater quantity of air, is produced by the greatness of the body percussing; by the latitude of the concave by which the sound passeth; and by the longitude of the same concave. Therefore we see that a base string is greater than a treble; a base pipe hath a greater bore than a treble; and in pipes, and the like, the lower the note-holes be, and the further off from the mouth of the pipe, the more base sound they yield; and the nearer the mouth, the more treble. Nay more, if you strike an entire body, as an anvil of brass at the top, it maketh a more treble sound; and at the bottom a baser.

179. IT is also evident, that the sharper or quicker percussing of air causeth the more treble sound; and the lower or heavier the more base sound. So we see in strings; the more they are wound up and strained, (and thereby give a more quick start-back) the more treble is the sound; and the flacker they are, or less wound up, the baser is the sound. And therefore a bigger string more strained, and a lesser string less strained, may fall into the same tone.

180. CHILDREN, women, eunuchs have more small and shrill voices, than men. The reason is, not for that men have greater heat, which may make the voice stronger, (for the strength of a voice or sound, doth make a difference in the loudness or softness, but not in the tone) but from the dilatation of the organ; which (it is true) is likewise caused by heat. But the cause of changing the voice at the years of puberty, is more obscure. It seemeth to be, for that when much of the moisture of the body, which did before irrigate the parts, is drawn down to the spermatical vessels; it leaveth the body more hot than it was; whence cometh the dilatation of the pipes: for we see plainly all effects of heat do then come on; as pilosity, more roughness in the skin, hardness of the flesh, &c.

181. THE industry of the musician hath produced two other means of straining or intension of strings, besides their winding up. The one is the stopping of the string with the finger; as in the necks of lutes, viols, &c. The other is the shortness of the string, as in harps, virginals, &c. Both these have one and the same reason; for they cause the string to give a quicker start.

182. IN the straining of a string, the further it is strained, the less superstraining goeth to a note; for it requireth good winding of a string before it will make any note at all: and in the stops of lutes, &c. the higher they go, the less distance is between the frets.

183. IF you fill a drinking-glass with water, (especially one sharp below, and wide above) and fillip upon the brim or outside; and after empty part of the water, and so more and more, and still try the tone by fillipping; you shall find the tone fall and be more base, as the glass is more empty.

Experiments in consort touching the proportion of treble and base tones.

THE just and measured proportion of the air percussed, towards the baseness or trebleness of tones, is one of the greatest secrets in the contemplation of sounds. For it discovereth the true coincidence of tones into *diapasons*;

which is the return of the same sound. And so of the concords and discords between the unison and the *diapason*, which we have touched before in the experiments of musick; but think fit to resume it here, as a principal part of our inquiry touching the nature of sounds. It may be found out in the proportion of the winding of strings; in the proportion of the distance of frets; and in the proportion of the concave of pipes, &c. but most commodiously in the last of these.

184. TRY therefore the winding of a string once about, as soon as it is brought to that extension as will give a tone; and then of twice about, and thrice about, &c. and mark the scale or difference of the rise of the tone: whereby you shall discover in one two effects; both the proportion of the sound towards the dimension of the winding; and the proportion likewise of the sound towards the string, as it is more or less strained. But note that to measure this, the way will be, to take the length in a right line of the string, upon any winding about of the peg.

185. As for the stops, you are to take the number of frets; and principally the length of the line, from the first stop of the string, unto such a stop as shall produce a *diapason* to the former stop upon the same string.

186. BUT it will best (as it is said) appear in the bores of wind-instruments: and therefore cause some half dozen pipes to be made, in length and all things else alike, with a single, double, and so on to a sextuple bore; and so mark what fall of tone every one giveth. But still in these three last instances, you must diligently observe, what length of string, or distance of stop, or concave of air, maketh what rise of sound. As in the last of these (which, as we said, is that which giveth the aptest demonstration) you must set down what increase of concave goeth to the making of a note higher; and what of two notes, and what of three notes; and so up to the *diapason*: for then the great secret of numbers and proportions will appear. It is not unlike that those that make recorders, &c. know this already: for that they make them in sets: And likewise bell-founders, in fitting the tune of their bells. So that inquiry may save trial. Surely it hath been observed by one of the ancients, that an empty barrel knocked upon with the finger, giveth a *diapason* to the sound of the like barrel full; but how that should be, I do not well understand; for that the knocking of a barrel full or empty, doth scarce give any tone.

187. THERE is required some sensible difference in the proportion of creating a note, towards the sound it self, which is the passive: and that it be not too near, but at a distance. For in a recorder, the three uppermost holes yield one tone; which is a note lower than the tone of the first three. And the like (no doubt) is required in the winding or stopping of strings.

Experiments in consort touching exterior and interior sounds.

THERE is another difference of sounds which we will call exterior and interior. It is not soft nor loud: nor, it is not base nor treble: nor, it is not musical nor immusical: though it be true, that there can be no tone in an interior sound; but on the other side, in an exterior sound there may be both musical and immusical. We shall therefore enumerate them, rather than precisely distinguish them; though (to make some adumbration of that we mean) the interior is rather an impulsion or confusion of the air, than an elision or section of the same: So as the percussion of the one towards the other, differeth as a blow differeth from a cut.

188. IN speech of man, the whispering (which they call *susurrus* in latin)
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whether it be louder or softer, is an interior sound ; but the speaking out is an exterior sound ; and therefore you can never make a tone, nor sing in whispering ; but in speech you may : so breathing, or blowing by the mouth, bellows, or wind, (though loud) is an interior sound ; but the blowing through a pipe or concave, (though soft) is an exterior. So likewise the greatest winds, if they have no coarctation or blow not hollow, give an interior sound ; the whistling or hollow wind yieldeth a singing, or exterior sound ; the former being pent by some other body ; the latter being pent in by its own density : and therefore we see, that when the wind bloweth hollow, it is a sign of rain. The flame, as it moveth within it self or is blown by a bellows, giveth a murmur or interior sound.

189. THERE is no hard body, but struck against another hard body, will yield an exterior sound greater or lesser : in so much as if the percussion be over-soft, it may induce a nullity of sound ; but never an interior sound ; as when one treadeth so softly that he is not heard.

190. WHERE the air is the percutient, pent or not pent against a hard body, it never giveth an exterior sound ; as if you blow strongly with a bellows against a wall.

191. SOUNDS (both exterior and interior) may be made as well by suction as by emission of the breath : as in whistling or breathing.

Experiments in concert touching articulation of sounds.

192. IT is evident, and it is one of the strangest secrets in sounds, that the whole sound is not in the whole air only ; but the whole sound is also in every small part of the air. So that all the curious diversity of articulate sounds, of the voice of man or birds, will enter at a small cranny unconfused.

193. THE unequal agitation of the winds and the like, though they be material to the carriage of the sounds farther or less way ; yet they do not confound the articulation of them at all, within that distance that they can be heard ; though it may be, they make them to be heard less way than in a still ; as hath been partly touched.

194. OVER-great distance confoundeth the articulation of sounds ; as we see, that you may hear the sound of a preacher's voice, or the like, when you cannot distinguish what he saith. And one articulate sound will confound another, as when many speak at once.

195. IN the experiment of speaking under water, when the voice is reduced to such an extreme exility, yet the articulate sounds (which are the words) are not confounded, as hath been said.

196. I conceive, that an extreme small, or an extreme great sound, cannot be articulate ; but that the articulation requireth a mediocrity of sound : for, that the extreme small sound confoundeth the articulation by contracting ; and the great sound by dispersing : and although (as was formerly said) a sound articulate, already created, will be contracted into a small cranny ; yet the first articulation requireth more dimension.

197. IT hath been observed, that in a room, or in a chapel, vaulted below and vaulted likewise in the roof, a preacher cannot be heard so well, as in the like places not so vaulted. The cause is, for that the subsequent words come on, before the precedent words vanish : and therefore the articulate sounds are more confused, though the gross of the sound be greater.

198. THE motions of the tongue, lips, throat, palate, &c. which go to the making of the several alphabetical letters, are worthy enquiry, and pertinent

to the present inquisition of sounds : but because they are subtle, and long to describe, we will refer them over, and place them amongst the experiments of speech. The *Hebrews* have been diligent in it, and have assigned which letters are labial, which dental, which guttural, &c. As for the *Latins* and *Grecians*, they have distinguished between semi-vowels and mutes ; and in mutes, between *mutae tenues*, *mediae*, and *aspiratae* ; not amiss, but yet not diligently enough. For the special strokes and motions that create those sounds, they have little inquired : as that the letters *B*, *P*, *F*, *M*, are not expressed, but with the contracting or shutting of the mouth ; that the letters *N* and *B*, cannot be pronounced, but that the letter *N* will turn into *M*. As *Hecatonba* will be *Hecatomba*. That *M* and *T* cannot be pronounced together, but *P* will come between ; as *emptus* is pronounced *emptus* ; and a number of the like. So that if you enquire to the full, you will find, that to the making of the whole alphabet, there will be fewer simple motions required, than there are letters.

199. THE lungs are the most spongy part of the body ; and therefore ablest to contract and dilate it self ; and where it contracteth it self, it expelleth the air ; which through the artery, throat, and mouth, maketh the voice : but yet articulation is not made but with the help of the tongue, palate, and the rest of those they call instruments of voice.

200. THERE is found a similitude between the sound that is made by inanimate bodies, or by animate bodies, that have no voice articulate ; and divers letters of articulate voices : and commonly men have given such names to those sounds, as do allude unto the articulate letters. As trembling of water hath resemblance with the letter *L* ; quenching of hot metals with the letter *Z* ; snarling of dogs with the letter *R* ; the noise of screech-owls with the letter *Sh* ; voice of cats with the diphthong *Eu* ; voice of cuckows with the diphthong *Ou* ; sounds of strings with the letters *Ng* : so that if a man (for curiosity or strangeness sake) would make a puppet or other dead body to pronounce a word ; let him consider on the one part, the motion of the instruments of voice ; and on the other part the like sounds made in inanimate bodies ; and what conformity there is that causeth the similitude of sounds ; and by that he may minister light to that effect.



NATURAL HISTORY.

CENT. III.

Experiments in consort touching the motions of sounds, in what lines they are circular, oblique, straight, upwards, downwards, forwards, backwards.

201. **A**LL sounds whatsoever move round ; that is to say, on all sides ; upwards, downwards, forwards, and backwards. This appeareth in all instances.

202. SOUNDS do not require to be conveyed to the sense in a right line, as visibles do, but may be arched ; though it be true, they move strongest in a right line ; which nevertheless is not caused by the rightness of the line, but by the shortness of the distance ; *linea recta brevissima*. And therefore we see if a wall be between, and you speak on the one side, you hear it on the other ; which is not because the sound passed through the wall, but archeth over the wall.

203. IF the sound be stopped and repercussed, it cometh about on the other side in an oblique line. So if in a coach, one side of the boot be down, and the other up, and a begger beg on the close side ; you will think that he were on the open side. So likewise, if a bell or clock be (for example) on the north side of a chamber, and the window of that chamber be upon the south ; he that is in the chamber will think the sound came from the south.

240. SOUNDS, though they spread round, (so that there is an orb or spherical area of the sound) yet they move strongest, and go farthest in the fore-lines, from the first local impulsion of the air. And therefore in preaching, you shall hear the preacher's voice better before the pulpit, than behind it, or on the sides, though it stand open. So a harquebuz, or ordnance, will be farther heard forwards from the mouth of the piece, than backwards, or on the sides.

205. IT may be doubted, that sounds do move better downwards than upwards. Pulpits are placed high above the people. And when the ancient generals spake to their armies, they had ever a mount of turf cast up, whereupon they stood ; but this may be imputed to the stops and obstacles which the voice meeteth with, when one speaketh upon the level. But there seemeth to be more in it ; for it may be that spiritual species, both of things visible and sounds, do move better downwards than upwards. It is a strange thing, that to men standing below on the ground, those that be on the top of *Paul's*, seem much less than they are, and cannot be known ; but to men
above,

above, those below seem nothing so much lessened, and may be known : yet it is true, that all things to them above, seem also somewhat contracted and better collected into figure : as knots in gardens shew best from an upper window or terras.

206. BUT to make an exact trial of it, let a man stand in a chamber not much above the ground, and speak out at the window through a trunk, to one standing on the ground, as softly as he can, the other laying his ear close to the trunk : then *via versa*, let the other speak below keeping the same proportion of softness ; and let him in the chamber lay his ear to the trunk : and this may be the aptest means to make a judgment, whether sounds descend or ascend better.

Experiments in consort touching the lasting and perishing of sounds ; and touching the time they require to their generation or delation.

207. AFTER that sound is created, (which is in a moment) we find it continueth some small time, melting by little and little. In this there is a wonderful error amongst men, who take this to be a continuance of the first sound ; whereas (in truth) it is a renovation, and not a continuance : for the body percussed, hath by reason of the percussio a trepidation wrought in the minute parts, and so reneweth the percussio of the air. This appeareth manifestly, because that the melting sound of a bell, or of a string stricken, which is thought to be a continuance, ceaseth as soon as the bell or string are touched. As in a virginal, as soon as ever the jack falleth, and toucheth the string, the sound ceaseth ; and in a bell, after you have chimed upon it, if you touch the bell the sound ceaseth. And in this you must distinguish that there are two trepidations : the one manifest and local ; as of the bell when it is penfile : the other secret of the minute parts ; such as is described in the ninth instance. But it is true, that the local helpeth the secret greatly. We see likewise, that in pipes and other wind-instruments, the sound lasteth no longer than the breath bloweth. It is true, that in organs there is a confused murmur for a while after you have played ; but that is but while the bellows are in falling.

208. IT is certain, that in the noise of great ordnance, where many are shot off together, the sound will be carried (at the least) twenty miles upon the land, and much farther upon the water. But then it will come to the ear, not in the instant of the shooting off, but it will come an hour or more later. This must needs be a continuance of the first sound ; for there is no trepidation which should renew it. And the touching of the ordnance would not extinguish the sound the sooner : so that in great sounds the continuance is more than momentany.

209. To try exactly the time wherein sound is delated, let a man stand in a steeple, and have with him a taper ; and let some vail be put before the taper ; and let another man stand in the field a mile off. Then let him in the steeple strike the bell ; and in the same instant withdraw the vail ; and so let him in the field tell by his pulse what distance of time there is between the light seen, and the sound heard : for it is certain that the delation of light is in an instant. This may be tried in far greater distances, allowing greater lights and sounds.

210. IT is generally known and observed, that light, and the object of sight, move swifter than sound ; for we see a flash of a piece is seen sooner, than the noise is heard. And in hewing wood, if one be some distance off, he shall see the arm lifted up for a second stroke, before he hear the noise of the first. And the greater the distance, the greater is the prevention : as we see in
thunder

thunder which is far off; where the lightning precedeth the crack a good space.

211. COLOURS, when they represent themselves to the eye, fade not, nor melt not by degrees, but appear still in the same strength; but sounds melt and vanish by little and little. The cause is, for that colours participate nothing with the motion of the air, but sounds do. And it is a plain argument that sound participateth of some local motion of the air, (as a cause *sine qua non*) in that it perisheth so suddenly; for in every section or impulsion of the air, the air doth suddenly restore and reunite it self; which the water also doth, but not so swiftly.

Experiments in consort touching the passage and interception of sounds.

IN the trials of the passage, or not passage of sounds, you must take heed you mistake not the passing by the sides of a body, for the passing through a body; and therefore you must make the intercepting body very close; for sound will pass through a small chink.

212. WHERE sound passeth through a hard or close body (as through water; through a wall; through metal, as in hawks bells stopped, &c.) the hard or close body must be but thin and small; for else it deadeth and extinguisheth the sound utterly. And therefore in the experiment of speaking in air under water, the voice must not be very deep within the water: for then the sound pierceth not. So if you speak on the farther side of a close wall, if the wall be very thick you shall not be heard: and if there were an hoghead empty, whereof the sides were some two foot thick, and the bung-hole stopped; I conceive the resounding sound, by the communication of the outward air with the air within, would be little or none: but only you shall hear the noise of the outward knock, as if the vessel were full.

213. It is certain, that in the passage of sounds through hard bodies, the spirit or pneumatical part of the hard body it self doth cooperate; but much better when the sides of that hard body are struck, than when the percussion is only within, without touch of the sides. Take therefore a hawk's bell, the holes stopped up, and hang it by a thread within a bottle glass, and stop the mouth of the glass very close with wax; and then shake the glass, and see whether the bell give any sound at all, or how weak: but note, that you must instead of the thread take a wire; or else let the glass have a great belly; lest when you shake the bell, it dash upon the sides of the glass.

214. IT is plain, that a very long and downright arch for the sound to pass, will extinguish the sound quite; so that that sound, which would be heard over a wall, will not be heard over a church; nor that sound which will be heard, if you stand some distance from the wall, will be heard if you stand close under the wall.

215. SOFT and foraminous bodies, in the first creation of the sound, will dead it; for the striking against cloth or furr will make little sound; as hath been said: but in the passage of the sound, they will admit it better than harder bodies; as we see, that curtains and hangings will not stay the sound much; but glass-windows, if they be very close, will check a sound more, than the like thickness of cloth. We see also in the rumbling of the belly, how easily the sound passeth through the guts and skin.

216. IT is worthy the enquiry, whether great sounds (as of ordnance or bells) become not more weak and exile when they pass through small cran-
nies. For the subtilties of articulate sounds, (it may be) may pass through

small crannies not confused; but the magnitude of the sound (perhaps) not so well.

Experiments in consort touching the medium of sounds.

217. THE mediums of sounds are air; soft and porous bodies; also water. And hard bodies refuse not altogether to be mediums of sounds. But all of them are dull and unapt deferents, except the air.

218. IN air, the thinner or drier air carrieth not the sound so well as the more dense; as appeareth in night sounds and evening sounds; and sounds in moist weather and southern winds. The reason is already mentioned in the title of majoration of sounds; being for that thin air is better pierced; but thick air preserveth the sound better from waste: let further trial be made by hollowing in mists and gentle showers; for (it may be) that will somewhat dead the sound.

219. How far forth flame may be a medium of sounds, (especially of such sounds as are created by air, and not betwixt hard bodies) let it be tried in speaking where a bonfire is between; but then you must allow for some disturbance the noise that the flame it self maketh.

220. WHETHER any other liquors being made mediums, cause a diversity of sound from water, it may be tried: as by the knapping of the tongs; or striking the bottom of a vessel, filled either with milk, or with oil; which though they be more light, yet are they more unequal bodies than air.

OF the natures of the mediums we have now spoken; as for the disposition of the said mediums, it doth consist in the penning, or not penning of the air; of which we have spoken before in the title of delation of sounds: it consisteth also in the figure of the concave through which it passeth; of which we will speak next.

Experiments in consort, what the figures of the pipes or concaves of the bodies deferent conduce to the sounds.

How the figures of pipes, or concaves, through which sounds pass, or of other bodies deferent, conduce to the variety and alteration of the sounds; either in respect of the greater quantity, or less quantity of air, which the concaves receive; or in respect of the carrying of sounds longer and shorter way; or in respect of many other circumstances; they have been touched, as falling into other titles. But those figures which we now are to speak of, we intend to be as they concern the lines through which sound passeth; as straight, crooked, angular, circular, &c.

221. THE figure of a bell partaketh of the pyramis, but yet coming off and dilating more suddenly. The figure of a hunter's horn and cornet, is oblique; yet they have likewise straight horns; which if they be of the same bore with the oblique, differ little in sound; save that the straight require somewhat a stronger blast. The figures of recorders and flutes, and pipes are straight; but the recorder hath a less bore and a greater; above and below. The trumpet hath the figure of the letter S: which maketh that purling sound, &c. Generally the straight line hath the clearest and roundest sound, and the crooked the more hoarse and jarring.

222. OF a sinuous pipe that may have some four flexions, trial would be made. Likewise of a pipe made like a cross, open in the midst. And so likewise of an angular pipe: and see what will be the effects of these several sounds. And so again of a circular pipe; as if you take a pipe perfect round, and make a hole whereinto you shall blow, and another hole not far from that;

that ; but with a traverse or stop between them ; so that your breath may go the round of the circle, and come forth at the second hole. You may try likewise percussions of solid bodies of several figures ; as globes, flats, cubes, crosses, triangles, &c. and their combinations, as flat against flat, and convex against convex, and convex against flat, &c. and mark well the diversities of the sounds. Try also the difference in sound of several craftitudes of hard bodies percussed ; and take knowledge of the diversities of the sounds. I myself have tried, that a bell of gold yieldeth an excellent sound, not inferiour to that of silver or brass, but rather better : yet we see that a piece of money of gold soundeth far more flat than a piece of money of silver.

223. THE harp hath the concave not along the strings, but across the strings ; and no instrument hath the sound so melting and prolonged, as the *Irish* harp. So as I suppose, that if a virginal were made with a double concave, the one all the length as the virginal hath ; the other at the end of the strings as the harp hath ; it must needs make the sound perfecter, and not so shallow and jarring. You may try it without any sound-board along, but only harp-wise at one end of the strings : or lastly with a double concave at each end of the strings one.

Experiments in consort touching the mixture of sounds.

224. THERE is an apparent diversity between the species visible and audible in this, that the visible doth not mingle in the medium, but the audible doth. For if we look abroad, we see heaven, a number of stars, trees, hills, men, beasts, at once. And the species of the one doth not confound the other. But if so many sounds come from several parts, one of them would utterly confound the other. So we see, that voices or consorts of musick do make an harmony by mixture, which colours do not. It is true nevertheless, that a great light drowneth a smaller, that it cannot be seen ; as the sun that of a glow-worm ; as well as a great sound drowneth a lesser. And I suppose likewise, that if there were two lanthorns of glass, the one a crimson, and the other an azure, and a candle within either of them, those coloured lights would mingle and cast upon a white paper a purple colour. And even in colours, they yield a faint and weak mixture : for white walls make rooms more lightsome than black, &c. but the cause of the confusion in sounds, and the inconfusion in species visible, is, for that the sight worketh in right lines, and maketh several cones ; and so there can be no coincidence in the eye or visual point : but sounds that move in oblique and arcuate lines, must needs encounter and disturb the one the other.

225. THE sweetest and best harmony is, when every part or instrument is not heard by it self, but a conflation of them all ; which requireth to stand some distance off. Even as it is in the mixture of perfumes ; or the taking of the smells of several flowers in the air.

226. THE disposition of the air in other qualities, except it be joined with sound, hath no great operation upon sounds : for whether the air be lightsome or dark, hot or cold, quiet or stirring, (except it be with noise) sweet-smelling, or stinking, or the like ; it importeth not much : some petty alteration or difference it may make.

227. BUT sounds do disturb and alter the one the other : sometimes the one drowning the other, and making it not heard ; sometimes the one jarring and discording with the other, and making a confusion ; sometimes the one mingling and compounding with the other, and making an harmony.

228. Two voices of like loudness, will not be heard twice as far as one

of them alone ; and two candles of like light, will not make things seem twice as far off as one. The cause is profound ; but it seemeth that the impressions from the objects of the senses do mingle respectively, every one with his kind ; but not in proportion, as is before demonstrated : and the reason may be, because the first impression, which is from privative to active, (as from silence to noise, or from darkness to light) is a greater degree, than from less noise to more noise, or from less light to more light. And the reason of that again may be, for that the air, after it hath received a charge, doth not receive a surcharge, or greater charge, with like appetite as it doth the first charge. As for the increase of virtue, generally, what proportion it beareth to the increase of the matter, it is a large field, and to be handled by it self.

Experiments in consort touching melioration of sounds.

229. ALL reflexions concurrent do make sounds greater ; but if the body that createth either the original sound, or the reflexion, be clean and smooth, it maketh them sweeter. Trial may be made of a lute or viol, with the belly of polished brass instead of wood. We see that even in the open air, the wire string is sweeter than the string of guts. And we see that for reflexion water excelleth ; as in musick near the water ; or in echo's.

230. IT hath been tried, that a pipe a little moisten'd on the inside, but yet so as there be no drops left, maketh a more solemn sound, than if the pipe were dry : but yet with a sweet degree of fibilation or purling ; as we touched it before in the title of equality. The cause is, for that all things porous being superficially wet, and (as it were) between dry and wet, become a little more even and smooth ; but the purling (which must needs proceed of inequality) I take to be bred between the smoothness of the inward surface of the pipe, which is wet ; and the rest of the wood of the pipe unto which the wet cometh not, but it remaineth dry.

231. IN frosty weather musick within doors soundeth better. Which may be by reason not of the disposition of the air, but of the wood or string of the instrument, which is made more crisp, and so more porous and hollow : and we see that old lutes sound better than new for the same reason. And so do lute-strings that have been kept long.

232. SOUND is likewise meliorated by the mingling of open air with pent air ; therefore trial may be made of a lute or viol with a double belly ; making another belly with a knot over the strings ; yet so, as there be room enough for the strings, and room enough to play below that belly. Trial may be made also of an *Irish* harp, with a concave on both sides ; whereas it useth to have it but on one side. The doubt may be, lest it should make too much rebounding ; whereby one note would overtake another.

233. IF you sing in the hole of a drum, it maketh the singing more sweet. And so I conceive it would, if it were a song in parts sung into several drums ; and for handsomeness and strangeness sake, it would not be amiss to have a curtain between the place where the drums are and the hearers.

234. WHEN a sound is created in a wind-instrument between the breath and the air, yet if the sound be communicated with a more equal body of the pipe, it meliorateth the sound. For (no doubt) there would be a differing sound in a trumpet or pipe of wood ; and again in a trumpet or pipe of brass. It were good to try recorders and hunters horns of brass, what the sound would be.

235. SOUNDS are meliorated by the intension of the sense, where the common

mon sense is collected most to the particular sense of hearing, and the sight suspended: and therefore sounds are sweeter (as well as greater) in the night, than in the day; and I suppose they are sweeter to blind men than to others: and it is manifest that between sleeping and waking (when all the senses are bound and suspended) musick is far sweeter, than when one is fully waking.

Experiments in consort touching the imitation of sounds.

236. IT is a thing strange in nature when it is attentively considered, how children, and some birds, learn to imitate speech. They take no mark (at all) of the motion of the mouth of him that speaketh, for birds are as well taught in the dark as by light. The sounds of speech are very curious and exquisite: so one would think it were a lesson hard to learn. It is true that it is done with time, and by little and little, and with many essays and profers: but all this dischargeth not the wonder. It would make a man think (though this which we shall say may seem exceeding strange) that there is some transmissiion of spirits; and that the spirits of the teacher put in motion, should work with the spirits of the learner a pre-disposition to offer to imitate; and so to perfect the imitation by degrees. But touching operations by transmissiions of spirits, (which is one of the highest secrets in nature) we shall speak in due place; chiefly when we come to inquire of imagination. But as for imitation, it is certain that there is in men and other creatures a pre-disposition to imitate. We see how ready apes and monkeys are, to imitate all motions of man; and in the catching of dottrels, we see how the foolish bird playeth the ape in gestures: and no man (in effect) doth accompany with others, but he learneth (ere he is aware) some gesture, or voice, or fashion of the other.

237. IN imitation of sounds, that man should be the teacher is no part of the matter; for birds will learn one of another; and there is no reward by feeding, or the like, given them for the imitation; and besides, you shall have parrots that will not only imitate voices, but laughing, knocking, squeaking of a door upon the hinges, or of a cart-wheel; and (in effect) any other noise they hear.

238. No beast can imitate the speech of man but birds only; for the ape it self, that is so ready to imitate otherwise, attaineth not any degree of imitation of speech. It is true, that I have known a dog, that if one howled in his ear, he would fall a howling a great while. What should be the aptness of birds in compariison of beasts, to imitate the speech of man, may be further enquired. We see that beasts have those parts which they count the instruments of speech, (as lips, teeth, &c.) liker unto man than birds. As for the neck by which the throat passeth, we see many beasts have it for the length as much as birds. What better gorge or attire birds have, may be farther enquired. The birds that are known to be speakers, are parrots, pies, jays, daws and ravens. Of which parrots have an adunke bill, but the rest not.

239. BUT I conceive, that the aptness of birds is not so much in the conformity of the organs of speech, as in their attention. For speech must come by hearing and learning; and birds give more heed, and mark sounds more than beasts; because naturally they are more delighted with them, and practise them more, as appeareth in their singing. We see also that those that teach birds to sing, do keep them waking to increase their attention. We

see also, that cock birds amongst finging birds are ever the better fingers; which may be because they are more lively and listen more.

240. LABOUR and intention to imitate voices, doth conduce much to imitation: and therefore we see that there be certain *Pantomimi*, that will represent the voices of players of interludes so to life, as if you see them not you would think they were those players themselves, and so the voices of other men that they hear.

241. THERE have been some that could counterfeit the distance of voices, (which is a secondary object of hearing) in such sort, as when they stand fast by you, you would think the speech came from afar off in a fearful manner. How this is done may be further enquired. But I see no great use of it but for imposture, in counterfeiting ghosts or spirits.

Experiments in consort touching the reflexion of sounds.

THERE be three kinds of reflexion of sounds; a reflexion concurrent, a reflexion iterant, which we call echo; and a super-reflexion, or an echo of an echo, whereof the first hath been handled in the title of magnitude of sounds: the latter two we will now speak of.

242. THE reflexion of species visible by mirrours you may command; because passing in right lines they may be guided to any point: but the reflexion of sounds is hard to master; because the sound filling great spaces in arched lines, cannot be so guided: and therefore we see there hath not been practised any means to make artificial echo's. And no echo already known returneth in a very narrow room.

243. THE natural echo's are made upon walls, woods, rocks, hills and banks; as for waters being near, they make a concurrent echo; but being farther off (as upon a large river) they make an iterant echo: for there is no difference between the concurrent echo and the iterant, but the quickness or slowness of the return. But there is no doubt but water doth help the delation of echo; as well as it helpeth the delation of original sounds.

244. IT is certain, (as hath been formerly touched) that if you speak through a trunk stopped at the farther end, you shall find a blast return upon your mouth, but no sound at all. The cause is, for that the closeness which preserveth the original, is not able to preserve the reflected sound: besides that echo's are seldom created but by loud sounds. And therefore there is less hope of artificial echo's in air, pent in a narrow concave. Nevertheless it hath been tried, that one leaning over a well of 25 fathom deep, and speaking, though but softly, (yet not so soft as a whisper) the water returned a good audible echo. It would be tried, whether speaking in caves, where there is no issue save where you speak, will not yield echo's as wells do.

245. THE echo cometh as the original sound doth, in a round orb of air: it were good to try the creating of the echo, where the body reperiencing maketh an angle: as against the return of a wall, &c. Also we see that in mirrours there is the like angle of incidence, from the object of the glass, and from the glass to the eye. And if you strike a ball side-long, not full upon the surface, the rebound will be as much the contrary way; whether there be any such resilience in echo's, (that is, whether a man shall hear better if he stand aside the body reperiencing, than if he stand where he speaketh, or any where in a right line between) may be tried.* Trial likewise would be made, by standing nearer the place of reperiencing than he that speaketh; and again by standing farther off than he that speaketh; and so knowledge

knowledge would be taken, whether echo's as well as original sounds, be not strongest near hand.

246. THERE be many places where you shall hear a number of echo's one after another : and it is when there is variety of hills or woods, some nearer, some farther off : so that the return from the farther being last created, will be likewise last heard.

247. As the voice goeth round, as well towards the back, as towards the front of him that speaketh ; so likewise doth the echo : for you have many back echo's to the place where you stand.

248. To make an echo that will report three, or four, or five words distinctly, it is requisite that the body repercussing be a good distance off : for if it be near, and yet not so near as to make a concurrent echo, it choppeth with you upon the sudden. It is requisite likewise that the air be not much pent : For air at a great distance pent, worketh the same effect with air at large in a small distance. And therefore in the trial of speaking in the well, though the well was deep, the voice came back suddenly, and would bear the report but of two words.

249. FOR echo's upon echo's, there is a rare instance thereof in a place, which I will now exactly describe. It is some three or four miles from *Paris*, near a town called *Pont-Charenton* ; and some bird-bolt-shot or more from the river of *Seine*. The room is a chapel or small church. The walls all standing, both at the sides and at the ends. Two rows of pillars, after the manner of isles of churches, also standing ; the roof all open, not so much as any embowment near any of the walls left. There was against every pillar a stack of billets above a man's height ; which the watermen that bring wood down the *Seine* in sacks, and not in boats, laid there (as it seemeth) for their ease. Speaking at the one end, I did hear it return the voice thirteen several times ; and I have heard of others, that it would return sixteen times : for I was there about three of the clock in the afternoon : and it is best (as all other echo's are) in the evening. It is manifest that it is not echo's from several places, but a tossing of the voice as a ball to and fro ; like to reflexions in looking-glasses, where if you place one glass before and another behind, you shall see the glass behind with the image, within the glass before ; and again, the glass before in that ; and divers such super-reflexions, till the *species speciei* at last die. For it is every return weaker and more shady. In like manner the voice in that chapel created *speciem speciei*, and maketh succeeding super-reflexions ; for it melteth by degrees, and every reflexion is weaker than the former : so that if you speak three words, it will (perhaps) some three times report you the whole three words ; and then the two latter words for some times ; and then the last word alone for some times ; still fading and growing weaker. And whereas in echo's of one return, it is much to hear four or five words ; in this echo of so many returns upon the matter, you hear above twenty words for three.

250. THE like echo upon echo, but only with two reports, hath been observed to be, if you stand between a house and a hill, and lure towards the hill. For the house will give a back echo, one taking it from the other, and the latter the weaker.

251. THERE are certain letters that an echo will hardly express ; as *S* for one, especially being principal in a word. I remember well, that when I went to the echo at *Pont-Charenton*, there was an old *Parisian*, that took it to be the work of spirits, and of good spirits. For (said he) call *Satan*, and the echo will not deliver back the devil's name ; but will say *vat'en* ; which is

as much in *French* as *apage*, or avoid. And thereby I did hap to find, that an echo would not return *S*, being but a hissing and an interiour sound.

252. ECHO's are some more sudden, and chop again as soon as the voice is delivered; as hath been partly said: others are more deliberate, that is, give more space between the voice and the echo; which is caused by the local nearness or distance: some will report a longer train of words; and some a shorter: some more loud (full as loud as the original, and sometimes more loud) and some weaker and fainter.

253. WHERE echo's come from several parts at the same distance, they must needs make (as it were) a quire of echo's, and so make the report greater, and even a continued echo; which you shall find in some hills that stand encompassed theatre-like.

254. IT doth not yet appear that there is refraction in sounds, as well as in species visible. For I do not think, that if a sound should pass through divers mediums, (as air, cloth, wood) it would deliver the sound in a different place from that unto which it is deferred; which is the proper effect of refraction. But majoration, which is also the work of refraction, appeareth plainly in sounds, (as hath been handled at full) but it is not by diversity of mediums.

Experiments in consort touching the consent and dissent between visibles and audibles.

WE have *obiter*, for demonstration sake, used in divers instances the examples of the sight and things visible, to illustrate the nature of sounds: But we think good now to prosecute that comparison more fully.

Consent of visibles and audibles.

255. BOTH of them spread themselves in round, and fill a whole floor or orb unto certain limits: and are carried a great way: and do languish and lessen by degrees, according to the distance of the objects from the sensories.

256. BOTH of them have the whole species in every small portion of the air or medium, so as the species do pass through small crannies without confusion: as we see ordinarily in levels, as to the eye; and in crannies or chinks as to the sound.

257. BOTH of them are of a sudden and easy generation and delation; and likewise perish swiftly and suddenly; as if you remove to the light, or touch the bodies that give the sound.

258. BOTH of them do receive and carry exquisite and accurate differences; as of colours, figures, motions, distances, in visibles; and of articulate voices, tones, songs and quaverings, in audibles.

259. BOTH of them in their virtue and working, do not appear to emit any corporal substance into their mediums, or the orb of their virtue; neither again to rise or stir any evident local motion in their mediums as they pass, but only to carry certain spiritual species; the perfect knowledge of the cause whereof being hitherto scarcely attained, we shall search and handle in due place.

260. BOTH of them seem not to generate or produce any other effect in nature, but such as appertaineth to their proper objects and senses, and are otherwise barren.

261. BUT both of them in their own proper action, do work three manifest effects. The first, in that the stronger species drowneth the lesser; as the light of the sun, the light of a glow-worm; the report of an ordnance, the voice:

voice: The second, in that an object of surcharge or excess destroyeth the sense, as the light of the sun the eye; a violent sound (near the ear) the hearing: the third, in that both of them will be reverberated; as in mirrors, and in echo's.

262. NEITHER of them doth destroy or hinder the species of the other, although they encounter in the same medium; as light or colour hinder not sound, nor *e contra*.

263. BOTH of them affect the sense in living creatures, and yield objects of pleasure and dislike: yet nevertheless the objects of them do also (if it be well observed) affect and work upon dead things; namely such as have some conformity with the organs of the two senses; as visibles work upon a looking-glass, which is like the pupil of the eye; and audibles upon the places of echo, which resemble in some sort the cavern and structure of the ear.

264. BOTH of them do diversly work, as they have their medium diversly disposed. So a trembling medium (as smock) maketh the object seem to tremble; and a rising or falling medium (as winds) maketh the sounds to rise or fall.

265. TO both, the medium, which is the most propitious and conducive, is air; for glass or water, &c. are not comparable.

266. IN both of them, where the object is fine and accurate, it conduceth much to have the sense intentive and erect; in so much as you contract your eye when you would see sharply; and erect your ear when you would hear attentively; which in beasts that have ears moveable is most manifest.

267. THE beams of light, when they are multiplied and conglomerate, generate heat; which is a different action from the action of sight: and the multiplication and conglomeration of sounds doth generate an extreme rarefaction of the air; which is an action materiate, differing from the action of sound; if it be true (which is anciently reported) that birds with great shouts have fallen down.

Dissents of visibles and audibles.

268. THE species of visibles seem to be emissions of beams from the object seen, almost like odours, save that they are more incorporeal: but the species of audibles seem to participate more with local motion, like percussions, or impressions made upon the air. So that whereas all bodies do seem to work in two manners, either by the communication of their natures, or by the impressions and signatures of their motions; the diffusion of species visible seemeth to participate more of the former operation, and the species audible of the latter.

269. THE species of audibles seem to be carried more manifestly through the air than the species of visibles: for (I conceive) that a contrary strong wind will not much hinder the sight of visibles, as it will do the hearing of sounds.

270. THERE is one difference above all others between visibles and audibles, that is the most remarkable; as that whereupon many smaller differences do depend: namely, that visibles (except lights) are carried in right lines, and audibles in arcuate lines. Hence it cometh to pass, that visibles do not intermingle and confound one another, as hath been said before; but sounds do. Hence it cometh, that the solidity of bodies doth not much hinder the sight, so that the bodies be clear, and the pores in a right line, as in glass,

crystal, diamonds, water, &c. but a thin scarf or handkerchief, though they be bodies nothing so solid, hinder the sight: whereas (contrariwise) these porous bodies do not much hinder the hearing, but solid bodies do almost stop it, or at the least attenuate it. Hence also it cometh, that to the reflexion of visibles small glasses suffice; but to the reverberation of audibles are required greater spaces, as hath likewise been said before.

271. VISIBLES are seen farther off than sounds are heard; allowing nevertheless the rate of their bigness: for otherwise a great sound will be heard farther off, than a small body seen.

272. VISIBLES require (generally) some distance between the object and the eye, to be better seen; whereas in audibles, the nearer the approach of the sound is to the sense, the better. But in this there may be a double error. The one because to seeing there is required light; and any thing that toucheth the pupil of the eye (all over) excludeth the light. For I have heard of a person very credible, (who himself was cured of a cataract in one of his eyes) that while the silver needle did work upon the sight of his eye, to remove the film of the cataract, he never saw any thing more clear or perfect than that white needle: which (no doubt) was, because the needle was lesser than the pupil of the eye, and so took not the light from it. The other error may be, for that the object of sight doth strike upon the pupil of the eye directly without any interception; whereas the cave of the ear doth hold off the sound a little from the organ: and so nevertheless there is some distance required in both.

273. VISIBLES are swiftness carried to the sense than audibles; as appeareth in thunder and lightning, flame and report of a piece, motion of the air in hewing of wood. All which have been set down heretofore, but are proper for this title.

274. I conceive also, that the species of audibles do hang longer in the air than those of visibles: for although even those of visibles do hang some time, as we see in rings turned, that shew like spheres; in lute-strings fillipped; a fire-brand carried along, which leaveth a train of light behind it; and in the twilight; and the like: yet I conceive that sounds stay longer, because they are carried up and down with the wind; and because of the distance of the time in ordnance discharged, and heard twenty miles off.

275. IN visibles there are not found objects so odious and ingrate to the sense as in audibles. For foul sights do rather displease, in that they excite the memory of foul things, than in the immediate objects. And therefore in pictures, those foul sights do not much offend; but in audibles, the grating of a saw, when it is sharpned, doth offend so much, as it setteth the teeth on edge. And any of the harsh discords in musick the ear doth straightways refuse.

276. IN visibles, after great light, if you come suddenly into the dark, or contrariwise, out of the dark into a glaring light, the eye is dazled for a time, and the sight confused; but whether any such effect be after great sounds, or after a deep silence, may be better enquired. It is an old tradition, that those that dwell near the cataracts of *Nilus*, are stricken deaf: but we find no such effect in cannoniers nor millers, nor those that dwell upon bridges.

277. It seemeth that the impression of colour is so weak, as it worketh not but by a cone of direct beams, or right lines; whereof the basis is in the object, and the vertical point in the eye; so as there is a corradiation and conjunction of beams; and those beams so sent forth, yet are not of any force to beget

beget the like borrowed or second beams, except it be by reflexion, whereof we speak not. For the beams pass, and give little tincture to that air which is adjacent; which if they did, we should see colours out of a right line. But as this is in colours, so otherwise it is in the body of light. For when there is a screen between the candle and the eye, yet the light passeth to the paper whereon one writeth; so that the light is seen where the body of the flame is not seen; and where any colour (if it were placed where the body of the flame is) would not be seen. I judge that sound is of this latter nature: for when two are placed on both sides of a wall, and the voice is heard, I judge it is not only the original sound which passed in an arched line; but the sound which passeth above the wall in a right line, begetteth the like motion round about it as the first did, though more weak.

Experiments in consort touching the sympathy or antipathy of sounds one with another.

278. ALL concords and discords of musick, are (no doubt) sympathies and antipathies of sounds. And so (likewise) in that musick which we call broken musick or consort musick, some consorts of instruments are sweeter than others; (a thing not sufficiently yet observed :) as the *Irish* harp and base viol agree well: the recorder and stringed musick agree well: organs and the voice agree well, &c. But the virginals and the lute; or the *Welsh* harp and *Irish* harp; or the voice and pipes alone, agree not so well; but for the melioration of musick, there is yet much left (in this point of exquisite consorts) to try and enquire.

279. THERE is a common observation, that if a lute or viol be laid upon the back, with a small straw upon one of the strings; and another lute or viol be laid to it; and in the other lute or viol, the unison to that string be stricken, it will make the string move; which will appear both to the eye, and by the straws falling off. The like will be, if the *diapason* or eight to that string be stricken, either in the same lute or viol, or in others lying by; but in none of these there is any report of sound that can be discerned, but only motion.

280. IT was devised, that a viol should have a lay of wire-strings below, as close to the belly as the lute; and then the strings of guts mounted upon a bridge as in ordinary viols: to the end that by this means the upper strings stricken, should make the lower resound by sympathy, and so make the musick the better; which, if it be to purpose, then sympathy worketh, as well by report of sound as by motion. But this device I conceive to be of no use, because the upper strings which are stopped in great variety, cannot maintain a *diapason* or unison with the lower, which are never stopped. But if it should be of use at all, it must be in instruments which have no stops; as virginals and harps; wherein trial may be made of two rows of strings, distant the one from the other.

281. THE experiment of sympathy may be transferred (perhaps) from instruments of strings, to other instruments of sound. As to try if there were in one steeple two bells of unison, whether the striking of the one would move the other, more than if it were another accord: and so in pipes (if they be of equal bore and sound) whether a little straw or feather would move in the one pipe, when the other is blown at an unison.

282. IT seemeth both in ear and eye, the instrument of sense hath a sympathy or similitude with that which giveth the reflexion; (as hath been touched

before :) for as the sight of the eye is like a crystal, or glass, or water; so is the ear a sinuous cave, with a hard bone, to stop and reverberate the sound: which is like to the places that report echoes.

Experiments in consort touching the hindring or helping of the hearing.

283. WHEN a man yawneth, he cannot hear so well. The cause is, for that the membrane of the ear is extended; and so rather casteth off the sound than draweth it to.

284. WE hear better when we hold our breath than contrary; in so much as in all listening to attain a sound afar off, men hold their breath. The cause is, for that in all expiration the motion is outwards; and therefore rather driveth away the voice than draweth it: and besides we see, that in all labour to do things with any strength, we hold the breath; and listening after any sound that is heard with difficulty, is a kind of labour.

285. LET it be tried, for the help of the hearing, (and I conceive it likely to succeed) to make an instrument like a tunnel; the narrow part whereof may be of the bigness of the hole of the ear; and the broader end much larger, like a bell at the skirts; and the length half a foot or more. And let the narrow end of it be set close to the ear: and mark whether any sound, abroad in the open air, will not be heard distinctly from farther distance, than without that instrument; being (as it were) an ear-spectacle. And I have heard there is in *Spain* an instrument in use to be set to the ear, that helpeth somewhat those that are thick of hearing.

286. IF the mouth be shut close, nevertheless there is yielded by the roof of the mouth a murmur; such as is used by dumb men. But if the nostrils be likewise stopped, no such murmur can be made: except it be in the bottom of the palate towards the throat. Whereby it appeareth manifestly, that a sound in the mouth, except such as aforesaid if the mouth be stopped, passeth from the palate through the nostrils.

Experiments in consort touching the spiritual and fine nature of sounds.

287. THE repercussion of sounds (which we call echo) is a great argument of the spiritual essence of sounds. For if it were corporeal, the repercussion should be created in the same manner, and by like instruments with the original sound: but we see what a number of exquisite instruments must concur in speaking of words, whereof there is no such matter in the returning of them, but only a plain stop and repercussion.

288. THE exquisite differences of articulate sounds, carried along in the air, shew that they cannot be signatures or impressions in the air, as hath been well refuted by the ancients. For it is true, that seals make excellent impressions; and so it may be thought of sounds in their first generation: but then the delation and continuance of them without any new sealing, shew apparently they cannot be impressions.

289. ALL sounds are suddenly made, and do suddenly perish; but neither that nor the exquisite differences of them, is matter of so great admiration: for the quaverings and warblings in lutes and pipes are as swift; and the tongue (which is no very fine instrument) doth in speech make no fewer motions than there be letters in all the words which are uttered. But that sounds should not only be so speedily generated, but carried so far every way in such a momentary time, deserveth more admiration. As for example; if a man stand in the middle of a field and speak aloud, he shall be heard a furlong in round;

round; and that shall be in articulate sounds; and those shall be entire in every little portion of the air; and this shall be done in the space of less than a minute.

290. THE sudden generation and perishing of sounds, must be one of these two ways. Either that the air suffereth some force by sound, and then restoreth it self as water doth; which being divided, maketh many circles, till it restore it self to the natural consistence: or otherwise, that the air doth willingly imbibe the sound as grateful, but cannot maintain it; for that the air hath (as it should seem) a secret and hidden appetite of receiving the sound at the first; but then other gross and more materiate qualities of the air straightways suffocate it; like unto flame, which is generated with alacrity, but straight quenched by the enmity of the air or other ambient bodies.

THERE be these differences (in general) by which sounds are divided: 1. Musical, immusical. 2. Treble, base. 3. Flat, sharp. 4. Soft, loud. 5. Extremous, interior. 6. Clean, harsh or purling. 7. Articulate, inarticulate.

WE have laboured (as may appear) in this inquisition of sounds diligently; both because sound is one of the most hidden portions of nature, (as we said in the beginning;) and because it is a virtue which may be called incorporeal and immateriate; whereof there be in nature but few. Besides, we were willing (now in these our first centuries) to make a pattern or precedent of an exact inquisition; and we shall do the like hereafter in some other subjects which require it. For we desire that men should learn and perceive, how severe a thing the true inquisition of nature is; and should accustom themselves by the light of particulars, to enlarge their minds to the amplitude of the world, and not reduce the world to the narrowness of their minds.

Experiment solitary touching the orient colours in dissolution of metals.

291. METALS give orient and fine colours and dissolutions; as gold giveth an excellent yellow; quicksilver an excellent green; tin giveth an excellent azure; likewise in their putrefactions or rusts; as vermilion, verdegrease, bise, cirrus, &c. and likewise in their vitrifications. The cause is, for that by their strength of body they are able to endure the fire or strong waters, and to be put into an equal posture; and again to retain part of their principal spirit; which two things (equal posture and quick spirits) are required chiefly to make colours lightsome.

Experiment solitary touching prolongation of life.

292. IT conduceth unto long life, and to the more placid motion of the spirits, which thereby do less prey and consume the juice of the body; either that mens actions be free and voluntary, that nothing be done *invita Minerva*, but *secundum genium*: or on the other side, that the actions of men be full of regulation and commands within themselves: for then the victory and performing of the command giveth a good disposition to the spirits; especially if there be a proceeding from degree to degree; for then the sense of victory is the greater. An example of the former of these is in a country life; and of the latter in monks and philosophers, and such as do continually enjoin themselves.

Experiment solitary touching appetite of union in bodies.

293. IT is certain that in all bodies there is an appetite of union, and evi-
tation

tation of solution of continuity : and of this appetite there be many degrees ; but the most remarkable and fit to be distinguished are three. The first in liquors ; the second in hard bodies ; and the third in bodies cleaving or tenacious. In liquors this appetite is weak : we see in liquors, the shredding of them in stillicides (as hath been said ;) the falling of them in round drops (which is the form of union) and the staying of them for a little time in bubbles and froth. In the second degree or kind, this appetite is strong ; as in iron, in stone, in wood, &c. In the third, this appetite is in a medium between the other two : for such bodies do partly follow the touch of another body, and partly stick and continue to themselves ; and therefore they rope and draw themselves in threads ; as we see in pitch, glue, birdlime, &c. But note, that all solid bodies are cleaving more or less : and that they love better the touch of somewhat that is tangible, than of air. For water in small quantity cleaveth to any thing that is solid ; and so would metal too, if the weight drew it not off. And therefore gold foliate, or any metal foliate, cleaveth : but those bodies which are noted to be clammy and cleaving, are such as have a more indifferent appetite (at once) to follow another body, and to hold to themselves. And therefore they are commonly bodies ill mixed ; and which take more pleasure in a foreign body, than in preserving their own consistence ; and which have little predominance in drought or moisture.

Experiment solitary touching the like operations of heat and time.

294. TIME and heat are fellows in many effects. Heat drieth bodies that do easily expire ; as parchment, leaves, roots, clay, &c. And so doth time or age arefy ; as in the same bodies, &c. Heat dissolveth and melteth bodies that keep in their spirits ; as in divers liquefactions ; and so doth time in some bodies of a softer consistence : as is manifest in honey, which by age waxeth more liquid ; and the like in sugar ; and so in old oil, which is ever more clear and more hot in medicable use. Heat causeth the spirits to search some issue out of the body ; as in the volatility of metals ; and so doth time ; as in the rust of metals. But generally heat doth that in a small time, which age doth in long.

Experiment solitary touching the different operations of fire and time.

295. SOME things which pass the fire are softest at first, and by time grow hard, as the crumb of bread. Some are harder when they come from the fire, and afterwards give again, and grow soft, as the crust of bread, bisket, sweet meats, salt, &c. The cause is, for that in those things which wax hard with time, the work of the fire is a kind of melting : and in those that wax soft with time, (contrariwise) the work of the fire is a kind of baking ; and whatsoever the fire baketh, time doth in some degree dissolve.

Experiment solitary touching motions by imitation.

296. MOTIONS pass from one man to another, not so much by exciting imagination, as by invitation ; especially if there be an aptness or inclination before. Therefore gaping, or yawning, and stretching do pass from man to man ; for that that causeth gaping and stretching is, when the spirits are a little heavy by any vapour, or the like. For then they strive (as it were) to wring out and expel that which loadeth them. So men drowsy, and desirous to sleep, or before the fit of an ague, do use to yawn and stretch ; and do likewise

likewise yield a voice or sound, which is an interjection of expulsion : so that if another be apt and prepared to do the like, he followeth by the sight of another. So the laughing of another maketh to laugh.

Experiment solitary touching infectious diseases.

297. THERE be some known diseases that are infectious ; and others that are not. Those that are infectious are, first, such as are chiefly in the spirits, and not so much in the humours ; and therefore pass easily from body to body : such are pestilences, lippitudes, and such like. Secondly, such as taint the breath, which we see passeth manifestly from man to man ; and not invisible, as the affects of the spirits do : such are consumptions of the lungs, &c. Thirdly, such as come forth to the skin, and therefore taint the air on the body adjacent ; especially if they consist in an unctuous substance not apt to dissipate ; such are scabs and leprosy. Fourthly, such as are merely in the humours, and not in the spirits, breath or exhalations : and therefore they never infect but by touch only ; and such a touch also as cometh within the *epidermis* ; as the venom of the *French-pox*, and the biting of a mad dog.

Experiment solitary touching the incorporation of powders and liquors.

298. MOST powders grow more close and coherent by mixture of water, than by mixture of oil, though oil be the thicker body ; as meal, &c. The reason is the congruity of bodies ; which if it be more, maketh a perfecter imbibition and incorporation ; which in most powders is more between them and water, than between them and oil : but painters colours ground, and ashes, do better incorporate with oil.

Experiments solitary touching exercise of the body.

299. MUCH motion and exercise is good for some bodies ; and fitting and less motion for others. If the body be hot and void of superfluous moistures, too much motion hurteth : and it is an error in physicians, to call too much upon exercise. Likewise men ought to beware, that they use not exercise and a spare diet both : but if much exercise, then a plentiful diet ; and if sparing diet, then little exercise. The benefits that come of exercise are, first, that it sendeth nourishment into the parts more forcibly. Secondly, that it helpeth to excern by sweat, and so maketh the parts assimilate the more perfectly. Thirdly, that it maketh the substance of the body more solid and compact ; and so less apt to be consumed and depredated by the spirits. The evils that come of exercise are, first, that it maketh the spirits more hot and predatory. Secondly, that it doth absorb likewise, and attenuate too much the moisture of the body. Thirdly, that it maketh too great concussion (especially if it be violent) of the inward parts, which delight more in rest. But generally exercise, if it be much, is no friend to prolongation of life ; which is one cause why women live longer than men, because they stir less.

Experiment solitary touching meats that induce satiety.

300. SOME food we may use long, and much, without glutting ; as bread, flesh that is not fat or rank, &c. Some other (though pleasant) glutteth sooner ; as sweet meats, fat meats, &c. The cause is, for that appetite consisteth in the emptiness of the mouth of the stomach ; or possessing it with some-
what

what that is astringent; and therefore cold and dry. But things that are sweet and fat are more filling; and do swim and hang more about the mouth of the stomach; and go not down so speedily: and again turn sooner to choler, which is hot, and ever abateth the appetite. We see also, that another cause of satiety, is an over-custom; and of appetite is novelty; and therefore meats, if the same be continually taken, induce loathing. To give the reason of the distaste of satiety, and of the pleasure in novelty; and to distinguish not only in meats and drinks, but also in motions, loves, company, delights, studies, what they be that custom maketh more grateful, and what more tedious, were a large field. But for meats, the cause is attraction, which is quicker, and more excited towards that which is new, than towards that whereof there remaineth a relish by former use. And (generally) it is a rule, that whatsoever is somewhat ingrate at first, is made grateful by custom; but whatsoever is too pleasing at first, groweth quickly to satiate.



NATU.

NATURAL HISTORY.

CENT. IV.

Experiments in consort touching the clarification of liquors, and the accelerating thereof.

ACCCELERATION of time, in works of nature, may well be esteemed *inter magnalia naturae*. And even in divine miracles, accelerating of the time is next to the creating of the matter. We will now therefore proceed to the enquiry of it: and for acceleration of germination, we will refer it over unto the place where we shall handle the subject of plants generally; and will now begin with other accelerations.

301. LIQUORS are (many of them) at the first thick and troubled; as muste, wort, juices of fruits, or herbs expressed, &c. and by time they settle and clarify. But to make them clear before the time, is a great work; for it is a spur to nature, and putteth her out of her pace: and besides, it is of good use for making drinks and sauces potable and serviceable speedily; but to know the means of accelerating clarification, we must first know the causes of clarification. The first cause is, by the separation of the grosser parts of the liquor from the finer. The second, by the equal distribution of the spirits of the liquor with the tangible parts: for that ever representeth bodies clear and untroubled. The third, by the refining the spirit it self, which thereby giveth to the liquor more splendor and more lustre.

302. FIRST, for separation, it is wrought by weight, as in the ordinary residence or settlement of liquors, by heat, by motion, by precipitation, or sublimation; (that is, a calling of the several parts either up or down, which is a kind of attraction:) by adhesion; as when a body more viscous is mingled and agitated with the liquor; which viscous body (afterwards severed) draweth with it the grosser parts of the liquor: and lastly, by percolation or passage.

303. SECONDLY, for the even distribution of the spirits, it is wrought by gentle heat; and by agitation or motion; (for of time we speak not, because it is that we would anticipate and represent:) and it is wrought also by mixture of some other body, which hath a virtue to open the liquor, and to make the spirits the better pass through.

304. THIRDLY, for the refining of the spirit, it is wrought likewise by heat; by motion; and by mixture of some body which hath virtue to attenuate. So therefore (having shewn the causes) for the accelerating of clarification in general, and the inducing of it, take these instances and trials.

305. IT is in common practice to draw wine or beer from the lees, (which we call racking;) whereby it will clarify much the sooner: for the lees, though they keep the drink in heart, and make it lasting; yet withal they cast up some spissitude: and this instance is to be referred to separation.

306. ON the other side it were good to try, what the adding to the liquor more lees than his own will work; for though the lees do make the liquor turbid, yet they refine the spirits. Take therefore a vessel of new beer, and take another vessel of new beer, and rack the one vessel from the lees, and pour the lees of the racked vessel into the unracked vessel, and see the effect: this instance is referred to the refining of the spirits.

307. TAKE new beer, and put in some quantity of stale beer into it, and see whether it will not accelerate the clarification, by opening the body of the beer, and cutting the grosser parts, whereby they may fall down into lees. And this instance again is referred to separation.

308. THE longer malt or herbs, or the like, are infused in liquor, the more thick and troubled the liquor is; but the longer they be decocted in the liquor, the clearer it is. The reason is plain, because in infusion, the longer it is, the greater is the part of the gross body that goeth into the liquor: but in decoction, though more goeth forth, yet it either purgeth at the top, or setteth at the bottom. And therefore the most exact way to clarify, is, first, to infuse, and then to take off the liquor and decoct it; as they do in beer, which hath malt first infused in the liquor, and is afterwards boiled with the hop. This also is referred to separation.

309. TAKE hot embers, and put them about a bottle filled with new beer, almost to the very neck; let the bottle be well stopped, lest it fly out: and continue it, renewing the embers every day by the space of ten days; and then compare it with another bottle of the same beer set by. Take also lime both quenched and unquenched, and set the bottles in them *ut supra*. This instance is referred both to the even distribution, and also to the refining of the spirits by heat.

310. TAKE bottles, and swing them; or carry them in a wheel-barrow upon rough ground, twice in a day: but then you may not fill the bottles full, but leave some air; for if the liquor come close to the stopple, it cannot play nor flower: and when you have shaken them well either way, pour the drink into another bottle stopped close after the usual manner; for if it stay with much air in it, the drink will pall; neither will it settle so perfectly in all the parts. Let it stand some twenty four hours: then take it, and put it again into a bottle with air, *ut supra*: and thence into a bottle stopped, *ut supra*: and so repeat the same operation for seven days. Note, that in the emptying of one bottle into another, you must do it swiftly lest the drink pall. It were good also to try it in a bottle with a little air below the neck, without emptying. This instance is referred to the even distribution and refining of the spirits by motion.

311. As for percolation inward and outward, (which belongeth to separation) trial would be made of clarifying by adhesion, with milk put into new beer, and stirred with it: for it may be that the grosser part of the beer will cleave to the milk: the doubt is, whether the milk will sever well again; which is soon tried. And it is usual in clarifying hippocras to put in milk; which after severeth and carrieth with it the grosser parts of the hippocras, as hath been said elsewhere. Also for the better clarification by percolation, when they tun new beer, they use to let it pass through a strainer; and it is like the finer the strainer is, the clearer it will be.

Experiments in consort touching maturation, and the accelerating thereof. And first, touching the maturation and quickning of drinks. And next, touching maturation of fruits.

THE accelerating of maturation we will now enquire of. And of maturation it self. It is of three natures. The maturation of fruits: the maturation of drinks: and the maturation of impostumes and ulcers. This last we refer to another place, where we shall handle experiments medicinal. There be also other maturations, as of metals, &c. whereof we will speak as occasion serveth. But we will begin with that of drinks, because it hath such affinity with the clarification of liquors.

312. FOR the maturation of drinks, it is wrought by the congregation of the spirits together, whereby they digest more perfectly the grosser parts: and it is effected partly by the same means that clarification is, (whereof we spake before;) but then note, that an extreme clarification doth spread the spirits so smooth, as they become dull, and the drink dead, which ought to have a little flowering. And therefore all your clear amber drink is flat.

313. WE see the degrees of maturation of drinks; in muste, in wine, as it is drunk, and in vinegar. Whereof muste hath not the spirits well congregated; wine hath them well united; so as they make the parts somewhat more oily: vinegar hath them congregated, but more jejune, and in smaller quantity; the greatest and finest spirit and part being exhaled: for we see vinegar is made by setting the vessel of wine against the hot sun; and therefore vinegar will not burn; for that much of the finer parts is exhaled.

314. THE refreshing and quickning of drink palled or dead, is by enforcing the motion of the spirit: so we see that open weather relaxeth the spirit, and maketh it more lively in motion. We see also bottling of beer or ale, while it is new and full of spirit, (so that it spirteth when the stopple is taken forth) maketh the drink more quick and windy. A pan of coals in the cellar doth likewise good, and maketh the drink work again. New drink put to drink that is dead provoketh it to work again: nay, which is more, (as some affirm) a brewing of new beer set by old beer, maketh it work again. It were good also to enforce the spirits by some mixtures, that may excite and quicken them; as by putting into the bottles, nitre, chalk, lime, &c. We see cream is matured, and made to rise more speedily by putting in cold water; which as it seemeth getteth down the whey.

315. It is tried, that the burying of bottles of drink well stopped, either in dry earth a good depth; or in the bottom of a well within water; and best of all the hanging of them in a deep well somewhat above the water for some fortnights space, is an excellent means of making drink fresh and quick: for the cold doth not cause any exhaling of the spirits at all, as heat doth, though it rarifieth the rest that remain: but cold maketh the spirits vigorous, and irritateth them, whereby they incorporate the parts of the liquor perfectly.

316. As for the maturation of fruits; it is wrought by the calling forth of the spirits of the body outward, and so spreading them more smoothly: and likewise by digesting in some degree the grosser parts: and this is effected by heat, motion, attraction; and by a rudiment of putrefaction: for the inception of putrefaction hath in it a maturation.

317. THERE were taken apples, and laid in straw; in hay; in flower; in chalk; in lime; covered over with onions; covered over with crabs; closed

up in wax; shut in a box, &c. There was also an apple hanged up in smoak; of all which the experiment sortd in this manner.

318. AFTER a month's space, the apple enclosed in wax, was as green and fresh as at the first putting in, and the kernels continued white. The cause is, for that all exclusion of open air, (which is ever predatory) maintaineth the body in his first freshness and moisture: but the inconvenience is, that it tasteth a little of the wax; which, I suppose, in a pomgranate, or some such thick-coated fruit, it would not do.

319. THE apple hanged in the smoak, turned like an old mellow apple, wrinkled, dry, soft, sweet, yellow within. The cause is, for that such a degree of heat, which doth neither melt nor scorch, (for we see that in a greater heat, a roast apple softneth and melteth; and pigs feet, made of quarters of wardens, scorch and have a skin of cole) doth mellow, and not adure: the smoak also maketh the apple (as it were) sprinkled with foot, which helpeth to mature. We see that in drying of pears and prunes in the oven, and removing of them often as they begin to sweat, there is a like operation; but that is with a far more intense degree of heat.

320. THE apples covered in the lime and ashes were well matured; as appeared both in their yellowness and sweetness. The cause is, for that that degree of heat which is in lime and ashes, (being a smothering heat) is of all the rest most proper, for it doth neither liquefy nor arefy; and that is true maturation. Note that the taste of those apples was good; and therefore it is the experiment fitted for use.

321. THE apples covered with crabs and onions, were likewise well matured. The cause is, not any heat; but for that the crabs and the onions draw forth the spirits of the apple, and spread them equally throughout the body; which taketh away hardness. So we see one apple ripeneth against another. And therefore in making of cyder, they turn the apples first upon a heap. So one cluster of grapes that toucheth another whilst it groweth, ripeneth faster; *botrus contra botrum citius maturefcit.*

322. THE apples in hay and the straw, ripened apparently, though not so much as the other; but the apple in the straw more. The cause is, for that the hay and straw have a very low degree of heat, but yet close and smothering, and which drieth not.

323. THE apple in the close box was ripened also: the cause is, for that all air kept close hath a degree of warmth: as we see in wool, furr, plush, &c.

NOTE that all these were compared with another apple of the same kind, that lay of it self: and in comparison of that were more sweet and more yellow, and so appeared to be more ripe.

324. TAKE an apple, or pear, or other like fruit, and roll it upon a table hard: we see in common experience, that the rolling doth soften and sweeten the fruit presently; which is nothing but the smooth distribution of the spirits into the parts: for the unequal distribution of the spirits maketh the harshness: but this hard rolling is between concoction, and a simple maturation; therefore, if you should roll them but gently, perhaps twice a day; and continue it some seven days, it is like they would mature more finely, and like unto the natural maturation.

325. TAKE an apple, and cut out a piece of the top, and cover it, to see whether that solution of continuity will not hasten a maturation: we see that where a wasp, or a fly, or a worm hath bitten, in a grape, or any fruit, it will sweeten hastily.

326. TAKE an apple, &c. and prick it with a pin full of holes, not deep,
and

and smear it a little with sack, or cinnamon water, or spirit of wine, every day for ten days, to see if the virtual heat of the wine or strong waters will not mature it.

IN these trials also, as was used in the first, set another of the same fruits by to compare them; and try them by their yellowness and by their sweetness.

Experiment solitary touching the making of gold.

THE world hath been much abused by the opinion of making of gold: the work it self I judge to be possible; but the means (hitherto propounded) to effect it, are, in the practice, full of error and imposture; and in the theory, full of unsound imaginations. For to say, that nature hath an intention to make all metals gold; and that, if she were delivered from impediments, she would perform her own work; and that, if the crudities, impurities, and leprosities of metals were cured, they would become gold; and that a little quantity of the medicine, in the work of projection, will turn a sea of the baser metal into gold by multiplying: all these are but dreams; and so are many other grounds of alchymy. And to help the matter, the alchymists call in likewise many vanities out of astrology; natural magick; superstitious interpretations of scriptures; auricular traditions; feigned testimonies of ancient authors; and the like. It is true, on the other side, they have brought to light not a few profitable experiments, and thereby made the world some amends. But we, when we shall come to handle the version and transmutation of bodies, and the experiments concerning metals and minerals; will lay open the true ways and passages of nature, which may lead to this great effect. And we commend the wit of the *Chineses*, who despair of making of gold, but are mad upon the making of silver: for certain it is, that it is more difficult to make gold, (which is the most ponderous and materiate amongst metals) of other metals less ponderous and less materiate; than (*via versa*) to make silver of lead or quicksilver; both which are more ponderous than silver; so that they need rather a farther degree of fixation, than any condensation. In the mean time, by occasion of handling the axioms touching maturation, we will direct a trial touching the maturing of metals, and thereby turning some of them into gold: for we conceive indeed, that a perfect good concoction, or digestion, or maturation of some metals, will produce gold. And here we call to mind, that we knew a *Dutchman*, that had wrought himself into the belief of a great person, by undertaking that he could make gold: whose discourse was, that gold might be made; but that the alchymists over-fired the work: for (he said) the making of gold did require a very temperate heat, as being in nature a subterrany work, where little heat cometh; but yet more to the making of gold than of any other metal; and therefore that he would do it with a great lamp, that should carry a temperate and equal heat: and that it was the work of many months. The device of the lamp was folly; but the over-firing now used, and the equal heat to be required, and the making it a work of some good time, are no ill discourses.

WE resort therefore to our axioms of maturation, in effect touched before. The first is, that there be used a temperate heat; for they are ever temperate heats that digest and mature: wherein we mean temperate, according to the nature of the subject; for that may be temperate to fruits and liquors, which will not work at all upon metals. The second is, that the spirit of the metal be quickned, and the tangible parts opened: for without those two ope-

operations, the spirit of the metal wrought upon, will not be able to digest the parts. The third is, that the spirits do spread themselves even, and move not subfultorily; for that will make the parts close and pliant. And this requireth a heat that doth not rise and fall, but continue as equal as may be. The fourth is, that no part of the spirit be emitted, but detained: for if there be emission of spirit, the body of the metal will be hard and churlish. And this will be performed, partly by the temper of the fire; and partly by the closeness of the vessel. The fifth is, that there be choice made of the likeliest and best prepared metal for the version: for that will facilitate the work. The sixth is, that you give time enough for the work: not to prolong hopes (as the alchymists do;) but indeed to give nature a convenient space to work in. These principles are most certain and true; we will now derive a direction of trial out of them; which may (perhaps) by farther meditation be improved.

327. LET there be a small furnace made of a temperate heat; let the heat be such as may keep the metal perpetually molten, and no more; for that above all importeth to the work. For the material, take silver, which is the metal that in nature symbolizeth most with gold; put in also with the silver, a tenth part of quicksilver, and a twelfth part of nitre, by weight; both these to quicken and open the body of the metal: and so let the work be continued by the space of six months at the least. I wish also, that there be at some times, an injection of some oiled substance; such as they use in the recovering of gold, which by vexing with separations hath been made churlish: and this is to lay the parts more close and smooth, which is the main work. For gold (as we see) is the closest (and therefore the heaviest) of metals; and is likewise the most flexible and tensible. Note, that to think to make gold of quicksilver, because it is the heaviest, is a thing not to be hoped; for quicksilver will not endure the manage of the fire. Next to silver, I think copper were fittest to be the material.

Experiment solitary touching the nature of gold.

328. GOLD hath these natures; greatness of weight; closeness of parts; fixation; pliantness, or softness; immunity from rust; colour or tincture of yellow. Therefore the sure way (though most about) to make gold, is to know the causes of the several natures before rehearsed, and the axioms concerning the same. For if a man can make a metal that hath all these properties, let men dispute whether it be gold or no?

Experiments in consort touching the inducing and accelerating of putrefaction.

THE inducing and accelerating of putrefaction, is a subject of a very universal enquiry: for corruption is a reciprocal to generation: and they two are as nature's two terms or boundaries; and the guides to life and death. Putrefaction is the work of the spirits of bodies, which ever are unquiet to get forth and congregate with the air, and to enjoy the sun-beams. The getting forth, or spreading of the spirits, (which is a degree of getting forth) hath five differing operations. If the spirits be detained within the body, and move more violently, there followeth colliquation, as in metals, &c. If more mildly, there followeth digestion, or maturation; as in drinks and fruits. If the spirits be not merely detained, but protrude a little, and that motion be confused and inordinate, there followeth putrefaction; which ever dissolveth the consistence of the body into much inequality; as in flesh, rotten fruits, shining wood, &c. and also in the rust of metals. But if that motion be in

in certain order, there followeth vivification and figuration ; as both in living creatures bred of putrefaction, and in living creatures perfect. But if the spirits issue out of the body, there followeth desiccation, induration, consumption, &c. as in brick, evaporation of bodies liquid, &c.

329. THE means to induce and accelerate putrefaction, are, first, by adding some crude or watry moisture ; as in wetting of any flesh, fruit, wood, with water, &c. for contrariwise unctuous and oily substances preserve.

330. THE second is by invitation or excitation ; as when a rotten apple lieth close to another apple that is sound : or when dung (which is a substance already putrefied) is added to other bodies. And this is also notably seen in church-yards, where they bury much : where the earth will consume the corps in far shorter time than other earth will.

331. THE third is by closeness and stopping, which detaineth the spirits in prison more than they would ; and thereby irritateth them to seek issue ; as in corn and clothes which wax musty ; and therefore open air (which they call *aer perflabilis*) doth preserve : and this doth appear more evidently in agues, which come (most of them) of obstructions, and penning the humours, which thereupon putrefy.

332. THE fourth is by solution of continuity ; as we see an apple will rot sooner if it be cut or pierced ; and so will wood, &c. And so the flesh of creatures alive, where they have received any wound.

333. THE fifth is either by the exhaling or by the driving back of the principal spirits, which preserve the consistence of the body ; so that when their government is dissolved, every part returneth to his nature or homogeneity. And this appeareth in urine and blood when they cool, and thereby break : it appeareth also in the gangrene, or mortification of flesh, either by opiates, or by intense colds. I conceive also the same effect is in pestilences ; for that the malignity of the infecting vapour danceth the principal spirits, and maketh them fly and leave their regiment ; and then the humours, flesh, and secondary spirits, do dissolve and break as in an anarchy.

334. THE sixth is when a foreign spirit, stronger and more eager than the spirit of the body, entreth the body ; as in the stinging of serpents. And this is the cause (generally) that upon all poisons followeth swelling : and we see swelling followeth also, when the spirits of the body it self congregate too much ; as upon blows and bruises ; or when they are pent in too much, as in swelling upon cold. And we see also, that the spirits coming of putrefaction of humours in agues, &c. which may be counted as foreign spirits, though they be bred within the body, do extinguish and suffocate the natural spirits and heat.

335. THE seventh is by such a weak degree of heat, as setteth the spirits in a little motion, but is not able either to digest the parts, or to issue the spirits ; as is seen in flesh kept in a room that is not cool : whereas in a cool and wet larder it will keep longer. And we see that vivification (whereof putrefaction is the bastard brother) is effected by such soft heats ; as the hatching of eggs, the heat of the womb, &c.

336. THE eighth is by the releasing of the spirits, which before were close kept by the solidness of their coverture, and thereby their appetite of issuing checked ; as in the artificial rusts induced by strong waters, in iron, lead, &c. and therefore wetting hasteneth rust or putrefaction of any thing, because it softneth the crust for the spirits to come forth.

337. THE ninth is by the interchange of heat and cold, or wet and dry ;

as we see in the mouldring of earth in frosts and sun ; and in the more hasty rotting of wood, that is sometimes wet, sometimes dry.

338. THE tenth is by time, and the work and procedure of the spirits themselves, which cannot keep their station ; especially if they be left to themselves ; and there be not agitation or local motion. As we see in corn not stirred ; and mens bodies not exercised.

339. ALL moulds are inceptions of putrefaction ; as the moulds of pies and flesh ; the moulds of oranges and lemons ; which moulds afterwards turn into worms, or more odious putrefactions : and therefore (commonly) prove to be of ill odour. And if the body be liquid, and not apt to putrefy totally, it will cast up a mother in the top, as the mothers of distilled waters.

340. Moss is a kind of mould of the earth and trees. But it may be better sorted as a rudiment of germination ; to which we refer it.

Experiments in consort touching prohibiting and preventing putrefaction.

IT is an enquiry of excellent use, to enquire of the means of preventing or staying of putrefaction ; for therein consisteth the means of conservation of bodies : for bodies have two kinds of dissolutions ; the one by consumption and desiccation ; the other by putrefaction. But as for the putrefactions of the bodies of men and living creatures, (as in agues, worms, consumptions of the lungs, impostumes, and ulcers both inwards and outwards) they are a great part of physick and surgery ; and therefore we will reserve the enquiry of them to the proper place, where we shall handle medicinal experiments of all sorts. Of the rest we will now enter into an enquiry : wherein much light may be taken, from that which hath been said of the means to induce or accelerate putrefactions : for the removing that which caused putrefaction, doth prevent and avoid putrefaction.

341. THE first means of prohibiting or checking putrefaction, is cold : for so we see that meat and drink will last longer unputrefied, or unfowred, in winter than in summer : and we see that flowers and fruits, put in conservatories of snow, keep fresh. And this worketh by the detention of the spirits, and consipation of the tangible parts.

342. THE second is astringency : for astringency prohibiteth dissolution : as we see (generally) in medicines, whereof such as are astringents do inhibit putrefaction : and by the same reason of astringency, some small quantity of oil of vitriol will keep fresh water long from putrefying. And this astringency is in a substance that hath a virtual cold ; and it worketh (partly) by the same means that cold doth.

343. THE third is the excluding of the air ; and again, the exposing to the air : for these contraries (as it cometh often to pass) work the same effect, according to the nature of the subject matter. So we see, that beer or wine, in bottles close stopped, last long ; that the garners under ground keep corn longer than those above ground ; and that fruit closed in wax keepeth fresh ; and likewise bodies put in honey and flower, keep more fresh : and liquors, drinks and juices, with a little oil cast on the top, keep fresh. Contrariwise, we see that cloth and apparel not aired, do breed moths and mould ; and the diversity is, that in bodies that need detention of spirits, the exclusion of the air doth good ; as in drinks and corn : but in bodies that need emission of spirits to discharge some of the superfluous moisture, it doth hurt, for they require airing.

344. THE fourth is motion and stirring ; for putrefaction asketh rest : for the subtle motion which putrefaction requireth, is disturbed by any agitation ;
and

and all local motion keepeth bodies integral, and their parts together; as we see that turning over of corn in a garner, or letting it run like an hour-glass, from an upper room into a lower, doth keep it sweet; and running waters putrefy not: and in mens bodies, exercise hindreth putrefaction; and contrariwise, rest and want of motion, or stoppings (whereby the run of humours, or the motion of perspiration is stayed) further putrefaction; as we partly touched a little before.

345. THE fifth is, the breathing forth of the adventitious moisture in bodies; for as wetting doth hasten putrefaction; so convenient drying (whereby the more radical moisture is only kept in) putteth back putrefaction: so we see that herbs and flowers, if they be dried in the shade, or dried in the hot sun for a small time, keep best. For the emission of the loose and adventitious moisture, doth betray the radical moisture; and carrieth it out for company.

346. THE sixth is the strengthening of the spirits of bodies; for as a great heat keepeth bodies from putrefaction, but a tepid heat inclineth them to putrefaction: so a strong spirit likewise preserveth, and a weak or faint spirit disposeth to corruption. So we find that salt water corrupteth not so soon as fresh: and salting of oysters, and powdring of meat, keepeth them from putrefaction. It would be tried also, whether chalk put into water or drink, doth not preserve it from putrefying, or speedy sowering. So we see that strong beer will last longer than small; and all things that are hot and aromatical, do help to preserve liquors, or powders, &c. which they do as well by strengthening the spirits, as by soaking out the loose moisture.

347. THE seventh is separation of the cruder parts, and thereby making the body more equal; for all imperfect mixture is apt to putrefy; and watry substances are more apt to putrefy than oily. So we see distilled waters will last longer than raw waters; and things that have passed the fire, do last longer than those that have not passed the fire; as dried pears, &c.

348. THE eighth is the drawing forth continually of that part where the putrefaction beginneth: which is (commonly) the loose and watry moisture; not only for the reason before given, that it provoketh the radical moisture to come forth with it; but because being detained in the body, the putrefaction taking hold of it, infecteth the rest: as we see in the embalming of dead bodies: and the same reason is of preserving herbs, or fruits, or flowers, in bran or meal.

349. THE ninth is the commixture of any thing that is more oily or sweet: for such bodies are least apt to putrefy, the air working little upon them; and they not putrefying, preserve the rest. And therefore we see syrups and ointments will last longer than juices.

350. THE tenth is the commixture of somewhat that is dry; for putrefaction beginneth first from the spirits; and then from the moisture: and that that is dry is unapt to putrefy: and therefore smoak preserveth flesh; as we see in bacon and neats tongues, and Martlemas beef, &c.

351. The opinion of some of the ancients, that blown airs do preserve bodies longer than other airs, seemeth to me probable; for that the blown airs being overcharged and compressed, will hardly receive the exhaling of any thing, but rather repulse it. It was tried in a blown bladder, whereinto flesh was put, and likewise a flower, and it sorted not: for dry bladders will not blow; and new bladders rather further putrefaction: the way were therefore to blow strongly with a pair of bellows into a hoghead, putting into the

hoghead (before) that which you would have preserved; and in the instant that you withdraw the bellows, stop the hole close.

Experiment solitary touching wood shining in the dark.

352. THE experiment of wood that shineth in the dark, we have diligently driven and pursued: the rather, for that of all things that give light here below, it is the most durable, and hath least apparent motion. Fire and flame are in continual expence; sugar shineth only while it is in scraping; and salt-water while it is in dashing; glow-worms have their shining while they live, or a little after; only scales of fishes (putrefied) seem to be of the same nature with shining wood: and it is true, that all putrefaction hath with it an inward motion, as well as fire or light. The trial sorteth thus: 1. The shining is in some pieces more bright, in some more dim; but the most bright of all doth not attain to the light of a glow-worm. 2. The woods that have been tried to shine, are chiefly fallow and willow; also the ash and hazle; it may be it holdeth in others. 3. Both roots and bodies do shine, but the roots better. 4. The colour of the shining part, by day-light, is in some pieces white, in some pieces inclining to red; which in the countrey they call the white and red garret. 5. The part that shineth, is (for the most part) somewhat soft, and moist to feel to; but some was found to be firm and hard; so as it might be figured into a cross, or into beads, &c. But you must not look to have an image, or the like, in any thing that is lightsome; for even a face in iron red-hot will not be seen, the light confounding the small differences of lightsome and darksome, which shew the figure. 6. There was the shining part pared off, till you came to that that did not shine; but within two days the part contiguous began also to shine, being laid abroad in the dew; so as it seemeth the putrefaction spreadeth. 7. There was other dead wood of like kind, that was laid abroad, which shined not at the first; but after a night's lying abroad began to shine. 8. There was other wood that did first shine; and being laid dry in the house within five or six days, lost the shining; and laid abroad again, recover'd the shining. 9. Shining woods being laid in a dry room, within a seven-night lost their shining; but being laid in a cellar, or dark room, kept the shining. 10. The boring of holes in that kind of wood, and then laying it abroad, seemeth to conduce to make it shine: the cause is, for that all solution of continuity doth help on putrefaction, as was touched before. 11. No wood hath been yet tried to shine, that was cut down alive, but such as was rotted both in stock and root while it grew. 12. Part of the wood that shined was steeped in oil, and retained the shining a fortnight. 13. The like succeeded in some steeped in water, and much better. 14. How long the shining will continue, if the wood be laid abroad every night, and taken in and sprinkled with water in the day, is not yet tried. 15. Trial was made of laying it abroad in frosty weather, which hurt it not. 16. There was a great piece of a root which did shine, and the shining part was cut off till no more shined; yet after two nights, though it were kept in a dry room, it got a shining.

Experiment solitary touching the acceleration of birth.

353. THE bringing forth of living creatures may be accelerated in two respects: the one, if the embryo ripeneth and perfecteth sooner: the other, if there be some cause from the mother's body, of expulsion or putting it down: whereof the former is good, and argueth strength; the latter is ill, and cometh by accident or disease. And therefore the ancient observation is

true, that the child born in the seventh month doth commonly well ; but born in the eighth month, doth (for the most part) die. But the cause assigned is fabulous ; which is, that in the eighth month should be the return of the reign of the planet *Saturn* : which (as they say) is a planet malign ; whereas in the seventh is the reign of the moon, which is a planet propitious. But the true cause is, for that where there is so great a prevention of the ordinary time, it is the lustiness of the child ; but when it is less, it is some indisposition of the mother.

Experiment solitary touching the acceleration of growth and stature.

354. To accelerate growth or stature, it must proceed either from the plenty of the nourishment ; or from the nature of the nourishment ; or from the quickning and exciting of the natural heat. For the first, excess of nourishment is hurtful ; for it maketh the child corpulent ; and growing in breadth rather than in height. And you may take an experiment from plants, which, if they spread much, are seldom tall. As for the nature of the nourishment ; first, it may not be too dry ; and therefore children in dairy countries do wax more tall, than where they feed more upon bread and flesh. There is also a received tale ; that boiling of daisy roots in milk, (which it is certain are great driers) will make dogs little. But so much is true, that an over-dry nourishment in childhood putteth back stature. Secondly, the nourishment must be of an opening nature ; for that attenuateth the juice, and furthereth the motion of the spirits upwards. Neither is it without cause, that *Xenophon*, in the nurture of the *Persian* children, doth so much commend their feeding upon cardamon ; which (he saith) made them grow better, and be of a more active habit. Cardamon is in latin *nasturtium* ; and with us water-creffes ; which, it is certain, is an herb, that whilst it is young, is friendly to life. As for the quickening of natural heat, it must be done chiefly with exercise ; and therefore (no doubt) much going to school, where they sit so much, hindreth the growth of children ; whereas countrey-people that go not to school, are commonly of better stature. And again men must beware how they give children any thing that is cold in operation ; for even long sucking doth hinder both wit and stature. This hath been tried, that a whelp that hath been fed with nitre in milk, hath become very little, but extreme lively : for the spirit of nitre is cold. And though it be an excellent medicine in strength of years for prolongation of life ; yet it is in children and young creatures an enemy to growth : and all for the same reason ; for heat is requisite to growth ; but after a man is come to his middle age, heat consumeth the spirits ; which the coldness of the spirit of nitre doth help to condense and correct.

Experiments in consort touching sulphur and mercury, two of Paracelsus's principles.

THERE be two great families of things ; you may term them by several names ; sulphureous and mercurial, which are the chymists words : (for as for their *sal*, which is their third principle, it is a compound of the other two ;) inflammable and not inflammable ; mature and crude ; oily and watry. For we see that in subterrancies there are, as the fathers of their tribes, brimstone and mercury : in vegetables and living creatures there is water and oil : in the inferiour order of pneumatics there is air and flame ; and in the superiour, there is the body of the star and the pure sky. And these pairs, though they be unlike in the primitive differences of matter, yet they seem to have

many consents: for mercury and sulphur are principal materials of metals; water and oil are principal materials of vegetables and animals; and seem to differ but in maturation or concoction: flame (in vulgar opinion) is but air incensed; and they both have quickness of motion, and facility of cession, much alike: and the interstellar sky (though the opinion be vain, that the star is the denser part of his orb) hath notwithstanding so much affinity with the star, that there is a rotation of that, as well as of the star. Therefore it is one of the greatest *magnalia naturae*, to turn water or watry juice into oil or oily juice: greater in nature, than to turn silver or quicksilver into gold.

355. THE instances we have wherein crude and watry substance turneth into fat and oily, are of four kinds. First in the mixture of earth and water; which mingled by the help of the sun, gather a nitrous fatness, more than either of them have severally; as we see in that they put forth plants which need both juices.

356. THE second is in the assimilation of nourishment, made in the bodies of plants and living creatures; whereof plants turn the juice of mere water and earth, into a great deal of oily matter: living creatures, though much of their fat and flesh are out of oily aliments, (as meat and bread) yet they assimilate also in a measure their drink of water, &c. But these two ways of version of water into oil, namely, (by mixture and by assimilation) are by many passages and percolations, and by long continuance of soft heats, and by circuits of time.

357. THE third is in the inception of putrefaction; as in water corrupted; and the mothers of waters distilled; both which have a kind of fatness, or oil.

358. THE fourth is in the dulcoration of some metals; as *saccharum Saturni*, &c.

359. THE intension of version of water into a more oily substance, is by digestion; for oil is almost nothing else but water digested; and this digestion is principally by heat; which heat must be either outward or inward: again, it may be by provocation or excitation; which is caused by the mingling of bodies already oily or digested; for they will somewhat communicate their nature with the rest. Digestion also is strongly effected by direct assimilation of bodies crude into bodies digested; as in plants and living creatures, whose nourishment is far more crude than their bodies: but this digestion is by a great compass, as hath been said. As for the more full handling of these two principles, whereof this is but a taste; (the enquiry of which is one of the profoundest enquiries of nature) we leave it to the title of version of bodies; and likewise to the title of the first congregations of matter; which, like a general assembly of estates, doth give law to all bodies.

Experiment solitary touching chameleons.

360. A chameleon is a creature about the bigness of an ordinary lizard: his head unproportionably big; his eyes great: he moveth his head without the writhing of his neck, (which is inflexible) as a hog doth: his back crooked; his skin spotted with little tumours, less eminent nearer the belly; his tail slender and long: on each foot he hath five fingers; three on the outside, and two on the inside; his tongue of a marvellous length in respect of his body, and hollow at the end; which he will launch out to prey upon flies. Of colour green, and of a dusky yellow, brighter and whiter towards the belly; yet spotted with blue, white, and red. If he be laid upon green, the

green predominateth; if upon yellow, the yellow; not so if he be laid upon blue, or red, or white; only the green spots receive a more orient lustre; laid upon black, he looketh all black, though not without a mixture of green. He feedeth not only upon air, (though that be his principal sustenance) for sometimes he taketh flies, as was said; yet some that have kept chameleons a whole year together, could never perceive that ever they fed upon any thing else but air; and might observe their bellies to swell after they had exhausted the air, and closed their jaws; which they open commonly against the rays of the sun. They have a foolish tradition in magick, that if a chameleon be burnt upon the top of an house, it will raise a tempest; supposing (according to their vain dreams of sympathies) because he nourisheth with air, his body should have great virtue to make impression upon the air.

Experiments solitary touching subterrany fires.

361. IT is reported by one of the ancients, that in part of *Media*, there are eruptions of flames out of plains; and that those flames are clear, and cast not forth such smoak, and ashes, and pumice, as mountain flames do. The reason (no doubt) is, because the flame is not pent as it is in mountains and earthquakes which cast flame. There be also some blind fires under stone, which flame not out, but oil being poured upon them they flame out. The cause whereof is, for that it seemeth the fire is so choaked, as not able to remove the stone, it is heat rather than flame; which nevertheless is sufficient to inflame the oil.

Experiment solitary touching nitre.

362. IT is reported, that in some lakes the water is so nitrous, as if foul clothes be put into it, it scoureth them of it self: and if they stay any whit long, they moulder away. And the scouring virtue of nitre is the more to be noted, because it is a body cold; and we see warm water scoureth better than cold. But the cause is, for that it hath a subtle spirit, which severeth and divideth any thing that is foul and viscous, and sticketh upon a body.

Experiment solitary touching congealing of air.

363. TAKE a bladder, the greatest you can get; fill it full of wind, and tie it about the neck with a silk thread waxed; and upon that likewise wax very close; so that when the neck of the bladder drieth, no air may possibly get in nor out. Then bury it three or four foot under the earth in a vault, or in a conservatory of snow, the snow being made hollow about the bladder; and after some fortnight's distance, see whether the bladder be shrunk; for if it be, then it is plain that the coldness of the earth or snow hath condensed the air, and brought it a degree nearer to water: which is an experiment of great consequence.

Experiment solitary touching congealing of water into crystal.

364. IT is a report of some good credit, that in deep caves there are penile crystal, and degrees of crystal that drop from above; and in some other, (though more rarely) that rise from below: Which though it be chiefly the work of cold, yet it may be that water that passeth through the earth, gathereth a nature more clammy, and fitter to congeal, and becomes solid, than water of it self. Therefore trial would be made, to lay a heap of earth in great frosts, upon a hollow vessel, putting a canvas between, that it falleth not in: and pour water upon it, in such quantity as will be sure to soak through;

through ; and see whether it will not make an harder ice in the bottom of the vessel, and less apt to dissolve than ordinarily. I suppose also, that if you make the earth narrower at the bottom than at the top, in fashion of a sugar-loaf reversed, it will help the experiment. For it will make the ice where it issueth less in bulk ; and evermore smallness of quantity is a help to version.

Experiment solitary touching preserving of rose-leaves both in colour and smell.

365. TAKE damask roses, and pull them ; then dry them upon the top of an house, upon a lead or terras, in the hot sun, in a clear day, between the hours only (only) of twelve and two, or thereabouts. Then put them into a sweet dry earthen bottle, or a glass with narrow mouths, stuffing them close together, but without bruising : stop the bottle or glass close, and these roses will retain not only their smell perfect, but their colour fresh for a year at least. Note, that nothing doth so much destroy any plant, or other body, either by putrefaction or arefaction, as the adventitious moisture which hangeth loose in the body, if it be not drawn out. For it betrayeth and tolleth forth the innate and radical moisture along with it when it self goeth forth. And therefore in living creatures, moderate sweat doth preserve the juice of the body. Note, that these roses, when you take them from the drying, have little or no smell ; so that the smell is a second smell, that issueth out of the flower afterwards.

Experiments in consort touching the continuance of flame.

366. THE continuation of flame, according unto the diversity of the body inflamed, and other circumstances, is worthy the enquiry ; chiefly, for that though flame be (almost) of a momentary lasting, yet it receiveth the more, and the less : we will first therefore speak (at large) of bodies inflamed wholly and immediately, without any wick to help the inflammation. A spoonful of spirit of wine a little heated, was taken, and it burnt as long as came to a hundred and sixteen pulses. The same quantity of spirit of wine, mixed with the sixth part of a spoonful of nitre, burnt but to the space of ninety four pulses. Mixed with the like quantity of bay-salt, eighty three pulses. Mixed with the like quantity of gunpowder, which dissolved into a black water, one hundred and ten pulses. A cube or pellet of yellow wax was taken, as much as half the spirit of wine, and set in the midst, and it burnt only to the space of eighty seven pulses. Mixed with the sixth part of a spoonful of milk, it burnt to the space of one hundred pulses ; and the milk was curdled. Mixed with the sixth part of a spoonful of water, it burnt to the space of eighty six pulses ; with an equal quantity of water, only to the space of four pulses. A small pebble was laid in the midst, and the spirit of wine burnt to the space of ninety four pulses. A piece of wood of the bigness of an arrow, and about a finger's length, was set up in the midst, and the spirit of wine burnt to the space of ninety four pulses. So that the spirit of wine simple endured the longest ; and the spirit of wine with the bay-salt, and the equal quantity of water, were the shortest.

367. CONSIDER well, whether the more speedy going forth of the flame, be caused by the greater vigour of the flame in burning ; or by the resistance of the body mixed, and the aversion thereof to take flame : which will appear by the quantity of the spirit of wine, that remaineth after the going out of the flame. And it seemeth clearly to be the latter ; for that the mixture of things least apt to burn, is the speediest in going out. And note, by the way, that spirit of wine burned, till it go out of it self, will burn no more ;
and

and tasteth nothing so hot in the mouth as it did ; no, nor yet four, (as if it were a degree towards vinegar) which burnt wine doth ; but flat and dead.

368. NOTE, that in the experiment of wax aforesaid, the wax dissolved in the burning, and yet did not incorporate it self with the spirit of wine, to produce one flame ; but wheresoever the wax floated, the flame forsook it, till at last it spread all over, and put the flame quite out.

369. THE experiments of the mixtures of the spirit of wine inflamed, are things of discovery, and not of use : but now we will speak of the continuance of flames, such as are used for candles, lamps or tapers ; consisting of inflammable matters, and of a wick that provoketh inflammation. And this importeth not only discovery, but also use and profit ; for it is a great saving in all such lights, if they can be made as fair and right as others, and yet last longer. Wax pure made into a candle, and wax mixed severally into candle-stuff, with the particulars that follow ; (*viz.* water, *aqua vitae*, milk, bay-salt, oil, butter, nitre, brimstone, saw-dust) every of these bearing a sixth part to the wax ; and every of these candles mixed, being of the same weight and wick with the wax pure, proved thus in the burning and lasting. The swiftest in consuming was that with saw-dust ; which first burned fair till some part of the candle was consumed, and the dust gathered about the snail ; but then it made the snail big and long, and to burn duskyishly, and the candle wasted in half the time of the wax pure. The next in swiftness were the oil and butter, which consumed by a fifth part swifter than the pure wax. Then followed in swiftness the clear wax it self. Then the bay-salt, which lasted about an eighth part longer than the clear wax. Then followed the *aqua vitae*, which lasted about a fifth part longer than the clear wax. Then followed the milk and water, with little difference from the *aqua vitae*, but the water slowest. And in these four last, the wick would spit forth little sparks. For the nitre, it would not hold lighted above some twelve pulses : but all the while it would spit out portions of flame, which afterwards would go out into a vapour. For the brimstone, it would hold lighted much about the same with the nitre ; but then after a little while it would harden and cake about the snail ; so that the mixture of bay-salt with wax, will win an eighth part of the time of lasting, and the water a fifth.

370. AFTER the several materials were tried, trial was likewise made of several wicks ; as of ordinary cotton, sowing thread, rush, silk, straw, and wood. The silk, straw, and wood, would flame a little, till they came to the wax, and then go out : of the other three, the thread consumed faster than the cotton, by a sixth part of time : the cotton next : then the rush consumed slower than the cotton, by at least a third part of time. For the bigness of the flame, the cotton and thread cast a flame much alike ; and the rush much less and dimmer. *Quaere*, Whether wood and wicks both, as in torches, consume faster than the wicks simple ?

371. WE have spoken of the several materials, and the several wicks : but to the lasting of the flame it importeth also ; not only what the material is, but in the same material, whether it be hard, soft, old, new, &c. Good housewives, to make their candles burn the longer, use to lay them (one by one) in bran or flower, which make them harder, and so they consume the flower : in so much as by this means they will outlast other candles of the same stuff almost half in half. For bran and flower have a virtue to harden ; so that both age, and lying in the bran, doth help to the lasting. And we see that wax candles last longer than tallow candles, because wax is more firm and hard.

372. THE lasting of flame also dependeth upon the easy drawing of the nourishment ; as we see in the court of *England*, there is a service which they call all-night ; which is (as it were) a great cake of wax, with the wick in the midst ; whereby it cometh to pass, that the wick fetcheth the nourishment farther off. We see also that lamps last longer, because the vessel is far broader than the breadth of a taper or candle.

373. TAKE a turreted lamp of tin, made in the form of a square ; the height of the turret being thrice as much as the length of the lower part, whereupon the lamp standeth : make only one hole in it, at the end of the return farthest from the turret. Reverse it, and fill it full of oil by that hole ; and then set it upright again ; and put a wick in at the hole ; and lighten it : you shall find that it will burn slow, and a long time : Which is caused, (as was said last before) for that the flame fetcheth the nourishment afar off. You shall find also, that as the oil wasteth and descendeth, so the top of the turret by little and little filleth with air ; which is caused by the rarefaction of the oil by the heat. It were worthy the observation, to make a hole in the top of the turret, and to try when the oil is almost consumed, whether the air made of the oil, if you put to it a flame of a candle, in the letting of it forth, will enflame. It were good also to have the lamp made, not of tin, but of glass, that you may see how the vapour, or air gathereth, by degrees, in the top.

374. A fourth point that importeth the lasting of the flame, is the closeness of the air wherein the flame burneth. We see, that if wind bloweth upon a candle, it wasteth apace. We see also, it lasteth longer in a lanthorn than at large. And there are traditions of lamps and candles, that have burnt a very long time in caves and tombs.

375. A fifth point that importeth the lasting of the flame, is the nature of the air where the flame burneth ; whether it be hot or cold, moist or dry. The air, if it be very cold, irritateth the flame, and maketh it burn more fiercely ; (as fire scorseth in frosty weather) and so furthereth the consumption. The air once heated (I conceive) maketh the flame burn more mildly, and so helpeth the continuance. The air, if it be dry, is indifferent : the air, if it be moist, doth in a degree quench the flame, (as we see lights will go out in the damps of mines :) and howsoever maketh it burn more dully, and so helpeth the continuance.

Experiments in consort touching burials or infusions of divers bodies in earth.

376. BURIALS in earth serve for preservation ; and for condensation ; and for induration of bodies. And if you intend condensation or induration, you may bury the bodies so as earth may touch them : as if you would make artificial porcellane, &c. And the like you may do for conservation, if the bodies be hard and solid ; as clay, wood, &c. But if you intend preservation of bodies, more soft and tender, then you must do one of these two : either you must put them in cases, whereby they may not touch the earth ; or else you must vault the earth, whereby it may hang over them, and not touch them : for if the earth touch them, it will do more hurt by the moisture, causing them to putrefy, than good by the virtual cold, to conserve them ; except the earth be very dry and sandy.

377. AN orange, lemon and apple, wrapt in a linen cloth, being buried for a fortnight's space four foot deep within the earth, though it were in a moist place, and a rainy time, yet came forth no ways mouldy or rotten, but were become a little harder than they were ; otherwise fresh in their colour ; but
their

their juice somewhat flatted. But with the burial of a fortnight more they became putrefied.

378. A bottle of beer, buried in like manner as before, became more lively, better tasted, and clearer than it was. And a bottle of wine in like manner. A bottle of vinegar so buried, came forth more lively and more odoriferous, smelling almost like a violet. And after the whole month's burial, all the three came forth as fresh and lively, if not better than before.

379. IT were a profitable experiment, to preserve oranges, lemons, and pomgranates, till summer; for then their price will be mightily increased. This may be done, if you put them in a pot or vessel well covered, that the moisture of the earth come not at them; or else by putting them in a conservatory of snow. And generally, whosoever will make experiments of cold, let him be provided of three things; a conservatory of snow; a good large vault, twenty foot at least under the ground; and a deep well.

380. THERE hath been a tradition, that pearl, and coral, and turchois-stone, that have lost their colours, may be recovered by burying in the earth: which is a thing of great profit, if it would sort: but upon trial of six weeks burial, there followed no effect. It were good to try it in a deep well, or in a conservatory of snow, where the cold may be more constringent; and so make the body more united, and thereby more resplendent.

Experiment solitary touching the effects in mens bodies from several winds.

381. MENS bodies are heavier, and less disposed to motion, when southern winds blow, than when northern. The cause is, for that when the southern winds blow, the humours do (in some degree) melt and wax fluid, and so flow into the parts; as it is seen in wood and other bodies; which, when the southern winds blow, do swell. Besides, the motion and activity of the body consisteth chiefly in the sinews, which, when the southern wind bloweth, are more relax.

Experiment solitary touching winter and summer sicknesses.

382. IT is commonly seen, that more are sick in the summer, and more die in the winter; except it be in pestilent diseases, which commonly reign in summer or autumn. The reason is, because diseases are bred (indeed) chiefly by heat; but then they are cured most by sweat and purge; which in the summer cometh on, or is provoked more easily. As for pestilent diseases, the reason why most die of them in summer, is because they are bred most in the summer; for otherwise those that are touched are in most danger in the winter.

Experiment solitary touching pestilential seasons.

383. THE general opinion is, that years hot and moist are most pestilent; upon the superficial ground, that heat and moisture cause putrefaction. In *England* it is found not true; for many times there have been great plagues in dry years. Whereof the cause may be, for that drought in the bodies of islanders habituate to moist airs, doth exasperate the humours, and maketh them more apt to putrefy or inflame: besides, it tainteth the waters, (commonly) and maketh them less wholesome. And again in *Barbary*, the plagues break up in the summer months, when the weather is hot and dry.

Experiment solitary touching an error received about epidemical diseases.

384. MANY diseases (both epidemical and others) break forth at particular
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times. And the cause is falsely imputed to the constitution of the air at that time, when they break forth or reign; whereas it proceedeth (indeed) from a precedent sequence, and series of the seasons of the year: and therefore *Hippocrates* in his prognosticks doth make good observations of the diseases that ensue upon the nature of the precedent four seasons of the year.

Experiment solitary touching the alteration or preservation of liquors in wells or deep vaults.

385. TRIAL hath been made with earthen bottles well stopped, hanged in a well of twenty fathom deep at the least; and some of the bottles have been let down into the water, some others have hanged above, within about a fathom of the water; and the liquors so tried, have been beer (not new, but ready for drinking) and wine and milk. The proof hath been, that both the beer and the wine (as well within water as above) have not been palled or deaded at all; but as good, or somewhat better, than bottles of the same drinks and staleness kept in a cellar. But those which did hang above water were apparently the best; and that beer did flower a little; whereas that under water did not, though it were fresh. The milk sowed and began to putrefy. Nevertheless it is true, that there is a village near *Blois*, where in deep caves they do thicken milk; in such sort that it becometh very pleasant; which was some cause of this trial of hanging milk in the well: but our proof was naught; neither do I know, whether that milk in those caves be first boiled. It were good therefore to try it with milk sodden, and with cream; for that milk of it self is such a compound body of cream, curds and whey, as it is easily turned and dissolved. It were good also to try the beer when it is in wort, that it may be seen, whether the hanging in the well will accelerate the ripening and clarifying of it.

Experiment solitary touching stutting.

386. DIVERS, we see, do stut. The cause may be (in most) the refrigeration of the tongue; whereby it is less apt to move. And therefore we see that naturals do generally stut: and we see that in those that stut, if they drink wine moderately, they stut less, because it heateth: and so we see, that they that stut, do stut more in the first offer to speak, than in continuance; because the tongue is by motion somewhat heated. In some also, it may be (though rarely) the dryness of the tongue; which likewise maketh it less apt to move as well as cold: for it is an effect that it cometh to some wise and great men; as it did unto *Moses*, who was *linguae praepeditae*; and many stutters (we find) are very cholerick men; choler inducing a dryness in the tongue.

Experiments in consort touching smells.

387. SMELLS and other odours are sweeter in the air at some distance, than near the nose; as hath been partly touched heretofore. The cause is double: first, the finer mixture, or incorporation of the smell: for we see that in sounds likewise, they are sweetest, when we cannot hear every part by it self. The other reason is, for that all sweet smells have joined with them some earthy or crude odours; and at some distance the sweet, which is the more spiritual, is perceived; and the earthy reacheth not so far.

388. SWEET smells are most forcible in dry substances when they are broken; and so likewise in oranges and lemons, the nipping of their rind, giveth out their smell more: and generally when bodies are moved or stirred,
though

though not broken, they smell more ; as a sweet bag waved. The cause is double : the one, for that there is a greater emission of the spirit when way is made : and this holdeth in the breaking, nipping or crushing ; it holdeth also (in some degree) in the moving : but in this last there is a concurrence of the second cause ; which is the impulsion of the air that bringeth the scent faster upon us.

389. THE daintiest smells of flowers are out of those plants whose leaves smell not ; as violets, roses, wall-flowers, gilly-flowers, pinks, wood-bines, vine-flowers, apple-blooms, lime-tree blooms, bean-blooms, &c. The cause is, for that where there is heat and strength enough in the plant to make the leaves odorate, there the smell of the flower is rather evanid and weaker, than that of the leaves ; as it is in rosemary flowers, lavender flowers, and sweet briar roses. But where there is less heat, there the spirit of the plant is digested and refined, and severed from the grosser juice in the efflorescence, and not before.

390. MOST odours smell best broken or crush'd, as hath been said ; but flowers pressed or beaten do lose the freshness and sweetness of their odour. The cause is, for that when they are crushed, the grosser and more earthy spirit cometh out with the finer, and troubleth it ; whereas in stronger odours there are no such degrees of the issue of the smell.

Experiments in consort touching the goodness and choice of water.

391. IT is a thing of very good use to discover the goodness of waters. The taste, to those that drink water only, doth somewhat : but other experiments are more sure. First, try waters by weight ; wherein you may find some difference, though not much : and the lighter you may account the better.

392. SECONDLY, try them by boiling upon an equal fire : and that which consumeth away fastest, you may account the best.

393. THIRDLY, try them in several bottles, or open vessels, matches in every thing else, and see which of them last longest without stench or corruption. And that which holdeth unputrefied longest, you may likewise account the best.

394. FOURTHLY, try them by making drinks stronger or smaller, with the same quantity of malt ; and you may conclude, that that water which maketh the stronger drink, is the more concocted and nourishing ; though perhaps it be not so good for medicinal use. And such water (commonly) is the water of large and navigable rivers ; and likewise in large and clean ponds of standing water : for upon both of them, the sun hath more power than upon fountains or small rivers. And I conceive that chalk-water is next them the best, for going farthest in drink : for that also helpeth concoction ; so it be out of a deep well ; for then it cureth the rawness of the water ; but chalky water, towards the top of the earth, is too fretting ; as it appeareth in laundry of clothes, which wear out apace if you use such waters.

395. FIFTHLY, the housewives do find a difference in waters, for the bearing or not bearing of soap : and it is likely that the more fat water will bear soap best ; for the hungry water doth kill the unctuous nature of the soap.

396. SIXTHLY, you may make a judgment of waters, according to the place whence they spring or come : the rain water is, by the physicians, esteemed the finest and the best ; but yet it is said to putrefy soonest ; which is likely, because of the fineness of the spirit : and in conservatories of rain-

water, (such as they have in *Venice*, &c.) they are found not so choice waters; the worse (perhaps) because they are covered aloft, and kept from the sun. Snow-water is held unwholesome; in so much as the people that dwell at the foot of the snow mountains, or otherwise upon the ascent, (especially the women) by drinking of snow-water, have great bags hanging under their throats. Well-water, except it be upon chalk, or a very plentiful spring, maketh meat red; which is an ill sign. Springs on the tops of high hills are the best: for both they seem to have a lightness and appetite of mounting; and besides, they are most pure and unmingled; and again, are more percolated through a great space of earth. For waters in valleys, join in effect under ground with all waters of the same level; whereas springs on the tops of hills, pass through a great deal of pure earth, with less mixture of other waters.

397. SEVENTHLY, judgment may be made of waters by the soil whereupon the water runneth; as pebble is the cleanest and best tasted; and next to that, clay-water; and thirdly, water upon chalk; fourthly, that upon sand; and worst of all upon mud. Neither may you trust waters that taste sweet; for they are commonly found in rising grounds of great cities; which must needs take in a great deal of filth.

Experiment solitary touching the temperate heat under the æquinoctial.

398. IN *Peru*, and divers parts of the *West-Indies*, though under the line, the heats are not so intolerable as they be in *Barbary*, and the skirts of the torrid zone. The causes are, first the great breezes which the motion of the air in great circles, (such as are under the girdle of the world) produceth; which do refrigerate; and therefore in those parts noon is nothing so hot, when the breezes are great, as about nine or ten of the clock in the forenoon. Another cause is, for that the length of the night, and the dews thereof, do compensate the heat of the day. A third cause is the stay of the sun; not in respect of day and night, (for that we spake of before) but in respect of the season; for under the line the sun crosseth the line, and maketh two summers and two winters; but in the skirts of the torrid zone it doubleth and goeth back again, and so maketh one long summer.

Experiment solitary touching the coloration of black and tawny moors.

399. THE heat of the sun maketh men black in some countries, as in *Aethiopia* and *Guinea*, &c. Fire doth it not, as we see in glass men, that are continually about the fire. The reason may be, because fire doth lick up the spirits and blood of the body, so as they exhale; so that it ever maketh men look pale and fallow; but the sun, which is a gentler heat, doth but draw the blood to the outward parts; and rather concocteth it than soaketh it; and therefore we see that all *Aethiopes* are fleshy and plump, and have great lips; all which betoken moisture retained, and not drawn out. We see also, that the negroes are bred in countries that have plenty of water, by rivers, or otherwise: for *Meroe*, which was the metropolis of *Aethiopia*, was upon a great lake; and *Congo*, where the negroes are, is full of rivers. And the confines of the river *Niger*, where the negroes also are, are well watered: and the region about cape *Verde* is likewise moist, in so much as it is pestilent through moisture: but the countries of the *Abyssenes*, and *Barbary*, and *Peru*, where they are tawny, and olivaster, and pale, are generally more sandy and dry. As for the *Aethiopes*, as they are plump and fleshy; so (it may be) they are sanguine and ruddy coloured, if their black skin would suffer it to be seen.

Experiment solitary touching motion after the instant of death.

400. SOME creatures do move a good while after their head is off ; as birds ; some a very little time ; as men and all beasts ; some move, though cut in several pieces ; as snakes, eels, worms, flies, &c. First therefore it is certain, that the immediate cause of death, is the resolution or extinguishment of the spirits ; and that the destruction or corruption of the organs, is but the mediate cause. But some organs are so peremptorily necessary, that the extinguishment of the spirits doth speedily follow ; but yet so as there is an interim of a small time. It is reported by one of the ancients, of credit, that a sacrificed beast hath lowed after the heart hath been severed ; and it is a report also of credit, that the head of a pig hath been opened, and the brain put into the palm of a man's hand trembling, without breaking any part of it, or severing it from the marrow of the back-bone ; during which time the pig hath been, in all appearance, stark dead, and without motion ; and after a small time the brain hath been replaced, and the skull of the pig closed, and the pig hath a little after gone about. And certain it is, that an eye upon revenge hath been thrust forth, so as it hanged a pretty distance by the visual nerve ; and during that time the eye hath been without any power of sight ; and yet after (being replaced) recovered sight. Now the spirits are chiefly in the head and cells of the brain, which in men and beasts are large ; and therefore when the head is off, they move little or nothing. But birds have small heads, and therefore the spirits are a little more dispersed in the sinews, whereby motion remaineth in them a little longer ; in so much as it is extant in story, that an Emperor of Rome, to shew the certainty of his hand, did shoot a great forked arrow at an ostrich, as she ran swiftly upon the stage, and struck off her head ; and yet she continued the race a little way with the head off. As for worms, and flies, and eels, the spirits are diffused almost all over ; and therefore they move in their several pieces.



NATU-

N A T U R A L H I S T O R Y.

C E N T. V.

Experiments in consort touching the acceleration of germination.

WE will now enquire of plants or vegetables : and we shall do it with diligence. They are the principal part of the third day's work. They are the first *producat*, which is the word of animation : for the other words are but the words of essence ; and they are of excellent and general use for food, medicine, and a number of mechanical arts.

401. THERE were sown in a bed, turnip-feed, radish-feed, wheat, cucumber-feed and pease. The bed we call a hot bed, and the manner of it is this : there was taken horse dung, old and well rotted ; this was laid upon a bank half a foot high, and supported round about with planks ; and upon the top was cast sifted earth, some two fingers deep ; and then the seed sprinkled upon it, having been steeped all night in water mixed with cow dung. The turnip-feed and the wheat came up half an inch above ground within two days after, without any watering. The rest the third day. The experiment was made in *October* ; and (it may be) in the spring, the accelerating would have been the speedier. This is a noble experiment ; for without this help they would have been four times as long in coming up. But there doth not occur to me, at this present, any use thereof for profit ; except it should be for sowing of pease, which have their price very much increased by the early coming. It may be tried also with cherries, strawberries, and other fruit, which are dearest when they come early.

402. THERE was wheat steeped in water mixed with cow dung ; other in water mixed with horse dung ; other in water mixed with pigeon dung ; other in urine of man ; other in water mixed with chalk powdered ; other in water mixed with foot ; other in water mixed with ashes ; other in water mixed with bay-salt ; other in claret-wine ; other in malmsey ; other in spirit of wine. The proportion of the mixture was, a fourth part of the ingredients to the water ; save that there was not of the salt above an eighth part. The urine, and wines, and spirit of wine, were simple without mixture of water. The time of the steeping was twelve hours. The time of the year *October*. There was also other wheat sown unsteeped, but watered twice a day with warm water. There was also other wheat sown simple to compare it with the rest. The event was ; that those that were in the mixture of dung, and urine, and foot, chalk, ashes and salt, came up within six days : and those that

that afterwards proved the highest, thickest, and most lusty, were first the urine; and then the dungs; next the chalk; next the foot; next the ashes; next the salt; next the wheat siple of it self, unsteeped and unwatered; next the watered twice a day with warm water; next the claret-wine. So that these three last were slower than the ordinary wheat of it self; and this culture did rather retard than advance. As for those that were steeped in malmfey and spirit of wine, they came not up at all. This is a rich experiment for profit; for the most of the steepings are cheap things; and the goodness of the crop is a great matter of gain; if the goodness of the crop answer the earliness of the coming up: as it is like it will; both being from the vigour of the seed; which also partly appeared in the former experiments, as hath been said. This experiment would be tried in other grains, seeds and kernels: for it may be some steeping will agree best with some seeds. It would be tried also with roots steeped as before, but for longer time. It would be tried also in several seasons of the year, especially the spring.

403. STRAWBERRIES watered now and then (as once in three days) with water, wherein hath been steeped sheeps dung or pigeons dung, will prevent and come early. And it is like the same effect would follow in other berries, herbs, flowers, grains or trees. And therefore it is an experiment, though vulgar in strawberries, yet not brought into use generally: for it is usual to help the ground with muck; and likewise to recomfort it sometimes with muck put to the roots; but to water it with muck water, which is like to be more forcible, is not practised.

404. DUNG, or chalk, or blood, applied in substance (seasonably) to the roots of trees, doth set them forwards. But to do it unto herbs, without mixture of water or earth, it may be these helps are too hot.

405. THE former means of helping germination, are either by the goodness and strength of the nourishment; or by the comforting and exciting the spirits in the plant, to draw the nourishment better. And of this latter kind, concerning the comforting of the spirits of the plant, are also the experiments that follow; though they be not applications to the root or seed. The planting of trees warm upon a wall against the south, or south-east sun, doth hasten their coming on and ripening; and the south-east is found to be better than the south-west, though the south-west be the hotter coast. But the cause is chiefly, for that the heat of the morning succeedeth the cold of the night: and partly, because (many times) the south-west sun is too parching. So likewise the planting of them upon the back of a chimney where a fire is kept, doth hasten their coming on and ripening: nay more, the drawing of the boughs into the inside of a room where a fire is continually kept, worketh the same effect; which hath been tried with grapes; in so much as they will come a month earlier than the grapes abroad.

406. BESIDES the two means of accelerating germination formerly described; that is to say, the mending of the nourishment; comforting of the spirit of the plant; there is a third, which is the making way for the easy coming to the nourishment, and drawing it. And therefore gentle digging and loosening of the earth about the roots of trees; and the removing herbs and flowers into new earth once in two years, (which is the same thing; for the new earth is ever looser) doth greatly further the prospering and earliness of plants.

407. BUT the most admirable acceleration by facilitating the nourishment, is that of water. For a standard of a damask rose with the root on, was set in a chamber where no fire was, upright in an earthen pan, full of fair water,

water, without any mixture, half a foot under the water, the standard being more than two foot high above the water : within the space of ten days the standard did put forth a fair green leaf, and some other little buds, which stood at a stay, without any shew of decay or withering, more than seven days. But afterwards that leaf faded, but the young buds did sprout on ; which afterward opened into fair leaves in the space of three months ; and continued so a while after, till upon removal we left the trial. But note that the leaves were somewhat paler and lighter-coloured, than the leaves use to be abroad. Note that the first buds were in the end of *October* ; and it is likely that if it had been in the spring time, it would have put forth with greater strength, and (it may be) to have grown on to bear flowers. By this means you may have (as it seemeth) roses set in the midst of a pool, being supported with some stay ; which is matter of rareness and pleasure, though of small use. This is the more strange, for that the like rose-standard was put at the same time into water mixed with horse dung, the horse dung about the fourth part to the water, and in four months space (while it was observed) put not forth any leaf, though divers buds at the first, as the other.

408. A *Dutch* flower that had a bulbous root, was likewise put at the same time all under water, some two or three fingers deep ; and within seven days sprouted, and continued long after a further growing. There were also put in a beet root, a borage root, and a radish root, which had all their leaves cut almost close to the roots ; and within six weeks had fair leaves ; and so continued till the end of *November*.

409. NOTE, that if roots, or pease, or flowers, may be accelerated in their coming and ripening, there is a double profit ; the one in the high price that those things bear when they come early : the other in the swiftness of their returns : for in some grounds which are strong, you shall have a radish, &c. come in a month ; that in other grounds will not come in two ; and so make double returns.

410. WHEAT also was put into the water, and came not forth at all ; so as it seemeth there must be some strength and bulk in the body put into the water, as it is in roots ; for grains, or seeds, the cold of the water will mortify. But casually some wheat lay under the pan, which was somewhat moistened by the suing of the pan ; which in six weeks (as aforefaid) looked mouldy to the eye, but it was sprouted forth half a finger's length.

411. IT seemeth by these instances of water, that for nourishment the water is almost all in all, and that the earth doth but keep the plant upright, and save it from over-heat and over-cold ; and therefore is a comfortable experiment for good drinkers. It proveth also that our former opinion ; that drink incorporate with flesh or roots, (as in capon-beer, &c.) will nourish more easily, than meat and drink taken severally.

412. THE housing of plants (I conceive) will both accelerate germination, and bring forth flowers and plants in the colder seasons : and as we house hot-country plants, as lemons, oranges, myrtles, to save them ; so we may house our own country plants, to forward them, and make them come in the cold seasons ; in such sort, that you may have violets, strawberries, pease, all winter : so that you sow or remove them at fit times. This experiment is to be referred unto the comforting of the spirit of the plant by warmth, as well as housing their boughs, &c. So then the means to accelerate germination, are in particular eight, in general three.

Experiments in consort touching the putting back or retardation of germination.

413. To make roses, or other flowers come late, it is an experiment of pleasure. For the ancients esteemed much of the *rosa fera*. And indeed the *November* rose is the sweetest, having been less exhiled by the Sun. The means are these. First, the cutting off their tops immediately after they have done bearing; and then they will come again the same year about *November*: but they will not come just on the tops, where they were cut, but out of those shoots, which were (as it were) water boughs. The cause is, for that the sap, which otherwise would have fed the top, (though after bearing) will, by the discharge of that, divert unto the side sprouts; and they will come to bear, but later.

414. THE second is the pulling off the buds of the rose, when they are newly knotted; for then the side branches will bear. The cause is the same with the former: for cutting off the tops, and pulling off the buds, work the same effect, in retention of the sap for a time, and diversion of it to the sprouts, that were not so forward.

415. THE third is the cutting off some few of the top boughs in the spring time, but suffering the lower boughs to grow on. The cause is, for that the boughs do help to draw up the sap more strongly; and we see that in polling of trees, many do use to leave a bough or two on the top, to help to draw up the sap. And it is reported also, that if you graft upon the bough of a tree, and cut off some of the old boughs, the new cions will perish.

416. THE fourth is by laying the roots bare about *Christmas* some days. The cause is plain, for that it doth arrest the sap from going upwards for a time; which arrest is afterwards released by the covering of the root again with earth; and then the sap getteth up, but later.

417. THE fifth is the removing of the tree some months before it buddeth. The cause is, for that some time will be required after the remove for the resetting, before it can draw the juice; and that time being lost, the blossom must needs come forth later.

418. THE sixth is the grafting of roses in *May*, which commonly gardeners do not till *July*; and then they bear not till the next year; but if you graft them in *May*, they will bear the same year, but late.

419. THE seventh is the girding of the body of the tree about with some packthread; for that also in a degree restraineth the sap, and maketh it come up more late and more slowly.

420. THE eighth is the planting of them in a shade, or in a hedge; the cause is, partly the keeping out of the sun, which hasteneth the sap to rise; and partly the robbing them of nourishment, by the stuff in the hedge. These means may be practised upon other, both trees and flowers, *mutatis mutandis*.

421. MEN have entertained a conceit that sheweth prettily; namely, that if you graft a late-coming fruit upon a stock of a fruit-tree that cometh early, the graft will bear fruit early; as a peach upon a cherry; and contrariwise, if an early-coming fruit upon a stock of a fruit-tree that cometh late, the graft will bear fruit late; as a cherry upon a peach. But these are but imaginations, and untrue. The cause is, for that the cion over-ruleth the stock quite; and the stock is but passive only, and giveth aliment, but no motion to the graft.

Experiments in consort touching the melioration of fruits, trees and plants.

WE will speak now, how to make fruits, flowers and roots larger, in more plenty, and sweeter than they use to be; and how to make the trees themselves more tall, more spread, and more hasty and sudden than they use to be: Wherein there is no doubt, but the former experiments of acceleration will serve much to these purposes. And again, that these experiments, which we shall now set down, do serve also for acceleration, because both effects proceed from the encrease of vigour in the tree; but yet to avoid confusion, and because some of the means are more proper for the one effect, and some for the other, we will handle them apart.

422. IT is an assured experience, that an heap of flint, or stone, laid about the bottom of a wild tree, (as an oak, elm, ash, &c.) upon the first planting, doth make it prosper double as much as without it. The cause is, for that it retaineth the moisture which falleth at any time upon the tree, and suffereth it not to be exhaled by the sun. Again, it keepeth the tree warm from cold blasts and frosts, as it were in an house. It may be also there is somewhat in the keeping of it steady at the first. *Quære*, if laying of straw some height about the body of a tree, will not make the tree forwards. For though the root giveth the sap, yet it is the body that draweth it. But you must note, that if you lay stones about the stalk of lettuce, or other plants that are more soft, it will over-moisten the roots, so as the worms will eat them.

423. A tree, at the first setting, should not be shaken, until it hath taken root fully: and therefore some have put two little forks about the bottom of their trees to keep them upright; but after a year's rooting, then shaking doth the tree good, by loosening of the earth, and (perhaps) by exercising (as it were) and stirring the sap of the tree.

424. GENERALLY the cutting away of boughs and suckers at the root and body doth make trees grow high; and contrariwise, the polling and cutting of the top maketh them grow spread and bushy. As we see in pollards, &c.

425. IT is reported, that to make hasty growing coppice woods, the way is, to take willow, fallow, poplar, alder, of some seven years growth; and to set them, not upright, but aslope, a reasonable depth under the ground; and then instead of one root they will put forth many, and so carry more shoots upon a stem.

426. WHEN you would have many new roots of fruit trees, take a low tree and bow it, and lay all his branches aflat upon the ground, and cast earth upon them; and every twig will take root. And this is a very profitable experiment for costly trees, (for the boughs will make stocks without charge;) such as are apricots, peaches, almonds, cornelians, mulberries, figs, &c. The like is continually practised with vines, roses, musk-roses, &c.

427. FROM *May* to *July* you may take off the bark of any bough, being of the bigness of three or four inches, and cover the bare place somewhat above and below, with loam well tempered with horse-dung, binding it fast down. Then cut off the bough about *Allbollontide* in the bare place, and set it in the ground; and it will grow to be a fair tree in one year. The cause may be, for that the baring from the bark keepeth the sap from descending towards winter, and so holdeth it in the bough; and it may be also that the loam and horse-dung applied to the bare place do moisten it, and cherish it, and make it more apt to put forth the root. Note, that this
may

may be a general means for keeping up the sap of trees in their boughs ; which may serve to other effects.

428. IT hath been practised in trees that shew fair and bear not, to bore a hole through the heart of the tree, and thereupon it will bear. Which may be, for that the tree before had too much repletion, and was oppressed with its own sap ; for repletion is an enemy to generation.

429. IT hath been practised in trees that do not bear, to cleave two or three of the chief roots, and to put into the cleft a small pebble, which may keep it open, and then it will bear. The cause may be, for that a root of a tree may be (as it were) hide-bound, no less than the body of the tree ; but it will not keep open without somewhat put into it.

430. IT is usually practised, to set trees that require much sun upon walls against the south ; as apricots, peaches, plumbs, vines, figs, and the like. It hath a double commodity ; the one, the heat of the wall by reflexion ; the other, the taking away of the shade ; for when a tree groweth round, the upper boughs overshadow the lower : but when it is spread upon a wall, the sun cometh alike, upon the upper and lower branches.

431. IT hath also been practised (by some) to pull off some leaves from the trees so spread, that the sun may come upon the bough and fruit the better. There hath been practised also a curiosity, to set a tree upon the north side of a wall, and at a little height, to draw it through the wall, and spread it upon the south side : conceiving that the root and lower part of the stock should enjoy the freshness of the shade ; and the upper boughs, and fruit, the comfort of the sun. But it sorted not ; the cause is, for that the root requireth some comfort of the sun, though under earth, as well as the body : and the lower part of the body more than the upper, as we see in compassing a tree below with straw.

432. THE lowness of the bough where the fruit cometh, maketh the fruit greater, and to ripen better ; for you shall ever see, in apricots, peaches, or melo-cotones upon a wall, the greatest fruits towards the bottom. And in *France*, the grapes that make the wine, grow upon low vines bound to small stakes ; and the raised vines in arbors make but verjuice. It is true, that in *Italy*, and other countries where they have hotter sun, they raise them upon elms and trees ; but I conceive, that if the *French* manner of planting low were brought in use there, their wines would be stronger and sweeter. But it is more chargeable in respect of the props. It were good to try whether a tree grafted somewhat near the ground, and the lower boughs only maintained, and the higher continually pruned off, would not make a larger fruit.

433. To have fruit in greater plenty, the way is, to graft, not only upon young stocks, but upon divers boughs of an old tree ; for they will bear great numbers of fruit : whereas if you graft but upon one stock, the tree can bear but few.

434. THE digging yearly about the roots of trees, which is a great means both to the acceleration and melioration of fruits, is practised in nothing but in vines ; which if it were transferred unto other trees and shrubs, (as roses, &c.) I conceive would advance them likewise.

435. IT hath been known, that a fruit-tree hath been blown up (almost) by the roots, and set up again, and the next year bear exceedingly. The cause of this was nothing but the loosening of the earth, which comforteth any tree, and is fit to be practised more than it is in fruit-trees : for trees cannot be so fitly removed into new grounds, as flowers and herbs may.

436. To revive an old tree, the digging of it about the roots, and applying new mould to the roots, is the way. We see also that draught-oxen, put into fresh pasture gather new and tender flesh; and in all things, better nourishment than hath been used doth help to renew; especially if it be not only better but changed, and differing from the former.

437. If an herb be cut off from the roots in the beginning of winter, and then the earth be trodden and beaten down hard with the foot and spade, the roots will become of very great magnitude in summer. The reason is, for that the moisture being forbidden to come up in the plant, stayeth longer in the root, and so dilateth it. And gardeners use to tread down any loose ground after they have sown onions, or turnips, &c.

438. If *panicum* be laid below and about the bottom of a root, it will cause the root to grow to an excessive bigness. The cause is, for that being it self of a spongy substance, it draweth the moisture of the earth to it, and so feedeth the root. This is of greatest use for onions, turnips, parsnips, and carrots.

439. THE shifting of ground is a means to better the tree and fruit; but with this caution, that all things do prosper best when they are advanced to the better: your nursery of stocks ought to be in a more barren ground than the ground is whereunto you remove them. So all graziers prefer their cattel from meaner pastures to better. We see also, that hardness in youth lengtheneth life, because it leaveth a cherishing to the better of the body in age: nay, in exercises, it is good to begin with the hardest, as dancing in thick shoes, &c.

440. IT hath been observed, that hacking of trees in their bark, both down-right and across, so as you may make them rather in slices than in continued hacks, doth great good to trees; and especially delivereth them from being hidebound, and killeth their moss.

441. SHADE to some plants conduceth to make them large and prosperous, more than the sun; as in strawberries and bays, &c. Therefore amongst strawberries sow here and there some borage seed; and you shall find the strawberries under those leaves far more large than their fellows. And bays you must plant to the north, or defend them from the sun by a hedge-row; and when you sow the berries, weed not the borders for the first half year; for the weed giveth them shade.

442. To encrease the crops of plants, there would be considered not only the encreasing the lust of the earth, or of the plant, but the saving also of that which is spilt. So they have lately made a trial to set wheat, which nevertheless hath been left off, because of the trouble and pains; yet so much is true, that there is much saved by the setting, in comparison of that which is sown; both by keeping it from being picked up by birds, and by avoiding the shallow lying of it, whereby much that is sown taketh no root.

443. IT is prescribed by some of the ancients, that you take small trees, upon which figs or other fruit grow, being yet unripe, and cover the trees in the middle of autumn with dung until the spring; and then take them up in a warm day, and replant them in good ground; and by that means the former year's tree will be ripe, as by a new birth; when other trees of the same kind do but blossom. But this seemeth to have no great probability.

444. IT is reported, that if you take nitre, and mingle it with water, to the thickness of honey, and therewith anoint the bud, after the vine is cut, it will sprout forth within eight days. The cause is like to be (if the experiment be true) the opening of the bud, and of the parts contiguous, by the spirit of the nitre; for nitre is (as it were) the life of vegetables.

445. TAKE

445. TAKE seed, or kernels of apples, pears, oranges; or a peach, or a plumb-stone, &c. and put them into a squill, (which is like a great onion) and they will come up much earlier than in the earth it self. This I conceive to be as a kind of grafting in the root; for as the stock of a graft yieldeth better prepared nourishment to the graft, than the crude earth; so the squill doth the like to the seed. And I suppose the same would be done, by putting kernels into a turnip, or the like; save that the squill is more vigorous and hot. It may be tried also, with putting onion-seed into an onion-head, which thereby (perhaps) will bring forth a larger and earlier onion.

446. THE pricking of a fruit in several places, when it is almost at its bigness, and before it ripeneth, hath been practised with success, to ripen the fruit more suddenly. We see the example of the biting of wasps or worms upon fruit, whereby it (manifestly) ripeneth the sooner.

447. IT is reported, that *alga marina*, (sea-weed) put under the roots of coleworts, and (perhaps) of other plants, will further their growth. The virtue (no doubt) hath relation to salt, which is a great help to fertility.

448. IT hath been practised, to cut off the stalks of cucumbers, immediately after their bearing, close by the earth; and then to cast a pretty quantity of earth upon the plant that remaineth, and they will bear the next year fruit long before the ordinary time. The cause may be, for that the sap goeth down the sooner, and is not spent in the stalk or leaf, which remaineth after the fruit. Where note, that the dying in the winter of the roots of plants that are annual, seemeth to be partly caused by the over-expende of the sap into stalk and leaves; which being prevented, they will super-annuate, if they stand warm.

449. THE pulling off many of the blossoms from a fruit tree, doth make the fruit fairer. The cause is manifest; for that the sap hath the less to nourish. And it is a common experience, that if you do not pull off some blossoms the first time a tree bloometh, it will blossom it self to death.

450. IT were good to try, what would be the effect, if all the blossoms were pulled from a fruit tree; or the acorns and chestnut buds, &c. from a wild tree, for two years together. I suppose that the tree will either put forth the third year bigger and more plentiful fruit; or else, the same years, larger leaves, because of the sap stored up.

451. IT hath been generally received, that a plant watered with warm water, will come up sooner and better, than with cold water or with showers. But our experiment of watering wheat with warm water (as hath been said) succeeded not; which may be, because the trial was too late in the year, *viz.* in the end of *October*. For the cold then coming upon the seed, after it was made more tender by the warm water, might check it.

452. THERE is no doubt, but that grafting (for the most part) doth meliorate the fruit. The cause is manifest; for that the nourishment is better prepared in the stock, than in the crude earth: but yet note well, that there be some trees, that are said to come up more happily from the kernel than from the graft; as the peach and melocotone. The cause I suppose to be, for that those plants require a nourishment of great moisture; and though the nourishment of the stock be finer and better prepared, yet it is not so moist and plentiful as the nourishment of the earth. And indeed we see those fruits are very cold fruits in their nature.

453. IT hath been received, that a smaller pear grafted upon a stock that beareth a greater pear, will become great. But I think it is as true, as that
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of the prime fruit upon the late stock ; and *e controverso* ; which we rejected before : for the cions will govern. Nevertheless, it is probable enough, that if you can get a cion to grow upon a stock of another kind, that is much moister than its own stock, it may make the fruit greater, because it will yield more plentiful nourishment ; though it is like it will make the fruit baser. But generally the grafting is upon a drier stock ; as the apple upon a crab ; the pear upon a thorn, &c. Yet it is reported, that in the *Low-Countries* they will graft an apple cion upon the stock of a colewort, and it will bear a great flaggy apple ; the kernel of which, if it be set, will be a colewort, and not an apple. It were good to try, whether an apple cion will prosper, if it be grafted upon a fallow, or upon a poplar, or upon an alder, or upon an elm, or upon an horse-plumb, which are the moistest of trees. I have heard that it hath been tried upon an elm and succeeded.

454. IT is manifest by experience, that flowers removed wax greater, because the nourishment is more easily come by in the loose earth. It may be, that oft regrafting of the same cions, may likewise make fruit greater ; as if you take a cion, and graft it upon a stock the first year ; and then cut it off, and graft it upon another stock the second year ; and so for a third or fourth year ; and then let it rest, it will yield afterward when it beareth the greater fruit.

OF grafting there are many experiments worth the noting, but those we reserve to a proper place.

455. IT maketh figs better, if a fig-tree, when it beginneth to put forth leaves, have his top cut off. The cause is plain, for that the sap hath the less to feed, and the less way to mount : but it may be the fig will come somewhat later, as was formerly touched. The same may be tried likewise in other trees.

456. IT is reported, that mulberries will be fairer, and the trees more fruitful, if you bore the trunk of the tree through in several places, and thrust into the places bored wedges of some hot trees, as turpentine, mastick tree, guaiacum, juniper, &c. The cause may be, for that adventive heat doth chear up the native juice of the tree.

457. IT is reported, that trees will grow greater, and bear better fruit, if you put salt, or lees of wine, or blood to the root. The cause may be the encreasing the lust or spirit of the root ; these things being more forcible than ordinary composts.

458. IT is reported by one of the ancients, that artichoaks will be less prickly, and more tender, if the seeds have their tops dulled, or grated off upon a stone.

459. HERBS will be tenderer and fairer, if you take them out of beds, when they are newly come up, and remove them into pots with better earth. The remove from bed to bed was spoken of before ; but that was in several years ; this is upon the sudden. The cause is the same with other removes formerly mentioned.

460. COLEWORTS are reported by one of the ancients to prosper exceedingly, and to be better tasted if they be sometimes watred with salt water ; and much more with water mixed with nitre ; the spirit of which is less adurent than salt.

461. IT is reported, that cucumbers will prove more tender and dainty, if their seeds be steeped (a little) in milk ; the cause may be, for that the seed being mollified with the milk, will be too weak to draw the grosser juice of the earth, but only the finer. The same experiment may be made in artichokes

choaks and other seeds, when you would take away either their flatness or bitterness. They speak also, that the like effect followeth, of steeping in water mixed with honey; but that seemeth to me not so probable, because honey hath too quick a spirit.

462. IT is reported, that cucumbers will be less watry, and more melon-like, if in the pit where you set them, you fill it (half-way up) with chaff, or small sticks, and then pour earth upon them; for cucumbers, as it seemeth, do extremely affect moisture, and over-drink themselves; which this chaff or chips forbiddeth. Nay, it is farther reported, that if when a cucumber is grown, you set a pot of water about five or six inches distance from it, it will, in twenty four hours, shoot so much out as to touch the pot; which, if it be true, is an experiment of an higher nature than belongeth to this title: for it discovereth perception in plants, to move towards that which should help and comfort them, though it be at a distance. The ancient tradition of the vine is far more strange; it is, that if you set a stake or prop some distance from it, it will grow that way; which is far stranger (as is said) than the other: for that water may work by a sympathy of attraction; but this of the stake seemeth to be a reasonable discourse.

463. IT hath been touched before, that terebration of trees doth make them prosper better. But it is found also, that it maketh the fruit sweeter and better. The cause is, for that notwithstanding the terebration, they may receive aliment sufficient; and yet no more than they can well turn and digest; and withal do sweat out the coarsest and unprofitablest juice; even as it is in living creatures, which by moderate feeding, and exercise, and sweat, attain the soundest habit of body.

464. As terebration doth meliorate fruit, so upon the like reason doth letting of plants blood; as pricking vines, or other trees, after they be of some growth; and thereby letting forth gum or tears; though this be not to continue, as it is in terebration, but at some seasons. And it is reported, that by this artifice bitter almonds have been turned into sweet.

465. THE ancients for the dulcorating of fruit, do commend swines dung above all other dung; which may be because of the moisture of that beast, whereby the excrement hath less acrimony; for we see swines and pigs flesh is the moistest of flesh.

466. IT is observed by some, that all herbs wax sweeter, both in smell and taste, if after they be grown up some reasonable time, they be cut, and so you take the later sprout. The cause may be, for that the longer the juice stayeth in the root and stalk, the better it concocteth. For one of the chief causes why grains, seeds and fruits, are more nourishing than leaves, is the length of time in which they grow to maturation. It were not amiss to keep back the sap of herbs, or the like, by some fit means, till the end of summer; whereby (it may be) they will be more nourishing.

467. As grafting doth generally advance and meliorate fruits, above that which they would be if they were set of kernels or stones, in regard the nourishment is better concocted; so (no doubt) even in grafting, for the same cause, the choice of the stock doth much; always provided, that it be somewhat inferiour to the cion: for otherwise it dulleth it. They commend much the grafting of pears or apples upon a quince.

468. BESIDES the means of melioration of fruits before mentioned, it is set down as tried, that a mixture of bran and swines dung, or chaff and swines dung, (especially laid up together for a month to rot) is a very great nourisher and comforter to a fruit-tree.

469. IT is delivered, that onions wax greater if they be taken out of the earth, and laid a drying twenty days, and then set again; and yet more, if the outermost pill be taken off all over.

470. IT is delivered by some, that if one take the bough of a low fruit-tree newly budded, and draw it gently without hurting it into an earthen pot, perforate at the bottom to let in the plant, and then cover the pot with earth, it will yield a very large fruit within the ground. Which experiment is nothing but potting of plants without removing, and leaving the fruit in the earth. The like (they say) will be effected by an empty pot without earth in it, put over a fruit, being propped up with a stake as it hangeth upon the tree; and the better, if some few pertusions be made in the pot. Wherein, besides the defending of the fruit from extremity of sun or weather, some give a reason, that the fruit loving and coveting the open air and sun, is invited by those pertusions to spread and approach as near the open air as it can; and so enlargeth in magnitude.

471. ALL trees in high and sandy grounds are to be set deep; and in watry grounds more shallow. And in all trees, when they be removed, (especially fruit-trees) care ought to be taken, that the sides of the trees be coasted, (north and south, &c.) as they stood before. The same is said also of stone out of the quarry, to make it more durable; though that seemeth to have less reason; because the stone lieth not so near the sun, as the tree groweth.

472. TIMBER trees in a coppice wood, do grow better than in an open field; both because they offer not to spread so much, but shoot up still in height; and chiefly because they are defended from too much sun and wind, which do check the growth of all fruit; and so (no doubt) fruit-trees, or vines, set upon a wall against the sun, between elbows or buttresses of stone, ripen more than upon a plain wall.

473. IT is said, that if potado-roots be set in a pot filled with earth, and then the pot with earth be set likewise within the ground some two or three inches, the roots will grow greater than ordinary. The cause may be, for that having earth enough within the pot to nourish them; and then being stopped by the bottom of the pot from putting strings downward, they must needs grow greater in breadth and thickness. And it may be, that all seeds or roots potted, and so set into the earth, will prosper the better.

474. THE cutting off the leaves of radish, or other roots, in the beginning of winter, before they wither, and covering again the root something high with earth, will preserve the root all winter, and make it bigger in the spring following, as hath been partly touched before. So that there is a double use of this cutting off the leaves; for in plants where the root is the esculent, as radish and parsnips, it will make the root the greater; and so it will do to the heads of onions. And where the fruit is the esculent, by strengthening the root, it will make the fruit also the greater.

475. IT is an experiment of great pleasure, to make the leaves of shady trees larger than ordinary. It hath been tried (for certain) that a cion of a weech elm, grafted upon the stock of an ordinary elm, will put forth leaves almost as broad as the brim of one's hat. And it is very likely, that as in fruit-trees the graft maketh a greater fruit; so in trees that bear no fruit, it will make the greater leaves. It would be tried therefore in trees of that kind chiefly, as birch, asp, willow; and especially the shining willow, which they call swallow-tail, because of the pleasure of the leaf.

476. THE barrenness of trees by accident, (besides the weakness of the soil,

foil, seed, or root; and the injury of the weather) cometh either of their overgrowing with moss, or their being hide-bound, or their planting too deep, or by issuing of the sap too much into the leaves. For all these there are remedies mentioned before.

Experiments in consort touching compound fruits and flowers.

WE see that in living creatures, that have male and female, there is copulation of several kinds; and so compound creatures; as the mule, that is generated betwixt the horse and the ass; and some other compounds which we call monsters, though more rare: and it is held that that proverb, *Africa semper aliquid monstri parit*, cometh, for that the fountains of waters there being rare, divers sorts of beasts come from several parts to drink; and so being refreshed, fall to couple, and many times with several kinds. The compounding or mixture of kinds in plants is not found out; which nevertheless, if it be possible, is more at command than that of living creatures; for that their lust requireth a voluntary motion; wherefore it were one of the most notable experiments touching plants to find it out: for so you may have great variety of new fruits and flowers yet unknown. Grafting doth it not; that mendeth the fruit, or doubleth the flowers, &c. but it hath not the power to make a new kind. For the cion ever over-ruleth the stock.

477. IT hath been set down by one of the ancients, that if you take two twigs of several fruit-trees, and flat them on the sides, and then bind them close together and set them in the ground, they will come up in one stock; but yet they will put forth their several fruits without any commixture in the fruit. Wherein note (by the way) that unity of continuance is easier to procure than unity of species. It is reported also, that vines of red and white grapes being set in the ground, and the upper parts being flatted and bound close together, will put forth grapes of the several colours upon the same branch; and grape stones of several colours within the same grape: but the more after a year or two; the unity (as it seemeth) growing more perfect. And this will likewise help, if from the first uniting they be often water'd; for all moisture helpeth to union. And it is prescribed also to bind the bud as soon as it cometh forth, as well as the stock, at the least for a time.

478. THEY report, that divers seeds put into a clout, and laid in earth well dugged, will put up plants contiguous; which (afterwards) being bound in their shoots will incorporate. The like is said of kernels put into a bottle with a narrow mouth filled with earth.

479. IT is reported, that young trees of several kinds set contiguous without any binding, and very often water'd, in a fruitful ground, with the very luxury of the trees, will incorporate and grow together. Which seemeth to me the likeliest means that hath been propounded; for that the binding doth hinder the natural swelling of the tree; which while it is in motion doth better unite.

Experiments in consort touching the sympathy and antipathy of plants.

THERE are many ancient and received traditions and observations touching the sympathy and antipathy of plants; for that some will thrive best growing near others, which they impute to sympathy; and some worse, which they impute to antipathy. But these are idle and ignorant conceits, and forsake the true indication of the causes, as the most part of Experiments

ments that concern sympathies and antipathies do. For as to plants, neither is there any such secret friendship or hatred as they imagine; and if we should be content to call it sympathy and antipathy, it is utterly mistaken; for their sympathy is an antipathy, and their antipathy is a sympathy: for it is thus; wheresoever one plant draweth such a particular juice out of the earth, as it qualifyeth the earth, so as that juice which remaineth is fit for the other plant; there the neighbourhood doth good, because the nourishments are contrary or several: but where two plants draw (much) the same juice, there the neighbourhood hurteth, for the one deceiveth the other.

480. FIRST therefore, all plants that do draw much nourishment from the earth, and so soak the earth and exhaust it, hurt all things that grow by them; as great trees, (especially ashes,) and such trees as spread their roots near the top of the ground. So the colewort is not an enemy (though that were anciently received) to the vine only; but it is an enemy to any other plant, because it draweth strongly the fattest juice of the earth. And if it be true, that the vine when it creepeth near the colewort will turn away, this may be, because there it findeth worse nourishment; for though the root be where it was, yet (I doubt) the plant will bend as it nourisheth.

481. WHERE plants are of several natures, and draw several juices out of the earth, there (as hath been said) the one set by the other helpeth: as it is set down by divers of the ancients, that rue doth prosper much, and cometh stronger, if it be set by a fig-tree; which (we conceive) is caused not by reason of friendship, but by extraction of a contrary juice: the one drawing juice fit to result sweet, the other bitter. So they have set down likewise, that a rose set by garlick is sweeter: which likewise may be, because the more fetid juice of the earth goeth into the garlick, and the more odorate into the rose.

482. THIS we see manifestly, that there be certain corn-flowers which come seldom or never in other places, unless they be set, but only amongst corn: as the bluebottle, a kind of yellow marygold, wild poppy, and fumitory. Neither can this be, by reason of the culture of the ground, by plowing or furrowing; as some herbs and flowers will grow but in ditches new cast; for if the ground lie fallow, and unsown, they will not come: so as it should seem to be the corn that qualifyeth the earth, and prepareth it for their growth.

483. THIS observation, if it holdeth, (as it is very probable) is of great use for the meliorating of taste in fruits and esculent herbs, and of the scent of flowers. For I do not doubt, but if the fig-tree do make the rue more strong and bitter, (as the ancients have noted) good store of rue planted about the fig-tree will make the fig more sweet. Now the tastes that do most offend in fruits, and herbs, and roots, are bitter, harsh, sour, and watrish, or flashy. It were good therefore to make the trials following:

484. TAKE wormwood, or rue, and set it near lettuce, or coleflory, or artichoke, and see whether the lettuce, or the coleflory, &c. become not the sweeter.

485. TAKE a service tree, or a cornelian tree, or an elder tree, which we know have fruits of harsh and binding juice, and set them near a vine, or fig-tree, and see whether the grapes or figs will not be the sweeter.

486. TAKE cucumbers, or pumpions, and set them (here and there) amongst

mongst musk-melons, and see whether the melons will not be more winy, and better tasted. Set cucumbers (likewise) amongst radish, and see whether the radish will not be made the more biting.

487. TAKE sorrel, and set it amongst rasps, and see whether the rasps will not be the sweeter.

488. TAKE common briar, and set it amongst violets or wall-flowers, and see whether it will not make the violets or wall-flowers sweeter, and less earthy in their smell. So set lettuce, or cucumbers, amongst rosemary or bays, and see whether the rosemary or bays will not be the more odorate or aromatic.

489. CONTRARIWISE, you must take heed how you set herbs together, that draw much the like juice. And therefore I think rosemary will lose in sweetness, if it be set with lavender, or bays, or the like. But yet if you will correct the strength of an herb, you shall do well to set other like herbs by him to take him down; and if you should set tansey by angelica, it may be the angelica would be the weaker, and fitter for mixture in perfume. And if you should set rue by common wormwood, it may be the wormwood would turn to be liker Roman wormwood.

490. THIS axiom is of large extent; and therefore would be severed, and refined by trial. Neither must you expect to have a gross difference by this kind of culture, but only farther perfection.

491. TRYAL would be also made in herbs poisonous and purgative, whose ill quality (perhaps) may be discharged, or attempted, by setting stronger poisons or purgatives by them.

492. IT is reported, that the shrub called our ladies seal, (which is a kind of briary) and coleworts, set near together, one or both will die. The cause is, for that they be both great depredators of the earth, and one of them starveth the other. The like is said of a reed and a brake; both which are succulent; and therefore the one deceiveth the other. And the like of hemlock and rue; both which draw strong juices.

493. SOME of the ancients, and likewise divers of the modern writers, that have laboured in natural magick, have noted a sympathy between the sun, moon, and some principal stars; and certain herbs and plants. And so they have denominated some herbs solar, and some lunar; and such like toys put into great words. It is manifest that there are some flowers that have respect to the sun in two kinds, the one by opening and shutting, and the other by bowing and inclining the head. For marygolds, tulips, pimpernel, and indeed most flowers, do open and spread their leaves abroad when the sun shineth serene and fair: and again (in some part) close them, or gather them inward, either towards night, or when the sky is overcast. Of this there needeth no such solemn reason to be assigned; as to say, that they rejoice at the presence of the sun, and mourn at the absence thereof. For it is nothing else but a little loading of the leaves, and swelling them at the bottom, with the moisture of the air; whereas the dry air doth extend them: and they make it a piece of the wonder, that garden-claver will hide the stalk when the sun sheweth bright; which is nothing but a full expansion of the leaves. For the bowing and inclining the head, it is found in the great flower of the sun; in marygolds, wart-wort, mallow flowers, and others. The cause is somewhat more obscure than the former; but I take it to be no other, but that the part against which the sun beateth waxeth more faint and flaccid in the stalk, and thereby less able to support the flower.

494. WHAT a little moisture will do in vegetables, even though they be dead and severed from the earth, appeareth well in the experiment of jugglers. They take the beard of an oat; which (if you mark it well) is wreathed at the bottom, and one smooth entire straw at the top. They take only the part that is wreathed, and cut off the other, leaving the beard half the breadth of a finger in length. Then they make a little cross of a quill, longways of that part of the quill which hath the pith; and cross-ways of that piece of the quill without pith; the whole cross being the breadth of a finger high. Then they prick the bottom where the pith is, and therein they put the oaten-beard, leaving half of it sticking forth of the quill: then they take a little white box of wood to deceive men, as if somewhat in the box did work the feat; in which, with a pin, they make a little hole; enough to take the beard, but not to let the cross sink down, but to stick. Then likewise, by way of imposture, they make a question; as, who is the fairest woman in the company? or, who hath a glove or card? and cause another to name divers persons: and upon every naming they stick the cross in the box, having first put it towards their mouth, as if they charmed it; and the cross stirreth not; but when they come to the person that they would take, as they hold the cross to their mouth, they touch the beard with the tip of their tongue, and wet it; and so stick the cross in the box; and then you shall see it turn finely and softly three or four turns; which is caused by the untwining of the beard by the moisture. You may see it more evidently, if you stick the cross between your fingers instead of the box; and therefore you may see, that this motion, which is effected by so little wet, is stronger than the closing or bending of the head of a marygold.

495. IT is reported by some, that the herb called *rosa folis*, (whereof they make strong waters) will, at the noon-day, when the sun shineth hot and bright, have a great dew upon it. And therefore, that the right name is *ros folis*: which they impute to a delight and sympathy that it hath with the sun. Men favour wonders. It were good first to be sure, that the dew that is found upon it, be not the dew of the morning preserved, when the dew of other herbs is breathed away; for it hath a smooth and thick leaf, that doth not discharge the dew so soon as other herbs that are more spongy and porous. And it may be purslane, or some other herb, doth the like, and is not marked. But if it be so, that it hath more dew at noon than in the morning, then sure it seemeth to be an exudation of the herb it self. As plumbs sweat when they are set into the oven: for you will not (I hope) think, that it is like *Gideon's* fleece of wool, that the dew should fall upon that and no where else.

496. IT is certain, that the honey dews are found more upon oak leaves, than upon ash, or beech, or the like: but whether any cause be from the leaf it self to concoct the dew; or whether it be only that the leaf is close and smooth, (and therefore drinketh not in the dew, but preserveth it;) may be doubted. It would be well enquired, whether manna the drug doth fall but upon certain herbs or leaves only. Flowers that have deep sockets, do gather in the bottom a kind of honey; as honey-suckles, (both the woodbine and the trefoil) lillies, and the like. And in them certainly the flower beareth part with the dew.

497. THE experience is, that the froth which they call woodfare, (being like a kind of spittle) is found but upon certain herbs, and those hot ones;

as lavender, lavender-cotton, sage, hyssop, &c. Of the cause of this enquire farther; for it seemeth a secret. There falleth also mildew upon corn, and smutteth it; but it may be, that the same falleth also upon other herbs, and is not observed.

498. IT were good trial were made, whether the great consent between plants and water, which is a principal nourishment of them, will make an attraction at distance, and not at touch only. Therefore take a vessel, and in the middle of it make a false bottom of coarse canvas: fill it with earth above the canvas, and let not the earth be watered; then sow some good seeds in that earth; but under the canvas, some half a foot in the bottom of the vessel, lay a great sponge thoroughly wet in water; and let it lie so some ten days, and see whether the seeds will sprout, and the earth become more moist, and the sponge more dry. The experiment formerly mentioned of the cucumber creeping to the pot of water, is far stranger than this.

Experiments in consort touching the making herbs and fruits medicinable.

499. THE altering of the scent, colour, or taste of fruit, by infusing, mixing, or letting into the bark, or root of the tree, herb or flower, any coloured, aromatical, or medicinal substance, are but fancies. The cause is, for that those things have passed their period, and nourish not. And all alteration of vegetables in those qualities, must be by somewhat that is apt to go into the nourishment of the plant. But this is true, that where kine feed upon wild garlick, their milk tasteth plainly of the garlick: and the flesh of muttons is better tasted where the sheep feed upon wild thyme, and other wholesome herbs. *Galen* also speaketh of the curing of the *scirrhus* of the liver, by milk of a cow that feedeth upon certain herbs; and honey in *Spain* finelleth (apparently) of the rosemary, or orange, from whence the bee gathereth it: and there is an old tradition of a maiden that was fed with *Napellus*; (which is counted the strongest poison of all vegetables) which with use did not hurt the maid, but poisoned some that had carnal company with her. So it is observed by some, that there is a virtuous bezoar, and another without virtue, which appear to the shew alike: but the virtuous is taken from the beast that feedeth upon the mountains, where there are theriacal herbs; and that without virtue, from those that feed in the valleys where no such herbs are. Thus far I am of opinion; that as steeped wines and beers are very medicinal; and likewise bread tempered with divers powders: so of meat also, (as flesh, fish, milk and eggs) that they may be made of great use for medicine and diet, if the beast, fowl, or fish, be fed with a special kind of food fit for the disease. It were a dangerous thing also for secret empoisonments. But whether it may be applied unto plants and herbs I doubt more; because the nourishment of them is a more common juice; which is hardly capable of any special quality, until the plant do assimilate it.

500. BUT lest our incredulity may prejudice any profitable operations in this kind, (especially since many of the ancients have set them down) we think good briefly to propound the four means which they have devised of making plants medicinable. The first is by slitting of the root, and infusing into it the medicine; as hellebore, opium, scammony, treacle, &c. and then binding it up again. This seemeth to me the least probable; because the root draweth immediately from the earth; and so the nourishment

ment is the more common and less qualified : and besides, it is a long time in going up ere it come to the fruit. The second way is to perforate the body of the tree, and there to infuse the medicine ; which is somewhat better : for if any virtue be received from the medicine, it hath the less way, and the less time to go up. The third is, the steeping of the seed or kernel in some liquor wherein the medicine is infused : which I have little opinion of, because the seed (I doubt) will not draw the parts of the matter which have the propriety : but it will be far the more likely, if you mingle the medicine with dung ; for that the seed naturally drawing the moisture of the dung, may call in withal some of the propriety. The fourth is, the watering of the plant oft with an infusion of the medicine. This, in one respect, may have more force than the rest, because the medication is oft renewed ; whereas the rest are applied but at one time ; and therefore the virtue may the sooner vanish. But still I doubt, that the root is somewhat too stubborn to receive those fine impressions ; and besides, (as I said before) they have a great hill to go up. I judge therefore the likeliest way to be the perforation of the body of the tree in several places one above the other ; and the filling of the holes with dung mingled with the medicine ; and the watering of those lumps of dung, with squirts of an infusion of the medicine in dunged water once in three or four days.



NATU-

NATURAL HISTORY.

C E N T. VI.

Experiments in consort touching curiosities about fruits and plants.

OUR experiments we take care to be (as we have often said) either *experimenta fructifera*, or *lucifera*; either of use or of discovery: for we hate impostures, and despise curiosities. Yet because we must apply our selves somewhat to others, we will set down some curiosities touching plants.

501. IT is a curiosity to have several fruits upon one tree; and the more when some of them come early, and some come late; so that you may have upon the same tree ripe fruits all summer. This is easily done by grafting of several cions upon several boughs, of a stock, in a good ground plentifully fed. So you may have all kinds of cherries, and all kinds of plumbs, and peaches, and apricots, upon one tree; but I conceive the diversity of fruits must be such as will graft upon the same stock. And therefore I doubt, whether you can have apples, or pears, or oranges, upon the same stock upon which you graft plumbs.

502. IT is a curiosity to have fruits of divers shapes and figures. This is easily performed, by moulding them when the fruit is young; with moulds of earth or wood. So you may have cucumbers, &c. as long as a cane; or as round as a sphere; or formed like a cross. You may have also apples in the form of pears or lemons. You may have also fruit in more accurate figures; as we said, of men, beasts or birds, according as you make the moulds. Wherein you must understand, that you make the mould big enough to contain the whole fruit when it is grown to the greatest: for else you will choak the spreading of the fruit; which otherwise would spread it self, and fill the concave, and so be turned into the shape desired; as it is in mould works of liquid things. Some doubt may be conceived, that the keeping of the sun from the fruit may hurt it: but there is ordinary experience of fruit that groweth covered. *Quaere* also, whether some small holes may not be made in the wood to let in the sun. And note, that it were best to make the moulds partible, glued, or cemented together, that you may open them when you take out the fruit.

503. IT is a curiosity to have inscriptions, or engravings, in fruit or trees. This is easily performed, by writing with a needle, or bodkin, or knife, or the like, when the fruit or trees are young; for as they grow, so the letters will grow more large and graphical.

— *Tenerisque*

— *Tenerisque meos incidere amores*
Arboribus; crescent illae, crescetis amores.

504. You may have trees apparelled with flowers or herbs, by boring holes in the bodies of them, and putting into them earth holpen with muck, and setting seeds, or slips, of violets, strawberries, wild thyme, camomile, and such like in the earth. Wherein they do but grow in the tree, as they do in pots; though (perhaps) with some feeding from the trees. It would be tried also with shoots of vines, and roots of red roses; for it may be they being of a more ligneous nature, will incorporate with the tree it self.

505. IT is an ordinary curiosity to form trees and shrubs (as rosemary, juniper, and the like) into sundry shapes; which is done by moulding them within, and cutting them without. But they are but lame things, being too small to keep figure: great castles made of trees upon frames of timber, with turrets and arches, were anciently matters of magnificence.

506. AMONGST curiosities I shall place coloration, though it be somewhat better: for beauty in flowers is their preheminance. It is observed by some, that gilly-flowers, sweet-williams, violets, that are coloured, if they be neglected, and neither water'd, nor new moulded, nor transplanted, will turn white. And it is probable, that the white with much culture may turn coloured. For this is certain, that the white colour cometh of scarcity of nourishment; except in flowers that are only white, and admit no other colours.

507. IT is good therefore to see what natures do accompany what colours; for by that you shall have light how to induce colours, by producing those natures. Whites are more inodorate, (for the most part) than flowers of the same kind coloured; as is found in single white violets, white roses, white gilly-flowers, white stock-gilly-flowers, &c. We find also, that blossoms of trees, that are white, are commonly inodorate, as cherries, pears, plumbs; whereas those of apples, crabs, almonds and peaches, are blusky, and smell sweet. The cause is, for that the substance that maketh the flower is of the thinnest and finest of the plant, which also maketh flowers to be of so dainty colours. And if it be too sparing and thin, it attaineth no strength of odour, except it be in such plants as are very succulent; whereby they need rather to be scantied in their nourishment than replenished, to have them sweet. As we see in white *fatyrion*, which is of a dainty smell; and in bean-flowers, &c. And again, if the plant be of nature to put forth white flowers only, and those not thin or dry, they are commonly of rank and fulsome smell; as may-flowers, and white lilies.

508. CONTRARIWISE, in berries the white is commonly more delicate and sweet in taste than the coloured, as we see in white grapes, in white rasps, in white strawberries, in white currans, &c. The cause is, for that the coloured are more juiced, and coarser juiced, and therefore not so well and equally concocted; but the white are better proportioned to the digestion of the plant.

509. BUT in fruits the white commonly is meaner; as in pear-plumbs, damascenes, &c. and the choicest plumbs are black; the mulberry, (which though they call it a berry, is a fruit) is better the black than the white. The harvest white plumb is a base plumb; and the verdoccio and white date-plumb, are no very good plumbs. The cause is, for that they are all over watery; whereas an higher concoction is required for sweetness, or pleasure of taste; and therefore all your dainty plumbs are a little dry, and
 come

come from the stone; as the muscle-plumb, the damascene-plumb, the peach, the apricot, &c. yet some fruits, which grow not to be black, are of the nature of berries, sweetest such as are paler; as the coeur-cherry, which inclineth more to white, is sweeter than the red; but the egriot is more sour.

510. TAKE gilly-flower seed, of one kind of gilly-flower, (as of the clove-gilly-flower, which is the most common,) and sow it, and there will come up gilly-flowers, some of one colour, and some of another, casually, as the seed meeteth with nourishment in the earth; so that the gardeners find, that they may have two or three roots amongst an hundred that are rare and of great price; as purple, carnation of several stripes; the cause is, (no doubt) that in earth, though it be contiguous, and in one bed, there are very several juices; and as the seed doth casually meet with them, so it cometh forth. And it is noted especially, that those which do come up purple, do always come up single; the juice, as it seemeth, not being able to suffice a succulent colour, and a double leaf. This experiment of several colours coming up from one seed, would be tried also in larks-foot, monks-hood, poppy and holyoak.

511. FEW fruits are colour'd red within; the queen-apple is; and another apple, called the rose-apple; mulberries likewise, and grapes, though most toward the skin. There is a peach also that hath a circle of red towards the stone: and the egriot cherry is somewhat red within; but no pear, nor warden, nor plumb, nor apricot, although they have (many times) red sides, are coloured within. The cause may be enquired.

512. THE general colour of plants is green, which is a colour that no flower is of. There is a greenish primrose, but it is pale, and scarce a green. The leaves of some trees turn a little murrey, or reddish; and they be commonly young leaves that do so; as it is in oaks, and vines, and hazle. Leaves rot into a yellow; and some hollies have part of their leaves yellow, that are (to all seeming) as fresh and shining as the green. I suppose also, that yellow is a less succulent colour than green, and a degree nearer white. For it hath been noted, that those yellow leaves of holly stand ever towards the north, or north-east. Some roots are yellow, as carrots; and some plants blood-red, stalk and leaf, and all, as *amaranthus*. Some herbs incline to purple and red; as a kind of sage doth, and a kind of mint, and *rosa folis*, &c. And some have white leaves, as another kind of sage, and another kind of mint; but azure and a fair purple are never found in leaves. This sheweth, that flowers are made of a refined juice of the earth, and so are fruits; but leaves of a more coarse and common.

513. IT is a curiosity also to make flowers double, which is effected by often removing them into new earth; as on the contrary part, double flowers, by neglecting, and not removing, prove single. And the way to do it speedily, is to sow or set seeds or slips of flowers; and as soon as they come up, to remove them into new ground that is good. Enquire also, whether inoculating of flowers, (as stock-gilly-flowers, roses, musk-roses, &c.) doth not make them double. There is a cherry-tree that hath double blossoms; but that tree beareth no fruit: and it may be, that the same means which applied to the tree, doth extremely accelerate the sap to rise and break forth, would make the tree spend it self in flowers, and those to become double, which were a great pleasure to see; especially in apple-trees, peach-trees, and almond-trees, that have blossoms blush-colour'd.

514. THE making of fruits without core or stone, is likewise a curiosity,

and somewhat better : because whatsoever maketh them so, is like to make them more tender and delicate. If a cion or shoot, fit to be set in the ground, have the pith finely taken forth, (and not altogether, but some of it left, the better to save the life,) it will bear a fruit with little or no core or stone. And the like is said to be of dividing a quick tree down to the ground, and taking out the pith, and then binding it up again.

515. IT is reported also, that a citron grafted upon a quince will have small or no seeds ; and it is very probable, that any sour fruit grafted upon a stock that beareth a sweeter fruit, may both make the fruit sweeter, and more void of the harsh matter of kernels or seeds.

516. IT is reported, that not only the taking out of the pith, but the stopping of the juice of the pith from rising in the midst, and turning it to rise on the outside, will make the fruit without core or stone ; as if you should bore a tree clean through, and put a wedge in. It is true, there is some affinity between the pith and the kernel, because they are both of a harsh substance, and both placed in the midst.

517. IT is reported, that trees water'd perpetually with warm water, will make a fruit with little or no core or stone. And the rule is general, that whatsoever will make a wild tree a garden tree, will make a garden tree to have less core or stone.

Experiments in consort touching the degenerating of plants, and of the transmutation of them one into another.

518. THE rule is certain, that plants for want of culture degenerate to be baser in the same kind ; and sometimes so far, as to change into another kind. 1. The standing long, and not being removed, maketh them degenerate. 2. Drought, unless the earth of it self be moist, doth the like. 3. So doth removing into worse earth, or forbearing to compost the earth ; as we see that water mint turneth into field mint, and the colewort into rape, by neglect, &c.

519. WHATSOEVER fruit useth to be set upon a root or a slip, if it be sown, will degenerate. Grapes sown, figs, almonds, pomgranate kernels sown, make the fruits degenerate and become wild. And again, most of those fruits that use to be grafted, if they be set of kernels, or stones, degenerate. It is true, that peaches (as hath been touched before) do better upon stones set than upon grafting : and the rule of exception should seem to be this ; that whatsoever plant requireth much moisture, prospereth better upon the stone or kernel, than upon the graft. For the stock, though it giveth a finer nourishment, yet it giveth a scantier than the earth at large.

520. SEEDS, if they be very old, and yet have strength enough to bring forth a plant, make the plant degenerate. And therefore skilful gardeners make trial of the seeds before they buy them, whether they be good or no, by putting them into water gently boiled ; and if they be good, they will sprout within half an hour.

521. IT is strange which is reported, that basil too much exposed to the sun doth turn into wild thyme ; although those two herbs seem to have small affinity ; but basil is almost the only hot herb that hath fat and succulent leaves ; which oiliness, if it be drawn forth by the sun, it is like it will make a very great change.

522. THERE is an old tradition, that boughs of oak put into the earth will put forth wild vines : which if it be true, (no doubt) it is not the oak that turneth into a vine, but the oak bough putrefying, qualifyeth the earth to put forth a vine of it self.

523. IT

523. IT is not impossible, and I have heard it verified, that upon cutting down of an old timber tree, the stub hath put out sometimes a tree of another kind; as that beech hath put forth birch; which, if it be true, the cause may be, for that the old stub is too scant of juice to put forth the former tree; and therefore putteth forth a tree of a smaller kind that needeth less nourishment.

524. THERE is an opinion in the countrey, that if the same ground be oft sown with the grain that grew upon it, it will in the end grow to be of a baser kind.

525. It is certain, that in very sterile years corn sown will grow to another kind.

*Grandia saepe quibus mandavimus bordea sulcis,
Infelix lolium, & steriles dominantur avenae.*

And generally it is a rule, that plants that are brought forth by culture, as corn, will sooner change into other species, than those that come of themselves; for that culture giveth but an adventitious nature, which is more easily put off.

THIS work of the transmutation of plants one into another, is *inter magnalia naturae*; for the transmutation of species is, in the vulgar philosophy, pronounced impossible: and certainly it is a thing of difficulty, and requireth deep search into nature; but seeing there appear some manifest instances of it, the opinion of impossibility is to be rejected, and the means thereof to be found out. We see, that in living creatures that come of putrefaction, there is much transmutation of one into another; as caterpillars turn into flies, &c. And it should seem probable, that whatsoever creature, having life, is generated without seed, that creature will change out of one species into another. For it is the seed, and the nature of it, which locketh and boundeth in the creature, that it doth not expatiate. So as we may well conclude, that seeing the earth of it self doth put forth plants without seed, therefore plants may well have a transmigration of species. Wherefore, wanting instances which do occur, we shall give instances of the most likely trials: and generally we would not have those that read this work of *sylvæ sylvarum* account it strange, or think that it is an over-haste, that we have set down particulars untried; for contrariwise, in our own estimation, we account such particulars more worthy than those that are already tried and known: for these later must be taken as you find them; but the other do level point-blank at the inventing of causes and axioms.

526. FIRST therefore you must make account, that if you will have one plant change into another, you must have the nourishment over-rule the seed; and therefore you are to practise it by nourishments as contrary as may be to the nature of the herb, so nevertheless as the herb may grow; and likewise with seeds that are of the weakest sort, and have least vigour. You shall do well therefore to take marsh-herbs, and plant them upon tops of hills and champaines; and such plants as require much moisture, upon sandy and very dry grounds. As for example, marsh-mallows and sedge, upon hills; cucumber, and lettuce seeds, and coleworts, upon a sandy plot: so contrariwise, plant bushes, heath, ling, and brakes, upon a wet or marsh ground. This I conceive also, that all esculent and garden herbs, set upon the tops of hills, will prove more medicinal, though less esculent, than they were before. And it may be likewise, some wild herbs you may make salad-herbs. This is the first rule for transmutation of plants.

527. THE second rule shall be to bury some few seeds of the herb you would change, amongst other feeds; and then you shall see, whether the juice of those other feeds do not so qualify the earth, as it will alter the feed whereupon you work. As for example; put parfly seed amongst onion seed, or lettuce seed amongst parfly seed, or basil seed amongst thyme seed; and see the change of taste or otherwise. But you shall do well to put the feed you would change into a little linen cloth, that it mingle not with the foreign feed.

528. THE third rule shall be, the making of some medley or mixture of earth, with some other plants bruised or shaven either in leaf or root: as for example, make earth with a mixture of colewort leaves stamped, and set in it artichokes or parsnips; so take earth made with marjoram, or origanum, or wild thyme, bruised or stamped, and set in it fennel seed, &c. In which operation the process of nature still will be, (as I conceive) not that the herb you work upon should draw the juice of the foreign herb, (for that opinion we have formerly rejected;) but that there will be a new confection of mould, which perhaps will alter the feed, and yet not to the kind of the former herb.

529. THE fourth rule shall be, to mark what herbs some earths do put forth of themselves; and to take that earth, and to pot it, or to vessel it; and in that to set the feed you would change: as for example, take from under walls, or the like, where nettles put forth in abundance, the earth which you shall there find, without any string or root of the nettles; and pot that earth, and set in it stock-gilly-flowers, or wall-flowers, &c. or sow in the seeds of them; and see what the event will be: or take earth that you have prepared to put forth mushrooms of it self, (whereof you shall find some instances following) and sow in it purslane seed, or lettuce seed; for in these experiments, it is likely enough that the earth being accustomed to send forth one kind of nourishment, will alter the new feed.

530. THE fifth rule shall be, to make the herb grow contrary to its nature; as to make ground-herbs rise in height: as for example; carry camomile, or wild thyme, or the green strawberry, upon sticks, as you do hops upon poles; and see what the event will be.

531. THE sixth rule shall be, to make plants grow out of the sun or open air; for that is a great mutation in nature, and may induce a change in the feed: as barrel up earth, and sow some seed in it, and put in the bottom of a pond; or put it in some great hollow tree; try also the sowing of seeds in the bottoms of caves; and pots with seeds sown, hanged up in wells some distance from the water, and see what the event will be.

Experiments in consort touching the procerity, and lowness, and artificial dwarfing of trees.

532. IT is certain, that timber trees in coppice woods, grow more upright, and more free from under boughs, than those that stand in the field: the cause whereof is, for that plants have a natural motion to get to the sun; and besides, they are not glutted with too much nourishment; for that the coppice shareth with them; and repletion ever hindereth stature: lastly, they are kept warm; and that ever in plants helpeth mounting.

533. TREES that are of themselves full of heat, (which heat appeareth by their inflammable gums) as firs and pines, mount of themselves in height without side boughs, till they come towards the top. The cause is partly heat, and partly tenuity of juice, both which send the sap upwards. As for juniper,

juniper, it is but a shrub, and groweth not big enough in body to maintain a tall tree.

534. IT is reported, that a good strong canvas spread over a tree grafted low, soon after it putteth forth, will dwarf it, and make it spread. The cause is plain; for that all things that grow, will grow as they find room.

535. TREES are generally set of roots or kernels; but if you set them of slips, (as of some trees you may, by name the mulberry) some of the slips will take; and those that take, (as is reported) will be dwarf trees. The cause is, for that a slip draweth nourishment more weakly than either a root or kernel.

536. ALL plants that put forth their sap hastily, have their bodies not proportionable to their length; and therefore they are winders and creepers; as ivy, bryony, hops, woodbine: whereas dwarfing requireth a slow putting forth, and less vigour of mounting.

Experiments in consort touching the rudiments of plants, and of the excrescences of plants, or super-plants.

THE scripture saith, that Solomon wrote a natural history, from the cedar of Libanus, to the moss growing upon the wall: for so the best translations have it. And it is true that moss is but the rudiment of a plant; and (as it were) the mould of earth or bark.

537. Moss groweth chiefly upon ridges of houses tiled or thatched, and upon the crests of walls: And that moss is of a lightsome and pleasant green. The growing upon slopes is caused, for that moss, as on the one side it cometh of moisture and water, so on the other side the water must but slide, and not stand or pool. And the growing upon tiles, or walls, &c. is caused, for that those dried earths, having not moisture sufficient to put forth a plant, do practise germination by putting forth moss; though when, by age, or otherwise, they grow to relent and resolve, they sometimes put forth plants, as wall-flowers. And almost all moss hath here and there little stalks, besides the low thrum.

538. Moss groweth upon alleys, especially such as lie cold, and upon the north; as in divers terrasses: and again, if they be much trodden; or if they were at the first gravelled; for wheresoever plants are kept down, the earth putteth forth moss.

539. OLD ground, that hath been long unbroken up, gathereth moss: and therefore husbandmen use to cure their pasture grounds when they grow to moss, by tilling them for a year or two: which also dependeth upon the same cause; for that the more sparing and starving juice of the earth, insufficient for plants, doth breed moss.

540. OLD trees are more mossy (far) than young; for that the sap is not so frank as to rise all to the boughs, but tireth by the way, and putteth out moss.

541. FOUNTAINS have moss growing upon the ground about them;

Muscoli fontes; —————

The cause is, for that the fountains drain the water from the ground adjacent, and leave but sufficient moisture to breed moss: and besides, the coldness of the water conduceth to the same.

542. THE moss of trees is a kind of hair; for it is the juice of the tree that is excerned, and doth not assimilate. And upon great trees the moss gathereth a figure like a leaf.

543. THE moister sort of trees yield little moss; as we see in asps, poplars, willows, beeches, &c. which is partly caused for the reason that hath been given; of the frank putting up of the sap into the boughs; and partly, for that the barks of those trees are more close and soft, than those of oaks and ashes; whereby the moss can the hardlier issue out.

544. IN clay-grounds all fruit-trees grow full of moss, both upon body and boughs; which is caused partly by the coldness of the ground, whereby the plants nourish less; and partly by the toughness of the earth, whereby the sap is shut in, and cannot get up to spread so frankly as it should do.

545. We have said heretofore, that if trees be hidebound, they wax less fruitful, and gather moss; and that they are holpen by hacking, &c. And therefore by the reason of contraries, if trees be bound in with cords, or some outward bands, they will put forth more moss: which (I think) happeneth to trees that stand bleak, and upon the cold winds. It would also be tried, whether if you cover a tree somewhat thick upon the top after his polling, it will not gather more moss. I think also the watering of trees with cold fountain water, will make them grow full of moss.

546. THERE is a moss the perfumers have, which cometh out of apple trees, that hath an excellent scent. *Quære* particularly for the manner of the growth, and the nature of it. And for this experiment's sake, being a thing of price, I have set down the last experiment how to multiply and call on mosses.

NEXT unto moss, I will speak of mushrooms; which are likewise an imperfect plant. The mushrooms have two strange properties; the one, that they yield so delicious a meat; the other, that they come up so hastily, as in a night; and yet they are unsown. And therefore such as are upstarts in state, they call in reproach mushrooms. It must needs be therefore, that they be made of much moisture; and that moisture fat, gross, and yet somewhat concocted. And (indeed) we find, that mushrooms cause the accident which we call *incubus*, or the mare in the stomach. And therefore the surfeit of them may suffocate and empoison. And this sheweth, that they are windy; and that windiness is gross and swelling, not sharp or grinding. And upon the same reason mushrooms are a venereous meat.

547. IT is reported, that the bark of white or red poplar, (which are of the moistest of trees) cut small, and cast into furrows well dunged, will cause the ground to put forth mushrooms at all seasons of the year fit to be eaten. Some add to the mixture leaven of bread resolved in water.

548. IT is reported, that if a hilly field where the stubble is standing, be set on fire in the showry season, it will put forth great store of mushrooms.

549. IT is reported, that hartshorn, shaven, or in small pieces, mixed with dung and watered, putteth up mushrooms. And we know that hartshorn is of a fat and clammy substance: and it may be ox-horn would do the like.

550. IT hath been reported, though it be scarce credible, that ivy hath grown out of a stag's horn; which they suppose did rather come from a con-frication of the horn upon the ivy, than from the horn it self. There is not known any substance but earth, and the proceedings of earth, (as tile, stone, &c.) that yieldeth any moss or herby substance. There may be trial made of some seeds, as that fennel-seed, mustard-seed, and rape-seed, put into some little holes, made in the horns of stags, or oxen, to see if they will grow.

551. THERE is also another imperfect plant, that (in shew) is like a great mushroom:

mushroom: and it is sometimes as broad as one's hat; which they call a toad's-stool: but it is not esculent; and it groweth (commonly) by a dead stub of a tree; and likewise about the roots of rotten trees: and therefore seemeth to take his juice from wood putrefied. Which sheweth, by the way, that wood putrefied yieldeth a frank moisture.

552. THERE is a cake that groweth upon the side of a dead tree, that hath gotten no name, but it is large and of a chestnut colour, and hard and pithy; whereby it should seem, that even dead trees forget not their putting forth; no more than the carcases of mens bodies, that put forth hair and nails for a time.

553. THERE is a cod, or bag, that groweth commonly in the fields; that at the first is hard like a tennis-ball, and white; and after groweth of a mushroom colour, and full of light dust upon the breaking: and is thought to be dangerous for the eyes if the powder get into them; and to be good for kibes. Belike it hath a corrosive and fretting nature.

554. THERE is an herb called *Jews ear*, that groweth upon the roots and lower parts of the bodies of trees; especially of elders; and sometimes ashes. It hath a strange property; for in warm water it swelleth, and openeth extremely. It is not green, but of a dusky brown colour. And it is used for squinancies and inflammations in the throat; whereby it seemeth to have a mollifying and lenifying virtue.

555. THERE is a kind of spongy excrescence, which groweth chiefly upon the roots of the laser tree; and sometimes upon cedar and other trees. It is very white, and light, and friable; which we call agarick. It is famous in physick for the purging of tough phlegm. And it is also an excellent opener for the liver; but offensive to the stomach: and in taste, it is at the first sweet, and after bitter.

556. WE find no super-plant that is a formed plant, but misseltoe. They have an idle tradition, that there is a bird called a missel bird, that feedeth upon a feed, which many times she cannot digest, and so expelleth it whole with her excrement: which falling upon a bough of a tree that hath some rift, putteth forth the misseltoe. But this is a fable; for it is not probable; that birds should feed upon that they cannot digest. But allow that, yet it cannot be for other reasons: for first, it is found but upon certain trees; and those trees bear no such fruit, as may allure that bird to sit and feed upon them. It may be, that bird feedeth upon the misseltoe-berries, and so is often found there; which may have given occasion to the tale. But that which maketh an end of the question is, that misseltoe hath been found to put forth under the boughs, and not (only) above the boughs; so it cannot be any thing that falleth upon the bough. Misseltoe groweth chiefly upon crab-trees, apple-trees, sometimes upon hazles, and rarely upon oaks; the misseltoe whereof is counted very medicinal. It is ever green winter and summer; and beareth a white glistering berry: and it is a plant utterly differing from the plant upon which it groweth. Two things therefore may be certainly set down: first, that super-feration must be by abundance of sap in the bough that putteth it forth: secondly, that that sap must be such as the tree doth excern, and cannot assimilate; for else it would go into a bough; and besides, it seemeth to be more fat and unctuous than the ordinary sap of the tree; both by the berry which is clammy; and by that it continueth green winter and summer, which the tree doth not.

557. THIS experiment of misseltoe may give light to other practices. Therefore trial would be made by ripping of the bough of a crab-tree in
the

the bark; and watering of the wound every day with warm water dunded, to see if it would bring forth misse-toe, or any such like thing. But it were yet more likely to try it with some other watering or anointing, that were not so natural to the tree as water is; as oil, or barm of drink, &c. so they be such things as kill not the bough.

558. IT were good to try, what plants would put forth, if they be forbidden to put forth their natural boughs: poll therefore a tree, and cover it some thickness with clay on the top, and see what it will put forth. I suppose it will put forth roots; for so will a cion, being turned down into clay: therefore, in this experiment also, the tree would be closed with somewhat that is not so natural to the plant as clay is. Try it with leather, or cloth, or painting, so it be not hurtful to the tree. And it is certain, that a brake hath been known to grow out of a pollard.

559. A man may count the prickles of trees to be a kind of excrescence; for they will never be boughs, nor bear leaves. The plants that have prickles are thorns, black and white; brier, rose, lemon-trees, crab-trees, gooseberry, berberry; these have it in the bough; the plants that have prickles in the leaf are, holly, juniper, whin-bush, thistle; nettles also have a small venomous prickle; so hath borage, but harmless. The cause must be hasty putting forth, want of moisture, and the closeness of the bark; for the haste of the spirit to put forth, and the want of nourishment to put forth a bough, and the closeness of the bark, cause prickles in boughs; and therefore they are ever like a *pyramis*, for that the moisture spendeth after a little putting forth. And for prickles in leaves, they come also of putting forth more juice into the leaf than can spread in the leaf smooth, and therefore the leaves otherwise are rough, as borage and nettles are. As for the leaves of holly, they are smooth, but never plain, but as it were with folds for the same cause.

560. THERE be also plants, that though they have no prickles, yet they have a kind of downy or velvet rind upon their leaves; as rose-campion, stock-gilly-flowers, colts-foot, which down or nap cometh of a subtil spirit, in a soft or fat substance. For it is certain, that both stock-gilly-flowers and rose-campions, stamped, have been applied (with success) to the wrists of those that have had tertian or quartan agues; and the vapour of colts-foot hath a sanative virtue towards the lungs; and the leaf also is healing in surgery.

561. ANOTHER kind of excrescence is an exudation of plants joined with putrefaction; as we see in oak-apples, which are found chiefly upon the leaves of oaks, and the like upon willows: and country people have a kind of prediction, that if the oak-apple broken be full of worms, it is a sign of a pestilent year; which is a likely thing, because they grow of corruption.

562. THERE is also upon sweet, or other brier, a fine tuft or brush of moss of divers colours; which if you cut, you shall ever find full of little white worms.

Experiments in consort touching the producing of perfect plants without seed.

563. IT is certain, that earth taken out of the foundations of vaults and houses, and bottoms of wells, and then put into pots, will put forth sundry kinds of herbs: but some time is required for the germination; for if it be taken but from a fathom deep, it will put forth the first year; if much deeper, not till after a year or two.

564. THE nature of the plants growing out of earth so taken up, doth follow the nature of the mould it self; as if the mould be soft and fine, it putteth

putteth forth soft herbs ; as grafs, plantain, and the like ; if the earth be harder and coarser, it putteth forth herbs more rough, as thistles, firs, &c.

565. IT is common experience, that where alleys are close gravelled, the earth putteth forth the first year knot grafs, and after spire grafs. The cause is, for that the hard gravel or pebble at the first laying will not suffer the grafs to come forth upright, but turneth it to find his way where it can ; but after that the earth is somewhat loosened at the top, the ordinary grafs cometh up.

566. IT is reported, that earth being taken out of shady and watery woods some depth, and potted, will put forth herbs of a fat and juicy substance ; as penny-worth, purslane, houlleek, penny-royal, &c.

567. THE water also doth send forth plants that have no roots fixed in the bottom ; but they are less perfect plants, being almost but leaves, and those small ones ; such is that we call duck-weed, which hath a leaf no bigger than a thyme leaf ; but of a fresher green, and putteth forth a little string into the water far from the bottom. As for the water lily, it hath a root in the ground ; and so have a number of other herbs that grow in ponds.

568. IT is reported by some of the ancients, and some modern testimony likewise, that there be some plants that grow upon the top of the sea, being supposed to grow of some concretion of slime from the water, where the sun beateth hot, and where the sea stirreth little. As for *algæ marina*, (sea weed) and *eryngium* (sea thistle) both have roots ; but the sea weed under the water, the sea thistle but upon the shore.

569. THE ancients have noted, that there are some herbs that grow out of snow laid up close together and putrefied, and that they are all bitter ; and they name one especially *flopus*, which we call moth-mullein. It is certain, that worms are found in snow commonly, like earth-worms ; and therefore it is not unlike, that it may likewise put forth plants.

570. THE ancients have affirmed, that there are some herbs that grow out of stone ; which may be, for that it is certain that toads have been found in the middle of a free-stone. We see also that flints, lying above ground, gather moss ; and wall-flowers, and some other flowers, grow upon walls ; but whether upon the main brick or stone, or whether out of the lime or chinks, is not well observed : for elders and ashes have been seen to grow out of steeples ; but they manifestly grow out of clefts ; in so much as when they grow big, they will disjoin the stone. And besides, it is doubtful whether the mortar it self putteth it forth, or whether some seeds be not let fall by birds. There be likewise rock-herbs ; but I suppose those are where there is some mould or earth. It hath likewise been found, that great trees growing upon quarries, have put down their root into the stone.

571. IN some mines in *Germany*, as is reported, there grow in the bottom vegetables ; and the work-folks use to say they have magical virtue, and will not suffer men to gather them.

572. THE sea sands seldom bear plants. Whereof the cause is yielded by some of the ancients, for that the sun exhalet the moisture before it can incorporate with the earth, and yield a nourishment for the plant. And it is affirmed also, that sand hath (always) its root in clay ; and that there be no veins of sand any great depth within the earth.

573. IT is certain, that some plants put forth for a time of their own store, without any nourishment from earth, water, stone, &c. of which *vide* the experiment 29.

Experiments in consort touching foreign plants.

574. IT is reported, that earth that was brought out of the *Indies*, and other remote countries for ballast of ships, cast upon some grounds in *Italy*, did put forth foreign herbs, to us in *Europe* not known; and that which is more, that of their roots, barks, and seeds, contused together, and mingled with other earth, and well water'd with warm water, there came forth herbs much like the other.

575. PLANTS brought out of hot countries, will endeavour to put forth at the same time that they usually do in their own climate; and therefore to preserve them, there is no more required, than to keep them from the injury of putting back by cold. It is reported also, that grain out of the hotter countries translated into the colder, will be more forward than the ordinary grain of the cold country. It is likely that this will prove better in grains than in trees, for that grains are but annual, and so the virtue of the seed is not worn out; whereas in a tree, it is embased by the ground to which it is removed.

576. MANY plants which grow in the hotter countries, being set in the colder, will nevertheless, even in those cold countries, being sown of seeds late in the spring, come up and abide most part of the summer; as we find it in orange and lemon seeds, &c. the seeds whereof sown in the end of *April* will bring forth excellent fallads, mingled with other herbs. And I doubt not, but the seeds of clove trees, and pepper seeds, &c. if they could come hither green enough to be sown, would do the like.

Experiments in consort touching the seasons in which plants come forth.

577. THERE be some flowers, blossoms, grains, and fruits, which come more early, and others which come more late in the year. The flowers that come early with us are primroses, violets, anemonies, water-diffadillies, *crocus vernus*, and some early tulips. And they are all cold plants; which therefore (as it should seem) have a quicker perception of the heat of the sun increasing than the hot herbs have; as a cold hand will sooner find a little warmth than an hot. And those that come next after, are wall flowers, cowslips, hyacinths, rosemary flowers, &c. and after them, pinks, roses, flower-deluces, &c. and the latest are gilly-flowers, holyoaks, larksfoot, &c. The earliest blossoms are, the blossoms of peaches, almonds, cornelians, mezerions, &c. and they are of such trees as have much moisture, either watery or oily. And therefore *crocus vernus* also, being an herb, that hath an oily juice, putteth forth early; for those also find the sun sooner than the drier trees. The grains are, first rye and wheat; then oats and barley; then pease and beans. For though green pease and beans be eaten sooner, yet the dry ones that are used for horse meat, are ripe last; and it seemeth that the fatter grain cometh first. The earliest fruits are strawberries, cherries, gooseberries, currans; and after them early apples, early pears, apricots, rasps; and after them, damascenes, and most kind of plumbs, peaches, &c. and the latest are apples, wardens, grapes, nuts, quinces, almonds, flocs, briar-berries, hips, medlars, services, cornelians, &c.

578. IT is to be noted, that (commonly) trees that ripen latest, blossom soonest; as peaches, cornelians, flocs, almonds, &c. and it seemeth to be a work of providence that they blossom so soon; for otherwise they could not have the sun long enough to ripen.

579. THERE be fruits (but rarely) that come twice in a year; as some pears,

pears, strawberries, &c. And it seemeth they are such as abound with nourishment; whereby after one period, before the sun waxeth too weak, they can endure another. The violet also, amongst flowers, cometh twice a year, especially the double white; and that also is a plant full of moisture. Roses come twice, but it is not without cutting, as hath been formerly said.

580. In *Muscovy* though the corn come not up till late spring, yet their harvest is as early as ours. The cause is, for that the strength of the ground is kept in with the snow; and we see with us, that if it be a long winter, it is commonly a more plentiful year: and after those kind of winters likewise, the flowers and corn, which are earlier and later, do come commonly at once, and at the same time; which troubleth the husbandman many times; for you shall have red roses and damask roses come together; and likewise the harvest of wheat and barley. But this happeneth ever, for that the earlier stayeth for the later; and not that the later cometh sooner.

581. THERE be divers fruit-trees in the hot countries, which have blossoms, and young fruit, and ripe fruit, almost all the year succeeding one another. And it is said the orange hath the like with us, for a great part of summer; and so also hath the fig. And no doubt the natural motion of plants is to have so; but that either they want juice to spend; or they meet with the cold of the winter: and therefore this circle of ripening cannot be but in succulent plants, and hot countries.

582. SOME herbs are but annual, and die, root and all, once a year; as borage, lettuce, cucumbers, musk-melons, basil, tobacco, mustard-seed, and all kinds of corn; some continue many years; as hyssop, germander, lavender, fennel, &c. The cause of the dying is double; the first is, the tenderness and weakness of the seed, which maketh the period in a small time; as it is in borage, lettuce, cucumbers, corn, &c. and therefore none of these are hot. The other cause is, for that some herbs can worse endure cold; as basil, tobacco, mustard-seed. And these have (all) much heat.

Experiments in consort touching the lasting of herbs and trees.

583. THE lasting of plants is most in those that are largest of body; as oak, elm, chestnut, the loat-tree, &c. and this holdeth in trees; but in herbs it is often contrary: for borage, colewort, pompions, which are herbs of the largest size, are of small durance; whereas hyssop, winter-savoury, germander, thyme, sage, will last long. The cause is, for that trees last according to the strength and quantity of their sap and juice; being well munit by their bark against the injuries of the air: but herbs draw a weak juice, and have a soft stalk; and therefore those amongst them which last longest, are herbs of strong smell, and with a sticky stalk.

584. TREES that bear mast, and nuts, are commonly more lasting than those that bear fruits; especially the moister fruits: as oaks, beeches, chestnuts, walnuts, almonds, pine trees, &c. last longer than apples, pears, plumbs, &c. The cause is the fatness and oiliness of the sap; which ever wasteth less than the more watery.

585. TREES that bring forth their leaves late in the year, and cast them likewise late, are more lasting than those that sprout their leaves early, or shed them betimes. The cause is, for that the late coming forth sheweth a moisture more fixed; and the other more loose, and more easily resolved. And the same cause is, that wild trees last longer than garden trees; and in the same kind, those whose fruit is acid, more than those whose fruit is sweet.

586. NOTHING procureth the lasting of trees, bushes and herbs, so much as often cutting: for every cutting causeth a renovation of the juice of the plant; that it neither goeth so far, nor riseth so faintly, as when the plant is not cut: in so much as annual plants, if you cut them seasonably, and will spare the use of them, and suffer them to come up still young, will last more years than one, as hath been partly touched; such as is lettuce, purslane, cucumber, and the like. And for great trees, we see almost all overgrown trees in church-yards, or near ancient buildings, and the like, are pollards, or dottards, and not trees at their full height.

587. SOME experiment would be made, how by art to make plants more lasting than their ordinary period; as to make a stalk of wheat, &c. last a whole year. You must ever presuppose, that you handle it so as the winter killeth it not; for we speak only of prolonging the natural period. I conceive that the rule will hold, that whatsoever maketh the herb come later than at its time, will make it last longer time: it were good to try it in a stalk of wheat, &c. set in the shade, and encompassed with a case of wood, not touching the straw, to keep out open air.

As for the preservation of fruits and plants, as well upon the tree or stalk, as gathered, we shall handle it under the title of conservation of bodies.

Experiments in consort touching the several figures of plants.

588. THE particular figures of plants we leave to their descriptions; but some few things in general we will observe. Trees and herbs, in the growing forth of their boughs and branches, are not figured, and keep no order. The cause is, for that the sap being restrained in the rind and bark, breaketh not forth at all; as in the bodies of trees, and stalks of herbs, till they begin to branch; and then when they make an eruption, they break forth casually, where they find best way in the bark or rind. It is true, that some trees are more scattered in their boughs; as fallow trees, warden trees, quince trees, medlar trees, lemon trees, &c. Some are more in the form of a *pyramis*, and come almost to todd; as the pear-tree, (which the criticks will have to borrow his name of πυρ, fire,) orange trees, fir trees, service trees, lime trees, &c. and some are more spread and broad; as beeches, hornbeam, &c. the rest are more indifferent. The cause of scattering the boughs, is the hasty breaking forth of the sap; and therefore those trees rise not in a body of any height, but branch near the ground. The cause of the *pyramis* is the keeping in of the sap, long before it branch; and the spending of it when it beginneth to branch by equal degrees. The spreading is caused by the carrying up of the sap plentifully, without expence; and then putting it forth speedily and at once.

589. THERE be divers herbs, but no trees, that may be said to have some kind of order in the putting forth of their leaves: for they have joints or knuckles, as it were stops in their germination; as have gilly-flowers, pinks, fennel, corn, reeds, and canes. The cause whereof is, for that the sap ascendeth unequally, and doth (as it were) tire and stop by the way. And it seemeth they have some closeness and hardness in their stalk, which hindreth the sap from going up, until it hath gathered into a knot, and so is more urged to put forth. And therefore they are most of them hollow when the stalk is dry; as fennel-stalk, stubble, and canes.

590. FLOWERS have (all) exquisite figures; and the flower numbers are (chiefly) five, and four; as in primroses, briar roses, single musk roses, single pinks, and gilly-flowers, &c. which have five leaves: lilies, flowerdeluces, borage,

borage, bugloss, &c. which have four leaves. But some put forth leaves not numbred; but they are ever small ones; as marygolds, trefoils, &c. We see also, that the sockets and supporters of flowers are figured; as in the five brethren of the rose; sockets of gilly-flowers, &c. Leaves also are all figured; some round; some long; some square; and many jagged on the sides; which leaves of flowers seldom are. For I account the jagging of pinks and gilly-flowers, to be like the inequality of oak leaves, or vine leaves, or the like; but they seldom or never have any small purls.

Experiments in consort touching some principal differences in plants.

591. OF plants, some few put forth their blossoms before their leaves; as almonds, peaches, cornelians, black thorn, &c. but most put forth some leaves before their blossoms; as apples, pears, plumbs, cherries, white thorn, &c. The cause is, for that those that put forth their blossoms first, have either an acute and sharp spirit; (and therefore commonly they all put forth early in the spring, and ripen very late; as most of the particulars before mentioned;) or else an oily juice, which is apter to put out flowers than leaves.

592. OF plants, some are green all winter; others cast their leaves. There are green all winter, holly, ivy, box, fir, yew, cypress, juniper, bays, rosemary, &c. The cause of the holding green, is the close and compact substance of their leaves, and the pedicles of them. And the cause of that again is either the tough and viscous juice of the plant; or the strength and heat thereof. Of the first sort is holly; which is of so viscous a juice, as they make birdlime of the bark of it. The stalk of ivy is tough, and not fragile, as we see in other small twigs dry. Fir yieldeth pitch. Box is a fast and heavy wood, as we see it in bowls. Yew is a strong and tough wood, as we see it in bows. Of the second sort is juniper, which is a wood odorate; and maketh a hot fire. Bays is likewise a hot and aromatical wood; and so is rosemary for a shrub. As for the leaves, their density appeareth, in that either they are smooth and shining, as in bays, holly, ivy, box, &c. or in that they are hard and spiry, as in the rest. And trial would be made of grafting of rosemary, and bays, and box, upon a holly-stock; because they are plants that come all winter. It were good to try it also with grafts of other trees, either fruit trees, or wild trees; to see whether they will not yield their fruit, or bear their leaves later and longer in the winter; because the sap of the holly putteth forth most in the winter. It may be also a mezerion tree, grafted upon a holly, will prove both an earlier and a greater tree.

593. THERE be some plants that bear no flower, and yet bear fruit: there be some that bear flowers and no fruit: there be some that bear neither flowers nor fruit. Most of the great timber trees, (as oaks, beeches, &c.) bear no apparent flowers; some few (likewise) of the fruit trees; as mulberry, walnut, &c. and some shrubs, (as juniper, holly, &c.) bear no flowers. Divers herbs also bear seeds, (which is as the fruit) and yet bear no flowers; as purslane, &c. Those that bear flowers and no fruit are few; as the double cherry, the fallow, &c. But for the cherry, it is doubtful whether it be not by art or culture; for if it be by art, then trial would be made, whether apples, and other fruits blossoms, may not be doubled. There are some few that bear neither fruit nor flower; as the elm, the poplars, box, brakes, &c.

594. THERE be some plants that shoot still upwards, and can support themselves;

themselves; as the greatest part of trees and plants: there be some other that creep along the ground; or wind about other trees or props, and cannot support themselves; as vines, ivy, briar, bryony, woodbines, hops, climatis, camomile, &c. The cause is (as hath been partly touched) for that all plants (naturally) move upwards; but if the sap put up too fast, it maketh a slender stalk, which will not support the weight: and therefore these latter sort are all swift and hasty comers.

Experiments in consort touching all manner of composts, and helps of ground.

595. THE first and most ordinary help is stercoration. The sheeps dung is one of the best; and next the dung of kine: and thirdly, that of horses; which is held to be somewhat too hot unless it be mingled. That of pigeons for a garden, as a small quantity of ground, excelleth. The ordering of dung is, if the ground be arable, to spread it immediately before the ploughing and sowing; and so to plough it in: for if you spread it long before, the sun will draw out much of the fatness of the dung: if the ground be grazing ground, to spread it somewhat late towards winter; that the sun may have the less power to dry it up. As for special composts for gardens, (as a hot bed, &c.) we have handled them before.

596. THE second kind of compost is, the spreading of divers kinds of earth; as marle, chalk, sea sand, earth upon earth, pond earth; and the mixtures of them. Marle is thought to be the best, as having most fatness; and not heating the ground too much. The next is sea sand, which (no doubt) obtaineth a special virtue by the salt: for salt is the first rudiment of life. Chalk over-heateth the ground a little; and therefore is best upon cold clay grounds, or moist grounds: but I heard a great husband say, that it was a common error, to think that chalk helpeth arable grounds, but helpeth not grazing grounds; whereas (indeed) it helpeth grass as well as corn: but that which breedeth the error is, because after the chalking of the ground, they wear it out with many crops without rest; and then (indeed) afterwards it will bear little grass, because the ground is tired out. It were good to try the laying of chalk upon arable grounds a little while before ploughing; and to plough it in as they do the dung; but then it must be friable first by rain or lying: as for earth, it compasseth it self; for I knew a great garden, that had a field (in a manner) poured upon it; and it did bear fruit excellently the first year of the planting: for the surface of the earth is ever the fruitfullest. And earth so prepared hath a double surface. But it is true, as I conceive, that such earth as hath salt-petre bred in it, if you can procure it without too much charge, doth excel. The way to hasten the breeding of salt-petre, is to forbid the sun, and the growth of vegetables. And therefore if you make a large hovel, thatched, over some quantity of ground; nay, if you do but plank the ground over, it will breed salt-petre. As for pond earth, or river earth, it is a very good compost; especially if the pond have been long uncleansed, and so the water be not too hungry: and I judge it will be yet better if there be some mixture of chalk.

597. THE third help of ground is, by some other substances that have a virtue to make ground fertile, though they be not merely earth: wherein ashes excel; insomuch as the countries about *Aetna* and *Vesuvius* have a kind of amends made them, for the mischief the eruptions (many times) do, by the exceeding fruitfulness of the soil, caused by the ashes scattered about. Soot also, though thin spread in a field or garden, is tried to be a very good compost. For salt, it is too costly; but it is tried, that mingled with feed-corn,

corn, and sown together, it doth good : and I am of opinion, that chalk in powder, mingled with feed corn, would do good ; perhaps as much as chalking the ground all over. As for the steeping of the feeds in several mixtures with water to give them vigour ; or watering grounds with compost water, we have spoken of them before.

598. THE fourth help of ground, is the suffering of vegetables to die into the ground, and so to fatten it ; as the stubble of corn, especially pease. Brakes cast upon the ground in the beginning of winter, will make it very fruitful. It were good (also) to try whether leaves of trees swept together, with some chalk and dung mixed, to give them more heart, would not make a good compost ; for there is nothing lost, so much as leaves of trees ; and as they lie scattered, and without mixture, they rather make the ground sour than otherwise.

599. THE fifth help of ground, is heat and warmth. It hath been anciently practised to burn heath, and ling, and sedge, with the vantage of the wind, upon the ground. We see that warmth, of walls and enclosures, mendeth ground : we see also, that lying open to the south, mendeth ground : we see again, that the foldings of sheep help ground, as well by their warmth, as by their compost : and it may be doubted, whether the covering of the ground with brakes in the beginning of the winter (whereof we spake in the last experiment) helpeth it not, by reason of the warmth. Nay, some very good husbands do suspect, that the gathering up of flints in flinty ground, and laying them on heaps, (which is much used,) is no good husbandry, for that they would keep the ground warm.

600. THE sixth help of ground is by watering, and irrigation ; which is in two manners ; the one by letting in and shutting out waters at seasonable times : for water, at some seasons, and with reasonable stay, doth good ; but at some other seasons, and with too long stay, doth hurt : and this serveth only for meadows which are along some river. The other way is, to bring water from some hanging grounds where there are springs into the lower grounds, carrying it in some long furrows ; and from those furrows, drawing it traverse to spread the water. And this maketh an excellent improvement, both for corn and grafs. It is the richer, if those hanging grounds be fruitful, because it washeth off some of the fatness of the earth ; but howsoever it profiteth much. Generally, where there are great overflows in fens, or the like, the drowning of them in the winter maketh the summer following more fruitful : the cause may be, for that it keepeth the ground warm and nourisheth it. But the fen-men hold, that the sewers must be kept so, as the water may not stay too long in the spring till the weeds and sedge be grown up ; for then the ground will be like a wood, which keepeth out the sun, and so continueth the wet ; whereby it will never graze (to purpose) that year. Thus much for irrigation. But for avoidances, and drainings of water, where there is too much, and the helps of ground in that kind, we shall speak of them in another place.

N A T U R A L H I S T O R Y.

C E N T. VII.

Experiment in consort touching the affinities and differences between plants and inanimate bodies.

601. **T**HE differences between animate and inanimate bodies, we shall handle fully under the title of life, and living spirits, and powers. We shall therefore make but a brief mention of them in this place. The main differences are two. All bodies have spirits, and pneumatical parts within them ; but the main differences between animate and inanimate, are two: The first is, that the spirits of things animate are all continued within themselves, and are branched in veins, and secret canals, as blood is ; and in living creatures, the spirits have not only branches, but certain cells or seats, where the principal spirits do reside, and whereunto the rest do resort : but the spirits in things inanimate are shut in, and cut off by the tangible parts, and are not pervious one to another, as air is in snow. The second main difference is, that the spirits of animate bodies are all in some degree (more or less) kindled and inflamed ; and have a fine commixture of flame, and an aërial substance. But inanimate bodies have their spirits no whit inflamed, or kindled. And this difference consisteth not in the heat or coolness of spirits ; for cloves and other spices, *naphtha* and *petroleum*, have exceeding hot spirits, (hotter a great deal than oil, wax, or tallow, &c.) but not inflamed. And when any of those weak and temperate bodies come to be inflamed, then they gather a much greater heat than others have un-inflamed, besides their light and motion, &c.

602. THE differences, which are secondary, and proceed from these two radical differences, are, first, plants are all figurate and determinate, which inanimate bodies are not ; for look how far the spirit is able to spread and continue it self ; so far goeth the shape or figure, and then is determined. Secondly, plants do nourish ; inanimate bodies do not : they have an accretion, but no alimentation. Thirdly, plants have a period of life, which inanimate bodies have not. Fourthly, they have a succession and propagation of their kind, which is not in bodies inanimate.

603. THE differences between plants, and metals or fossils, besides those four before-mention'd, (for metals I hold inanimate,) are these : first, metals are more durable than plants : secondly, they are more solid and hard : thirdly, they are wholly subterrany ; whereas plants are part above earth, and part under the earth.

604. THERE be very few creatures that participate of the nature of plants and metals both; coral is one of the nearest of both kinds: another is vitriol, for that is aptest to sprout with moisture.

605. ANOTHER special affinity is between plants and mould, or putrefaction: for all putrefaction (if it dissolve not in arefaction) will in the end issue into plants, or living creatures bred of putrefaction. I account moss, and mushrooms, and agarick, and other of those kinds, to be but moulds of the ground, walls, and trees, and the like. As for flesh, and fish, and plants themselves, and a number of other things, after a mouldiness, or rottenness, or corrupting, they will fall to breed worms. These putrefactions, which have affinity with plants, have this difference from them; that they have no succession or propagation, though they nourish, and have a period of life, and have likewise some figure.

606. I left once by chance a citron cut in a close room for three summer months that I was absent, and at my return there were grown forth out of the pith cut tufts of hairs an inch long, with little black heads, as if they would have been some herb.

Experiments in consort touching the affinities and differences of plants and living creatures, and the confiners and participles of them.

607. THE affinities and differences between plants and living creatures are these that follow. They have both of them spirits continued, and branched, and also inflamed. But first in living creatures, the spirits have a cell or seat, which plants have not; as was also formerly said. And secondly, the spirits of living creatures hold more of flame than the spirits of plants do. And these two are the radical differences. For the secondary differences, they are as follow. First, plants are all fixed to the earth, whereas all living creatures are sever'd, and of themselves. Secondly, living creatures have local motion, plants have not. Thirdly, living creatures nourish from their upper parts, by the mouth chiefly; plants nourish from below, namely from the roots. Fourthly, plants have their seed and seminal parts uppermost; living creatures have them lowermost: and therefore it was said, not elegantly alone, but philosophically; *Homo est planta inversa*; Man is like a plant turned upwards: for the root in plants is as the head in living creatures. Fifthly, living creatures have a more exact figure than plants. Sixthly, living creatures have more diversity of organs within their bodies, and (as it were) inward figures, than plants have. Seventhly, living creatures have sense, which plants have not. Eighthly, living creatures have voluntary motion, which plants have not.

608. FOR the difference of sexes in plants, they are oftentimes by name distinguished; as male-piony, female-piony; male-rosemary, female-rosemary; he-holly, she-holly, &c. but generation by copulation (certainly) extendeth not to plants. The nearest approach of it is between the he-palm and the she-palm, which (as they report) if they grow near, incline the one to the other; insomuch as (that which is more strange) they doubt not to report, that to keep the trees upright from bending, they tie ropes or lines from the one to the other, that the contact might be enjoyed by the contact of a middle body. But this may be feigned, or at least amplified. Nevertheless, I am apt enough to think, that this same *binarium* of a stronger and a weaker, like unto masculine and feminine, doth hold in all living bodies. It is confounded sometimes; as in some creatures of putrefaction, wherein no

marks of distinction appear: and it is doubled sometimes, as in hermaphrodites: but generally there is a degree of strength in most species.

609. THE participles or confiners between plants and living creatures, are such chiefly as are fixed, and have no local motion of remove, though they have a motion in their parts; such as are oysters, cockles, and such like. There is a fabulous narration, that in the northern countries there should be an herb that groweth in the likeness of a lamb, and feedeth upon the grafs, in such sort as it will bare the grafs round about. But I suppose that the figure maketh the fable; for so we see, there be bee-flowers, &c. And as for the grafs, it seemeth the plant having a great stalk and top doth prey upon the grafs a good way about, by drawing the juice of the earth from it.

Experiments promiscuous touching plants.

610. THE *Indian* fig boweth its roots down so low in one year, as of it self it taketh root again; and so multiplieth from root to root, making of one tree a kind of wood. The cause is the plenty of the sap, and the softness of the stalk, which maketh the bough, being over-loaden, and not stiffly upheld, weigh down. It hath leaves as broad as a little target, but the fruit no bigger than beans. The cause is, for that the continual shade increaseth the leaves, and abateth the fruit, which nevertheless is of a pleasant taste. And that (no doubt) is caused by the suppleness and gentleness of the juice of that plant, being that which maketh the boughs also so flexible.

611. IT is reported by one of the ancients, that there is a certain *Indian* tree, having few but very great leaves, three cubits long and two broad; and that the fruit being of good taste, groweth out of the bark. It may be, there be plants that pour out the sap so fast, as they have no leisure either to divide into many leaves, or to put forth stalks to the fruit. With us trees (generally) have small leaves in comparison. The fig hath the greatest; and next it the vine, mulberry, and fycamore; and the least are those of the willow, birch, and thorn. But there be found herbs with far greater leaves than any tree; as the burr, gourd, cucumber, and colewort. The cause is, (like to that of the *Indian* fig) the hasty and plentiful putting forth of the sap.

612. THERE be three things in use for sweetness; sugar, honey, manna. For sugar, to the ancients it was scarce known, and little used. It is found in canes: *Quære*, whether to the first knuckle, or further up? And whether the very bark of the cane it self do yield sugar, or no? For honey, the bee maketh it, or gathereth it; but I have heard from one that was industrious in husbandry, that the labour of the bee is about the wax; and that he hath known in the beginning of *May*, honey-combs empty of honey; and within a fortnight, when the sweet dews fall, filled like a cellar. It is reported by some of the ancients, that there is a tree called *Occhus* in the valleys of *Hyrkania*, that distilleth honey in the mornings. It is not unlike that the sap and tears of some trees may be sweet. It may be also, that some sweet juices, fit for many uses, may be concocted out of fruits, to the thickness of honey, or perhaps of sugar; the likeliest are raisins of the sun, figs, and currans: the means may be enquired.

613. THE ancients report of a tree by the *Persian* sea, upon the shore sands, which is nourished with the salt water; and when the tide ebbeth, you shall see the roots as it were bare without bark, (being as it seemeth corroded by the salt) and grasping the sands like a crab; which nevertheless beareth a fruit.

fruit. It were good to try some hard trees, as a service tree, or fir tree; by setting them within the sands.

614. THERE be of plants which they use for garments, these that follow: hemp, flax, cotton, nettles, (whereof they make nettle cloth) *sericum*; which is a growing silk; they make also cables of the bark of lime trees. It is the stalk that maketh the filaceous matter commonly; and sometimes the down that groweth above.

615. THEY have in some countries a plant of a rosy colour, which shutteth in the night, openeth in the morning, and openeth wide at noon; which the inhabitants of those countries say is a plant that sleepeth. There be sleepers enough then; for almost all flowers do the like.

616. SOME plants there are, but rare, that have a mossy or downy root; and likewise that have a number of threads, like beards; as mandrakes; whereof witches and impostors make an ugly image, giving it the form of a face at the top of the root, and leave those strings to make a broad beard down to the foot. Also there is a kind of nard in *Crete*, (being a kind of *phu*) that hath a root hairy, like a rough-footed dove's foot. So as you may see, there are of roots bulbous roots, fibrous roots, and hirsute roots. And, I take it, in the bulbous, the sap hasteneth most to the air and sun: in the fibrous, the sap delighteth more in the earth, and therefore putteth downward: and the hirsute is a middle between both; that besides the putting forth upwards and downwards, putteth forth in round.

617. THERE are some tears of trees, which are kembed from the beards of goats: for when the goats bite and crop them, especially in the mornings, the dew being on, the tear cometh forth, and hangeth upon their beards: of this sort is some kind of *ladanum*.

618. THE irrigation of the plane tree by wine, is reported by the ancients to make it fruitful. It would be tried likewise with roots; for upon seeds it worketh no great effects.

619. THE way to carry foreign roots a long way, is to vessel them close in earthen vessels. But if the vessels be not very great, you must make some holes in the bottom, to give some refreshment to the roots; which otherwise (as it seemeth) will decay and suffocate.

620. THE ancient cinnamon was, of all other plants, while it grew, the dryest; and those things which are known to comfort other plants, did make that more sterile; for in showers it prospered worst: it grew also amongst bushes of other kinds, where commonly plants do not thrive; neither did it love the sun. There might be one cause of all those effects; namely, the sparing nourishment which that plant required. *Quaere*, how far *cassia*; which is now the substitute of cinnamon, doth participate of these things.

621. IT is reported by one of the ancients, that *cassia*, when it is gathered, is put into the skins of beasts newly flayed; and that the skins corrupting and breeding worms, the worms do devour the pith and marrow of it, and so make it hollow; but meddle not with the bark, because to them it is bitter.

622. THERE were in ancient time vines of far greater bodies than we know any; for there have been cups made of them, and an image of *Jupiter*. But it is like they were wild vines; for the vines that they use for wine, are so often cut, and so much digged and dressed, that their sap spendeth into the grapes, and so the stalk cannot increase much in bulk. The wood of vines is very durable, without rotting. And that which is strange, though no tree hath the twigs, while they are green, so brittle, yet the wood dried is ex-

treem tough ; and was used by the captains of armies amongst the *Roman*^s for their cudgels.

623. IT is reported, that in some places vines are suffered to grow like herbs, spreading upon the ground ; and that the grapes of those vines are very great. It were good to make trial, whether plants that use to be born up by props, will not put forth greater leaves and greater fruits if they be laid along the ground ; as hops, ivy, woodbine, &c.

624. QUINCES, or apples, &c. if you will keep them long, drown them in honey ; but because honey (perhaps) will give them a taste over-luscious, it were good to make trial in powder of sugar, or in syrup of wine, only boiled to height. Both these would likewise be tried in oranges, lemons, and pomgranates ; for the powder of sugar, and syrup of wine, will serve for times more than once.

625. THE conservation of fruit would be also tried in vessels filled with fine sand, or with powder of chalk ; or in meal and flower ; or in dust of oak wood ; or in mill.

626. SUCH fruits as you appoint for long keeping, you must gather before they be full ripe ; and in a fair and dry day towards noon ; and when the wind bloweth not south ; and when the moon is under the earth ; and in decrease.

627. TAKE grapes, and hang them in an empty vessel well stopped ; and set the vessel not in a cellar, but in some dry place ; and it is said they will last long. But it is reported by some, they will keep better in a vessel half full of wine, so that the grapes touch not the wine.

628. IT is reported, that the preserving of the stalk helpeth to preserve the grape ; especially if the stalk be put into the pith of elder, the elder not touching the fruit.

629. IT is reported by some of the ancients, that fruit put in bottles, and the bottles let down into wells under water, will keep long.

630. OF herbs and plants, some are good to eat raw ; as lettuce, endive, purslane, tarragon, cresses, cucumbers, musk-melons, radish, &c. others only after they are boiled, or have passed the fire ; as parsley, clary, sage, parsnips, turnips, asparagus, artichokes, (though they also being young are eaten raw :) but a number of herbs are not esculent at all ; as wormwood, grass, green corn, centaury, hyssop, lavender, balm, &c. The causes are, for that the herbs that are not esculent, do want the two tastes in which nourishment resteth ; which are fat and sweet ; and have (contrariwise) bitter and over-strong tastes, or a juice so crude, as cannot be ripened to the degree of nourishment. Herbs and plants that are esculent raw, have fatness, or sweetness, (as all esculent fruits ;) such are onions, lettuce, &c. But then it must be such a fatness (for as for sweet things, they are in effect always esculent) as is not over-gross, and loading of the stomach : for parsnips and leeks have fatness ; but it is too gross and heavy without boiling. It must be also in a substance somewhat tender ; for we see wheat, barley, artichokes, are no good nourishment till they have passed the fire ; but the fire doth ripen, and maketh them soft and tender, and so they become esculent. As for radish and tarragon, and the like, they are for condiments, and not for nourishment. And even some of those herbs which are not esculent, are notwithstanding poculent ; as hops, broom, &c. *Quaere*, what herbs are good for drink besides the two aforementioned ; for that it may (perhaps) ease the charge of brewing, if they make beer to require less malt, or make it last longer.

631. PARTS fit for the nourishment of man in plants are, seeds, roots, and
fruits ;

fruits; but chiefly seeds and roots. For leaves, they give no nourishment at all, or very little: no more do flowers, or blossoms, or stalks. The reason is, for that roots, and seeds, and fruits, (in as much as all plants consist of an oily and watery substance commixed) have more of the oily substance; and leaves, flowers, &c. of the watery. And secondly, they are more concocted; for the root which continueth ever in the earth, is still concocted by the earth; and fruits and grains, (we see) are half a year or more in concocting; whereas leaves are out and perfect in a month.

632. PLANTS (for the most part) are more strong both in taste and smell in the seed, than in the leaf and root. The cause is, for that in plants that are not of a fierce and eager spirit, the virtue is encreased by concoction and maturation, which is ever most in the seed; but in plants that are of a fierce and eager spirit, they are stronger whilst the spirit is inclosed in the root; and the spirits do but weaken and dissipate when they come to the air and sun; as we see it in onions, garlick, dragon, &c. Nay, there be plants that have their roots very hot and aromatical, and their seeds rather insipid; as ginger. The cause is (as was touched before) for that the heat of those plants is very dissipable: which under the earth is contained and held in; but when it cometh to the air it exhalet.

633. THE juices of fruits are either watery or oily. I reckon among the watery, all the fruits out of which drink is expressed; as the grape, the apple, the pear, the cherry, the pomgranate, &c. And there are some others which, though they be not in use for drink, yet they appear to be of the same nature; as plumbs, services, mulberries, rasps, oranges, lemons, &c. and for those juices that are so fleshy, as they cannot make drink by expression; yet (perhaps) they may make drink by mixture of water;

Poculaque admistis imitantur vitea sorbis.

And it may be hips and briar-berries would do the like. Those that have oily juices, are, olives, almonds, nuts of all sorts, pine-apples, &c. and their juices are all inflammable. And you must observe also, that some of the watery juices, after they have gathered spirit, will burn and inflame; as wine. There is a third kind of fruit that is sweet, without either sharpness or oiliness: such as is the fig and the date.

634. IT hath been noted, that most trees, and specially those that bear mast, are fruitful but once in two years. The cause (no doubt) is, the expence of sap; for many orchard trees, well cultured, will bear divers years together.

635. THERE is no tree, which besides the natural fruit, doth bear so many bastard fruits as the oak doth: for besides the acorns, it beareth galls, oak apples, and certain oak nuts, which are inflammable; and certain oak berries, sticking close to the body of the tree without stalk. It beareth also mistletoe, though rarely. The cause of all these may be, the closeness and solidness of the wood, and pith of the oak; which maketh several juices find several eruptions. And therefore if you will devise to make any super-plants, you must ever give the sap plentiful rising and hard issue.

636. THERE are two excrescences which grow upon trees; both of them in the nature of mushrooms: the one the Romans called *boletus*; which groweth upon the roots of oaks; and was one of the dainties of their table; the other is medicinal, that is called agarick, (whereof we have spoken before) which groweth upon the tops of oaks; though it be affirmed by some, that it groweth also at the roots. I do conceive, that many excrescences of
trees

trees grow chiefly where the tree is dead or faded ; for that the natural sap of the tree corrupteth into some preternatural substance.

637. THE greater part of trees bear most and best on the lower boughs ; as oaks, figs, walnuts, pears, &c. but some bear best on the top boughs ; as crabs, &c. Those that bear best below, are such as shade doth more good to than hurt. For generally all fruits bear best lowest ; because the sap tireth not, having but a short way : and therefore in fruits spread upon walls, the lowest are the greatest, as was formerly said : so it is the shade that hindereth the lower boughs ; except it be in such trees as delight in shade ; or at least bear it well. And therefore they are either strong trees, as the oak ; or else they have large leaves, as the walnut and fig ; or else they grow in *pyramis*, as the pear. But if they require very much sun, they bear best on the top ; as it is in crabs, apples, plumbs, &c.

638. THERE be trees that bear best when they begin to be old ; as almonds, pears, vines, and all trees that give mast. The cause is, for that all trees that bear mast, have an oily fruit ; and young trees have a more watery juice, and less concocted : and of the same kind also is the almond. The pear likewise, though it be not oily, yet it requireth much sap, and well concocted ; for we see it is a heavy fruit and solid ; much more than apples, plumbs, &c. As for the vine, it is noted, that it beareth more grapes when it is young ; but grapes that make better wine when it is old ; for that the juice is better concocted : and we see, that wine is inflammable ; so as it hath a kind of oiliness. But the most part of trees, amongst which are apples, plumbs, &c. bear best when they are young.

639. THERE be plants that have a milk in them when they are cut ; as figs, old lettuce, sow thistles, spurge, &c. The cause may be an inception of putrefaction : for those milks have all an acrimony ; though one would think they should be lenitive. For if you write upon paper with the milk of the fig, the letters will not be seen, until you hold the paper before the fire, and then they wax brown ; which sheweth that it is a sharp or fretting juice : lettuce is thought poisonous, when it is so old as to have milk ; spurge is a kind of poison in it self ; and as for sow thistles, though conies eat them, yet sheep and cattle will not touch them : and besides, the milk of them rubbed upon warts, in short time weareth them away ; which sheweth the milk of them to be corrosive. We see also, that wheat and other corn sown, if you take them forth of the ground before they sprout, are full of milk ; and the beginning of germination is ever a kind of putrefaction of the seed. *Euphorbium* also hath a milk, though not very white, which is of a great acrimony : and saladine hath a yellow milk, which hath likewise much acrimony ; for it cleanseth the eyes. It is good also for cataracts.

640. MUSHROOMS are reported to grow, as well upon the bodies of trees, as upon their roots, or upon the earth ; and especially upon the oak. The cause is, for that strong trees are towards such excrescences in the nature of earth ; and therefore put forth moss, mushrooms, and the like.

641. THERE is hardly found a plant that yieldeth a red juice in the blade or ear ; except it be the tree that beareth *sanguis draconis* ; which groweth (chiefly) in the island *Socotra* : the herb *amaranthus* (indeed) is red all over ; and brasil is red in the wood : and so is red sanders. The tree of the *sanguis draconis* groweth in the form of a sugar loaf. It is like the sap of that plant, concocteth in the body of the tree. For we see that grapes and pomgranates are red in the juice, but are green in the tear : and this maketh the tree
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of, *sanguis draconis* lesser towards the top; because the juice hasteneth not up; and besides, it is very astringent; and therefore of slow motion.

642. IT is reported, that sweet moss, besides that upon the apple trees, groweth likewise (sometimes) upon poplars; and yet (generally) the poplar is a smooth tree of bark, and hath little moss. The moss of the *larix* tree burneth also sweet, and sparkleth in the burning. *Quære* of the mosses of odorate trees; as cedar, cypress, *lignum aloes*, &c.

643. THE death that is most without pain, hath been noted to be upon the taking of the potion of hemlock; which in humanity was the form of execution of capital offenders in *Athens*. The poison of the asp, that *Cleopatra* used, hath some affinity with it. The cause is, for that the torments of death are chiefly raised by the strife of the spirits; and these vapours quench the spirits by degrees; like to the death of an extreme old man. I conceive it is less painful than *opium*, because *opium* hath parts of heat mixed.

644. THERE be fruits that are sweet before they be ripe: as myrobalanes; so fenel-seeds are sweet before they ripen, and after grow spicy. And some never ripen to be sweet; as tamarinds, berberries, crabs, sloes, &c. The cause is, for that the former kind have much and subtle heat, which causeth early sweetness; the latter have a cold and acid juice, which no heat of the sun can sweeten. But as for the myrobalane, it hath parts of contrary natures; for it is sweet and yet astringent.

645. THERE be few herbs that have a salt taste; and contrariwise all blood of living creatures hath a saltness. The cause may be, for that salt, though it be the rudiment of life, yet in plants the original taste remaineth not; for you shall have them bitter, sour, sweet, biting, but seldom salt: but in living creatures, all those high tastes may happen to be (sometimes) in the humours, but are seldom in the flesh or substance; because it is of a more oily nature; which is not very susceptible of those tastes; and the saltness it self of blood, is but a light and secret saltness: and even among plants, some do participate of saltness, as *alga marina*, samphire, scurvy-grass, &c. And they report, there is in some of the *Indian* seas a swimming plant, which they call *salgaxus*, spreading over the sea in such sort, as one would think it were a meadow. It is certain, that out of the ashes of all plants they extract a salt which they use in medicines.

646. IT is reported by one of the ancients, that there is an herb growing in the water, called *lincofsis*, which is full of prickles: this herb putteth forth another small herb out of the leaf; which is imputed to some moisture that is gathered between the prickles, which putrefied by the sun germinateth. But I remember also I have seen, for a great rarity, one rose grow out of another like honey-suckles, that they call top and top-gallants.

647. BARLEY (as appeareth in the malting) being steeped in water three days, and afterwards the water drained from it, and the barley turned upon a dry floor, will sprout half an inch long at least: and if it be let alone, and not turned, much more; until the heart be out. Wheat will do the same. Try it also with pease and beans. This experiment is not like that of the orpine, and semper-vive; for there it is of the old store, for no water is added; but here it is nourished from the water. The experiment would be farther driven: for it appeareth already, by that which hath been said, that earth is not necessary to the first sprouting of plants; and we see that rose buds set in water will blow: therefore try whether the sprouts of such grains may not be raised to a farther degree; as to an herb, or flower, with water only; or some small commixture of earth: for if they will, it should seem by the experiments

periments before, both of the malt and of the roses, that they will come far faster on in water than in earth: for the nourishment is easilier drawn out of water, than out of earth. It may give some light also, that drink infused with flesh, as that with the capon, &c. will nourish faster and easilier than meat and drink together. Try the same experiment with roots as well as with grains: as for example, take a turnip, and steep it a while, and then dry it, and see whether it will sprout.

648. MALT in the drenching will swell; and that in such a manner, as after the putting forth in sprouts, and the drying upon the kiln, there will be gained at least a bushel in eight, and yet the sprouts are rubbed off; and there will be a bushel of dust besides the malt: which I suppose to be, not only by the loose and open laying of the parts, but by some addition of substance drawn from the water in which it was steeped.

649. MALT gathereth a sweetness to the taste, which appeareth yet more in the wort. The dulcoration of things is worthy to be tried to the full; for that dulcoration importeth a degree to nourishment: and the making of things inalimental, to become alimental, may be an experiment of great profit for making new victual.

650. MOST seeds in the growing, leave their husk or rind about the root; but the onion will carry it up, that it will be like a cap upon the top of the young onion. The cause may be, for that the skin or husk is not easy to break; as we see by the pilling of onions, what a holding substance the skin is.

651. PLANTS, that have curled leaves, do all abound with moisture; which cometh so fast on, as they cannot spread themselves plain, but must needs gather together. The weakest kind of curling is roughness; as in clary and burr. The second is curling on the sides; as in lettuce, and young cabbage: and the third is folding into an head; as in cabbage full grown, and cabbage lettuce.

652. IT is reported, that fir and pine, especially if they be old and putrefied, though they shine not as some rotten woods do, yet in the sudden breaking they will sparkle like hard sugar.

653. THE roots of trees do (some of them) put downwards deep into the ground; as the oak, pine, fir, &c. Some spread more towards the surface of the earth; as the ash, cypress tree, olive, &c. The cause of this latter may be, for that such trees as love the sun, do not willingly descend far into the earth; and therefore they are (commonly) trees that shoot up much; for in their body, their desire of approach to the sun maketh them spread the less. And the same reason under ground, to avoid recess from the sun, maketh them spread the more. And we see it cometh to pass in some trees which have been planted too deep in the ground, that for love of approach to the sun, they forsake their first root, and put out another more towards the top of the earth. And we see also, that the olive is full of oily juice; and ash maketh the best fire; and cypress is an hot tree. As for the oak, which is of the former sort, it loveth the earth; and therefore groweth slowly. And for the pine and fir likewise, they have so much heat in themselves, as they need less the heat of the sun. There be herbs also that have the same difference; as the herb they call *morfus diaboli*; which putteth the root down so low, as you cannot pull it up without breaking; which gave occasion to the name and fable; for that it was said, it was so wholesome a root, that the devil, when it was gathered, bit it for envy: and some of the ancients do report, that there was a goodly fir, which they desired to remove whole, that had a root under ground eight cubits deep; and so the root came up broken.

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654. IT hath been observed, that a branch of a tree, being unbarked some space at the bottom, and so set into the ground, hath grown; even of such trees, as if the branch were set with the bark on, they would not grow; yet contrariwise we see, that a tree pared round in the body above ground, will die. The cause may be, for that the unbarked part draweth the nourishment best, but the bark continueth it only.

655. GRAPES will continue fresh and moist all winter long, if you hang them cluster by cluster in the roof of a warm room; especially if when you gather the cluster, you take off with the cluster some of the stock.

656. THE reed or cane is a watry plant; and groweth not but in the water; it hath these properties; that it is hollow; that it is knuckled both stalk and root; that being dry, it is more hard and fragile than other wood, that it putteth forth no boughs, though many stalks out of one root. It differeth much in greatness; the smallest being fit for thatching of houses; and stopping the chinks of ships; better than glew or pitch. The second bigness is used for angle-rods and staves; and in *China* for beating of offenders upon the thighs. The differing kinds of them are; the common reed; the *cassia fistula*; and the sugar reed. Of all plants it boweth the easiest, and riseth again. It seemeth, that amongst plants which are nourished with mixture of earth and water, it draweth most nourishment from water; which maketh it the smoothest of all others in bark, and the hollowest in body.

657. THE sap of trees when they are let blood, is of differing natures. Some more watery and clear; as that of vines, of beeches, of pears: some thick, as apples: some gummy, as cherries: some frothy; as elms: some milky, as figs. In mulberries, the sap seemeth to be (almost) towards the bark only; for if you cut the tree a little into the bark with a stone, it will come forth; if you pierce it deeper with a tool, it will be dry. The trees which have the moistest juices in their fruit, have commonly the moistest sap in their body; for the vines and pears are very moist; apples somewhat more spongy: the milk of the fig hath the quality of the rennet, to gather cheese: and so have certain four herbs wherewith they make cheese in *Lent*.

658. THE timber and wood are in some trees more clean, in some more knotty; and it is a good trial, to try it by speaking at one end, and laying the ear at the other: for if it be knotty, the voice will not pass well. Some have the veins more varied and chambletted; as oak, whereof wainscot is made; maple, whereof trenchers are made: some more smooth, as fir and walnut: some do more easily breed worms and spiders; some more hardly, as it is said of *Irish* trees: besides there be a number of differences that concern their use; as oak, cedar, and chestnut, are the best builders: some are best for plough timber, as ash; some for peers, that are sometimes wet and sometimes dry, as elm; some for plachers, as deal; some for tables, cupboards, and desks, as walnuts; some for ship timber, as oaks that grow in moist grounds; for that maketh the timber tough, and not apt to rift with ordnance; wherein *English* and *Irish* timber are thought to excel: some for masts of ships, as fir and pine, because of their length, straightness, and lightness: some for pale, as oak; some for fuel, as ash; and so of the rest.

659. THE coming of trees and plants in certain regions, and not in others, is sometimes casual: for many have been translated, and have prospered well; as damask roses, that have not been known in *England* above an hundred years, and now are so common. But the liking of plants in certain soils more than in others, is merely natural; as the fir and pine love the

mountains; the poplar, willow, fallow, and alder, love rivers and moist places; the ash loveth coppices, but is best in standards alone; juniper loveth chalk; and so do most fruit trees; samphire groweth but upon rocks; reeds and osiers grow where they are washed with water; the vine loveth sides of hills, turning upon the south-east sun, &c.

660. THE putting forth of certain herbs, discovereth of what nature the ground where they put forth is; as wild thyme sheweth good feeding ground for cattel; betony and strawberries shew grounds fit for wood; camomile sheweth mellow grounds fit for wheat. Mustard-feed, growing after the plough, sheweth a good strong ground also for wheat: burnet sheweth good meadow, and the like.

661. THERE are found in divers countries some other plants that grow out of trees, and plants, besides misseltoe: as in *Syria*, there is an herb called *cassytas*, that groweth out of tall trees, and windeth it self about the same tree where it groweth, and sometimes about thorns. There is a kind of polypode that groweth out of trees, though it windeth not. So likewise an herb called *faunos*, upon the wild olive. And an herb called *hippophaeston* upon the fullers thorn; which, they say, is good for the falling-sickness.

662. IT hath been observed by some of the ancients, that howsoever cold and easterly winds are thought to be great enemies to fruit, yet nevertheless south winds are also found to do hurt, especially in the blossoming time; and the more, if showers follow. It seemeth, they call forth the moisture too fast. The west winds are the best. It hath been observed also, that green and open winters do hurt trees; insomuch as if two or three such winters come together, almond trees, and some other trees, will die. The cause is the same with the former, because the lust of the earth over-spendeth it self; howsoever some other of the ancients have commended warm winters.

663. SNOWS lying long cause a fruitful year; for first, they keep in the strength of the earth; secondly, they water the earth better than rain: for in snow, the earth doth (as it were) suck the water, as out of the teat: thirdly, the moisture of snow is the finest moisture, for it is the froth of the cloudy waters.

664. SHOWERS, if they come a little before the ripening of fruits, do good to all succulent and moist fruits; as vines, olives, pomgranates; yet it is rather for plenty than for goodness; for the best wines are in the driest vintages: small showers are likewise good for corn, so as parching heats come not upon them. Generally night showers are better than day showers, for that the sun followeth not so fast upon them; and we see even in watering by the hand, it is best in summer time to water in the evening.

665. THE differences of earths, and the trial of them, are worthy to be diligently inquired. The earth, that with showers doth easiliest soften, is commended; and yet some earth of that kind will be very dry and hard before the showers. The earth that casteth up from the plough a great clod, is not so good as that which casteth up a smaller clod. The earth that putteth forth moss easily, and may be called mouldy, is not good. The earth that smelleth well upon the digging, or ploughing, is commended; as containing the juice of vegetables almost already prepared. It is thought by some, that the ends of low rain-bows fall more upon one kind of earth than upon another; as it may well be; for that the earth is most roscid: and therefore it is commended for a sign of good earth. The poorness of the herbs (it is plain) shew the poorness of the earth; and especially if they be in colour more dark: but if the herbs shew withered, or blasted at the top,

top, it sheweth the earth to be very cold ; and so doth the mossiness of trees. The earth, whereof the grass is soon parched with the sun, and toasted, is commonly forced earth, and barren in its own nature. The tender, cheffom, and mellow earth, is the best, being mere mould, between the two extrems of clay and sand, especially if it be not loamy and binding. The earth, that after rain will scarce be ploughed, is commonly fruitful : for it is cleaving, and full of juice.

666. It is strange, which is observed by some of the ancients, that dust helpeth the fruitfulness of trees, and of vines by name ; inasmuch as they cast dust upon them of purpose. It should seem, that that powdering, when a shower cometh, maketh a kind of soiling to the tree, being earth and water finely laid on. And they note, that countries where the fields and ways are dusty bear the best vines.

667. It is commended by the ancients for an excellent help to trees, to lay the stalks and leaves of lupins about the roots, or to plough them into the ground where you will sow corn. The burning also of the cuttings of vines, and casting them upon land, doth much good. And it was generally received of old, that dunging of grounds when the west wind bloweth, and in the decrease of the moon, doth greatly help ; the earth (as it seemeth) being then more thirsty and open to receive the dung.

668. THE grafting of vines upon vines (as I take it) is not now in use : the ancients had it, and that three ways : the first was incision, which is the ordinary manner of grafting : the second was terebration through the middle of the stock, and putting in the cions there : and the third was paring of two vines that grow together to the marrow, and binding them close.

669. THE diseases and ill accidents of corn, are worthy to be enquired ; and would be more worthy to be enquired, if it were in mens power to help them ; whereas many of them are not to be remedied. The mildew is one of the greatest, which (out of question) cometh by closeness of air ; and therefore in hills, or large champain grounds, it seldom cometh ; such as is with us *York's* woald. This cannot be remedied, otherwise than that in countries of small enclosure, the grounds be turned into larger fields : which I have known to do good in some farms. Another disease is the putting forth of wild oats, whereinto corn oftentimes (especially barley) doth degenerate. It happeneth chiefly from the weakness of the grain that is sown ; for if it be either too old, or mouldy, it will bring forth wild oats. Another disease is the satiety of the ground ; for if you sow one ground still with the same corn, (I mean not the same corn that grew upon the same ground) but the same kind of grain, (as wheat, barley, &c.) it will prosper but poorly : therefore, besides the resting of the ground, you must vary the seed. Another ill accident is from the winds, which hurt at two times ; at the flowering, by shaking off the flowers ; and at the full ripening, by shaking out the corn. Another ill accident is drought, at the spinning of the corn, which with us is rare, but in hotter countries common : inasmuch as the word *calamitas* was first derived from *calamus*, when the corn could not get out of the stalk. Another ill accident is over-wet at sowing time, which with us breedeth much dearth, inasmuch as the corn never cometh up ; and (many times) they are forced to re-sow summer corn, where they sowed winter corn. Another ill accident is bitter frosts continued without snow, especially in the beginning of the winter, after the seed is new sown. Another disease is worms ; which sometimes breed in the root, and happen upon hot suns and showers, immediately after the sowing ; and

another worm breedeth in the ear it self; especially when hot suns break often out of clouds. Another disease is weeds; and they are such as either choak and overshadow the corn, and bear it down; or starve the corn, and deprive it of nourishment. Another disease is over-rankness of the corn; which they use to remedy, by mowing it after it is come up; or putting sheep into it. Another ill accident, is laying of corn with great rains, near or in harvest. Another ill accident is, if the seed happen to have touched oil, or any thing that is fat; for those substances have an antipathy with nourishment of water.

670. THE remedies of the diseases of corn have been observed as followeth. The steeping of the grain before sowing, a little time in wine, is thought a preservative: the mingling of seed corn with ashes, is thought to be good: the sowing at the wane of the moon, is thought to make the corn sound: it hath not been practised, but it is thought to be of use, to make some miscellane in corn; as if you sow a few beans with wheat, your wheat will be the better. It hath been observed, that the sowing of corn with housleek doth good. Though grain, that toucheth oil or fat, receiveth hurt, yet the steeping of it in the dregs of oil, when it beginneth to putrefy, (which they call *amurca*) is thought to assure it against worms. It is reported also, that if corn be mowed, it will make the grain longer, but emptier, and having more of the husk.

671. IT hath been noted, that seed of a year old is the best; and of two or three years is worse; and that which is more old is quite barren; though (no doubt) some seed and grains last better than others. The corn which in the vanning lieth lowest is the best: and the corn, which broken or bitten retaineth a little yellowness, is better than that which is very white.

672. IT hath been observed, that of all roots of herbs, the root of forrel goeth the farthest into the earth; insomuch as it hath been known to go three cubits deep; and that it is the root that continueth fit (longest) to be set again, of any root that groweth. It is a cold and acid herb, that (as it seemeth) loveth the earth, and is not much drawn by the sun.

673. It hath been observed, that some herbs like best being watered with salt water; as radish, beet, rue, pennyroyal; this trial would be extended to some other herbs; especially such as are strong, as tarragon, mustard-feed, rocket, and the like.

674. IT is strange that is generally received, how some poisonous beasts affect odorate and wholesome herbs; as that the snake loveth fenel; that the toad will be much under sage; that frogs will be in cinquefoil. It may be it is rather the shade, or other coverture, that they take liking in, than the virtue of the herb.

675. IT were a matter of great profit, (save that I doubt it is too conjectural to venture upon) if one could discern what corn, herbs, or fruits, are like to be in plenty or scarcity, by some signs and prognosticks in the beginning of the year: for as for those that are like to be in plenty, they may be bargained for upon the ground; as the old relation was of *Thales*; who to shew how easy it was for a philosopher to be rich, when he foresaw a great plenty of olives, made a monopoly of them. And for scarcity, men may make profit in keeping better the old store. Long continuance of snow is believed to make a fruitful year of corn: an early winter, or a very late winter, a barren year of corn: an open and serene winter, an ill fruit of year: these we have partly touched before: but other prognosticks of like nature are diligently to be enquired;

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676. THERE seem to be in some plants, singularities, wherein they differ from all other; the olive hath the oily part only on the outside; whereas all other fruits have it in the nut or kernel. The fir hath (in effect) no stone, nut, nor kernel; except you will count the little grains kernels. The pomgranate and pine-apple have only amongst fruits grains distinct in several cells. No herbs have curled leaves, but cabbage and cabbage lettuce. None have double leaves, one belonging to the stalk, another to the fruit or seed, but the artichoke. No flower hath that kind of spread that the woodbine hath. This may be a large field of contemplation; for it sheweth that in the frame of nature, there is, in the producing of some species, a composition of matter, which happeneth oft, and may be much diversified: in others, such as happeneth rarely, and admitteth little variety: for so it is likewise in beasts: dogs have a resemblance with wolves and foxes; horses with asses; kine with buffles; hares with conies, &c. And so in birds: kites and kestrels have a resemblance with hawks; common doves with ring-doves and turtles; black birds with thrushes and mavises; crows with ravens, daws, and choughs, &c. But elephants and swine amongst beasts; and the bird of paradise and the peacock amongst birds; and some few others; have scarce any other species that have affinity with them.

We leave the description of plants, and their virtues, to herbals, and other like books of natural history; wherein mens diligence hath been great, even to curiosity: for our experiments are only such, as do ever ascend a degree to the deriving of causes, and extracting of axioms, which we are not ignorant but that some both of the ancient and modern writers, have also laboured; but their causes and axioms are so full of imagination, and so infected with the old received theories, as they are mere inquisitions of experience, and concoct it not.

Experiment solitary touching healing of wounds.

677. It hath been observed by some of the ancients, that skins (especially of rams) newly pulled off, and applied to the wounds of stripes, do keep them from swelling and exulcerating; and likewise heal them and close them up; and that the whites of eggs do the same. The cause is a temperate conglutination; for both bodies are clammy and viscous, and do bridle the deflux of humours to the hurts, without penning them in too much.

Experiment solitary touching fat diffused in flesh.

678. You may turn (almost) all flesh into a fatty substance, if you take flesh, and cut it into pieces, and put the pieces into a glass covered with parchment; and so let the glass stand six or seven hours in boiling water. It may be an experiment of profit for making of fat, or grease, for many uses; but then it must be of such flesh as is not edible; as horses, dogs, bears, foxes, badgers, &c.

Experiment solitary touching ripening of drink before the time.

679. It is reported by one of the ancients, that new wine put into vessels well stopped, and the vessels let down into the sea, will accelerate very much the making of them ripe and potable. The same would be tried in wort.

Experiment solitary touching pilosity and plumage.

680. BEASTS are more hairy than men, and savage men more than civil;

vil ; and the plumage of birds exceedeth the pilosity of beasts. The cause of the smoothness in men is not any abundance of heat and moisture, tho' that indeed causeth pilosity ; but there is requisite to pilosity, not so much heat and moisture as excrementitious heat and moisture ; (for whatsoever assimilath, goeth not into the hair :) and excrementitious moisture aboundeth most in beasts, and men that are more savage. Much the same reason is there of the plumage of birds ; for birds assimilate less, and excern more than beasts ; for their excrements are ever liquid, and their flesh (generally) more dry : beside, they have not instruments for urine ; and so all the excrementitious moisture goeth into the feathers : and therefore it is no marvel, though birds be commonly better meat than beasts, because their flesh doth assimilate more finely, and fecerneth more subtilly. Again, the head of man hath hair upon the first birth, which no other part of the body hath. The cause may be want of perspiration ; for much of the matter of hair, in the other parts of the body, goeth forth by insensible perspiration ; and besides, the skull being of a more solid substance, nourisheth and assimilath less, and excerneth more ; and so likewise doth the chin. We see also, that hair cometh not upon the palms of the hands, nor soles of the feet ; which are parts more perspirable. And children likewise are not hairy, for that their skins are more perspirable.

Experiment solitary touching the quickness of motion in birds.

681. BIRDS are of swifter motion than beasts ; for the flight of many birds is swifter than the race of any beasts. The cause is, for that the spirits in birds are in greater proportion, in comparison of the bulk of their body, than in beasts : for as for the reason that some give, that they are partly carried, whereas beasts go, that is nothing ; for by that reason swimming should be swifter than running : and that kind of carriage also is not without labour of the wing.

Experiment solitary touching the different clearness of the sea.

682. THE sea is clearer when the north wind bloweth, than when the south wind. The cause is, for that salt water hath a little oiliness in the surface thereof, as appeareth in very hot days : and again, for that the southern wind relaxeth the water somewhat ; and no water boiling is so clear as cold water.

Experiment solitary touching the different heats of fire and boiling water.

683. FIRE burneth wood, making it first luminous ; then black and brittle ; and lastly, broken and incinerate : scalding water doth none of these. The cause is, for that by fire the spirit of the body is first refined, and then emitted ; whereof the refining or attenuation causeth the light ; and the emission, first the fragility, and after the dissolution into ashes ; neither doth any other body enter : but in water the spirit of the body is not refined so much ; and besides part of the water entereth, which doth increase the spirit, and in a degree extinguish it : therefore we see that hot water will quench fire. And again we see, that in bodies wherein the water doth not much enter, but only the heat passeth, hot water worketh the effects of fire : As in eggs boiled and roasted, (into which the water entereth not at all,) there is scarce difference to be discerned ; but in fruit, and flesh, whereinto the water entereth in some part, there is much more difference.

Experiment solitary touching the qualification of heat by moisture.

684. THE bottom of a vessel of boiling water (as hath been observed) is not very much heated, so as men may put their hand under the vessel and remove it. The cause is, for that the moisture of water as it quencheth coals where it entereth, so it doth allay heat where it toucheth: and therefore note well, that moisture, although it doth not pass through bodies, without communication of some substance, (as heat and cold do;) yet it worketh manifest effects; not by entrance of the body, but by qualifying of the heat and cold; as we see in this instance: and we see likewise, that the water of things distilled in water, (which they call the bath) differeth not much from the water of things distilled by fire. We see also, that pewter dishes with water in them will not melt easily, but without it they will; nay we see more, that butter, or oil, which in themselves are inflammable, yet by the virtue of their moisture will do the like.

Experiment solitary touching yawning.

685. IT hath been noted by the ancients, that it is dangerous to pick one's ear whilst he yawneth. The cause is, for that in yawning the inner parchment of the ear is extended, by the drawing in of the spirit and breath; for in yawning, and sighing both, the spirit is first strongly drawn in, and then strongly expelled.

Experiment solitary touching the hiccough.

686. IT hath been observed by the ancients, that sneezing doth cease the hiccough. The cause is, for that the motion of the hiccough is a lifting up of the stomach, which sneezing doth somewhat depress and divert the motion another way. For first we see that the hiccough cometh of fulness of meat, (especially in children) which causeth an extension of the stomach: we see also it is caused by acid meats, or drinks, which is by the pricking of the stomach; and this motion is ceased either by diversion, or by detention of the spirits; diversion, as in sneezing; detention, as we see holding of the breath doth help somewhat to cease the hiccough; and putting a man into an earnest study doth the like, as is commonly used: and vinegar put to the nostrils, or gargarized, doth it also; for that it is astringent, and inhibiteth the motion of the spirit.

Experiment solitary touching sneezing.

687. LOOKING against the sun doth induce sneezing. The cause is not the heating of the nostrils, for then the holding up of the nostrils against the sun, though one wink, would do it; but the drawing down of the moisture of the brain: for it will make the eyes run with water; and the drawing of moisture to the eyes, doth draw it to the nostrils by motion of consent; and so followeth sneezing: as contrariwise, the tickling of the nostrils within, doth draw the moisture to the nostrils, and to the eyes by consent; for they also will water. But yet it hath been observed, that if one be about to sneeze, the rubbing of the eyes till they run with water, will prevent it. Whereof the cause is, for that the humour which was descending to the nostrils, is diverted to the eyes.

Experiment solitary touching the tenderneſs of the teeth.

688. THE teeth are more by cold drink or the like affected than the other parts.

parts. The cause is double; the one, for that the resistance of bone to cold is greater than of flesh, for that the flesh shrinketh, but the bone resisteth, whereby the cold becometh more eager: the other is, for that the teeth are parts without blood; whereas blood helpeth to qualify the cold; and therefore we see that the sinews are much affected with cold, for that they are parts without blood; so the bones in sharp colds wax brittle: and therefore it hath been seen, that all contusions of bones in hard weather are more difficult to cure.

Experiment solitary touching the tongue.

689. IT hath been noted, that the tongue receiveth more easily tokens of diseases than the other parts; as of heats within, which appear most in the blackness of the tongue. Again, pyed cattle are spotted in their tongues, &c. The cause is, (no doubt) the tenderness of the part; which thereby receiveth more easily all alterations, than any other parts of the flesh.

Experiment solitary touching the taste.

690. WHEN the mouth is out of taste, it maketh things taste sometimes salt, chiefly bitter; and sometimes loathsome, but never sweet. The cause is, the corrupting of the moisture about the tongue, which many times turneth bitter, and salt, and loathsome, but sweet never; for the rest are degrees of corruption.

Experiment solitary touching some prognosticks of pestilential seasons.

691. IT was observed in the great plague of the last year, that there were seen in divers ditches and low grounds about London, many toads, that had tails two or three inches long at the least; whereas toads (usually) have no tails at all. Which argueth a great disposition to putrefaction in the soil and air. It is reported likewise, that roots, (such as carrots and parsnips) are more sweet and luscious in infectious years, than in other years.

Experiment solitary touching special simples for medicines.

692. WISE physicians should with all diligence enquire, what simples nature yieldeth, that have extreme subtile parts, without any mordication or acrimony: for they undermine that which is hard; they open that which is stopped and shut; and they expel that which is offensive gently, without too much perturbation. Of this kind are elder-flowers; which therefore are proper for the stone: of this kind is the dwarf-pine; which is proper for the jaundice: of this kind is hartshorn; which is proper for agues and infections; of this kind is piony; which is proper for stoppings in the head: of this kind is fumitory; which is proper for the spleen: and a number of others. Generally, divers creatures bred of putrefaction, though they be somewhat loathsome to take, are of this kind; as earth-worms, timber-fows, snails, &c. And I conceive that the trochisks of vipers, (which are so much magnified) and the flesh of snakes some ways condited, and corrected, (which of late are grown into some credit) are of the same nature. So the parts of beasts putrefied, (as *castoreum* and musk, which have extream subtile parts) are to be placed amongst them. We see also, that putrefaction of plants, as agarick and Jews-ear, are of greatest virtue. The cause is, for that putrefaction is the subtilest of all motions in the parts of bodies: and since we cannot take down the lives of living creatures, which some of the *Paracelsians* say
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(if they could be taken down) would make us immortal : the next is for subtilty of operation, to take bodies putrefied ; such as may be safely taken.

Experiments in consort touching Venus.

693. IT hath been observed by the ancients, that much use of *Venus* doth dim the sight ; and yet eunuchs, which are unable to generate, are (nevertheless) also dim-sighted. The cause of dimness of sight in the former, is the expence of spirits ; in the latter, the over-moisture of the brain : for the over-moisture of the brain doth thicken the spirits visual, and obstructeth their passages ; as we see by the decay in the sight in age ; where also the diminution of the spirits concurrereth as another cause : we see also that blindness cometh by rheums and cataracts. Now in eunuchs, there are all the notes of moisture ; as the swelling of their thighs, the looseness of their belly, the smoothness of their skin, &c.

694. THE pleasure in the act of *Venus*, is the greatest of all the pleasures of the senses ; the matching of it with itch is improper, though that also be pleasing to the touch. But the causes are profound. First, all the organs of the senses qualify the motions of the spirits ; and make so many several species of motions, and pleasures or displeasures thereupon, as there be diversities of organs. The instruments of sight, hearing, taste and smell, are of several frame ; and so are the parts for generation. Therefore *Scaliger* doth well to make the pleasure of generation a sixth sense ; and if there were any other differing organs, and qualified perforations for the spirits to pass, there would be more than the five senses : neither do we well know, whether some beasts and birds have not senses that we know not ; and the very scent of dogs is almost a sense by itself. Secondly, the pleasures of the touch, are greater and deeper than those of the other senses ; as we see in warming upon cold ; or refrigeration upon heat : for as the pains of the touch, are greater than the offences of other senses ; so likewise are the pleasures. It is true, that the affecting of the spirits immediately, and (as it were) without an organ, is of the greatest pleasure ; which is but in two things : sweet smells ; and wine, and the like sweet vapours. For smells, we see their great and sudden effect in fetching men again when they swoon : for drink, it is certain that the pleasure of drunkenness is next the pleasure of *Venus* ; and great joys (likewise) make the spirits move and touch themselves : and the pleasure of *Venus* is somewhat of the same kind.

695. IT hath been always observed, that men are more inclined to *Venus* in the winter, and women in the summer. The cause is, for that the spirits, in a body more hot and dry, (as the spirits of men are) by the summer are more exhaled and dissipated ; and in the winter more condensed and kept entire : but in bodies that are cold and moist, (as women's are) the summer doth cherish the spirits, and calleth them forth ; the winter doth dull them. Furthermore, the abstinence, or intermission of the use of *Venus* in moist and well habituate bodies, breedeth a number of diseases ; and especially dangerous impostumations. The reason is evident ; for that it is a principal evacuation, especially of the spirits : for of the spirits, there is scarce any evacuation, but in *Venus* and exercise. And therefore the omission of either of them breedeth all diseases of repletion.

Experiments in consort touching the infecta.

The nature of vivification is very worthy the enquiry : and as the nature of things is commonly better perceived in small than in great ; and in im-

perfect, than in perfect; and in parts, than in whole: so the nature of vivification is best enquired in creatures bred of putrefaction. The contemplation whereof hath many excellent fruits. First, in disclosing the original of vivification. Secondly, in disclosing the original of figuration. Thirdly, in disclosing many things in the nature of perfect creatures, which in them lie more hidden. And fourthly, in traducing, by way of operation, some observations in the *insecta*, to work effects upon perfect creatures. Note, that the word *insecta* agreeth not with the matter, but we ever use it for brevity's sake, intending by it creatures bred of putrefaction.

696. THE *insecta* are found to breed out of several matters: some breed of mud or dung; as the earth-worms, eels, snakes, &c. For they are both putrefactions: for water in mud doth putrefy, as not able to preserve it self: and for dung, all excrements are the refuse and putrefactions of nourishment. Some breed in wood, both growing and cut down. *Quaere*, in what woods most, and at what seasons? We see that the worms with many feet, which round themselves into balls, are bred chiefly under logs of timber, but not in the timber; and they are said to be found also (many times) in gardens, where no logs are. But it seemeth their generation requireth a coverture, both from sun, and rain or dew; as the timber is; and therefore they are not venomous, but (contrariwise) are held by the physicians to clarify the blood. It is observed also, that *cimices* are found in the holes of bed sides. Some breed in the hair of living creatures; as lice and tikes; which are bred by the sweat close kept, and somewhat aried by the hair. The excrements of living creatures do not only breed *insecta* when they are excerned, but also while they are in the body; as in worms whereto children are most subject, and are chiefly in the guts. And it hath been lately observed by physicians, that in many pestilent diseases, there are worms found in the upper parts of the body, where excrements are not, but only humours putrefied. Fleas breed principally of straw or mats, where there hath been a little moisture; or the chamber and bed-straw kept close, and not aired. It is received, that they are killed by strewing wormwood in the rooms. And it is truly observed, that bitter things are apt rather to kill, than engender putrefaction; and they be things that are fat or sweet, that are aptest to putrefy. There is a worm that breedeth in meal, of the shape of a large white maggot, which is given as a great dainty to nightingales. The moth breedeth upon cloth, and other lanifices; especially if they be laid up dankish and wet. It delighteth to be about the flame of a candle. There is a worm called a wevil, bred under ground, and that feedeth upon roots; as parsnips, carrots, &c. Some breed in waters, especially shaded, but they must be standing waters; as the water spider that hath six legs. The fly called the gad-fly, breedeth of somewhat that swimmeth upon the top of the water, and is most about ponds. There is a worm that breedeth of the dregs of wine decayed; which afterwards (as is observed by some of the ancients) turneth into a gnat. It hath been observed by the ancients, that there is a worm that breedeth in old snow, and is of colour reddish, and dull of motion, and dieth soon after it cometh out of snow. Which should shew, that snow hath in it a secret warmth; for else it could hardly vivify. And the reason of the dying of the worm, may be the sudden exhaling of that little spirit, as soon as it cometh out of the cold, which had shut it in. For as butterflies quicken with heat, which were benumbed with cold; so spirits may exhale with heat, which were preserved in cold. It is affirmed both by the ancient and modern observation, that in furnaces of copper and brass, where

where *chalcites* (which is vitriol) is often cast in to mend the working, there riseth suddenly a fly, which sometimes moveth as if it took hold on the walls of the furnace; sometimes is seen moving in the fire below; and dieth presently as soon as it is out of the furnace: which is a noble instance, and worthy to be weighed; for it sheweth, that as well violent heat of fire, as the gentle heat of living creatures, will vivify, if it have matter proportionable. Now the great axiom of vivification is, that there must be heat to dilate the spirit of the body; an active spirit to be dilated; matter viscous or tenacious to hold in the spirit; and that matter to be put forth and figured. Now a spirit dilated by so ardent a fire as that of the furnace, as soon as ever it cooleth never so little, congealeth presently. And (no doubt) this action is furthered by the *chalcites*, which hath a spirit that will put forth and germinate, as we see in chymical trials. Briefly, most things putrefied bring forth *insecta* of several names; but we will not take upon us now to enumerate them all.

697. THE *insecta* have been noted by the ancients to feed little: but this hath not been diligently observed; for grasshoppers eat up the green of whole countries; and silk-worms devour leaves swiftly; and ants make great provision. It is true, that creatures that sleep and rest much eat little; as dormice, and bats, &c. they are all without blood: which may be, for that the juice of their bodies is almost all one; not blood, and flesh, and skin, and bone, as in perfect creatures; the integral parts have extreme variety, but the simular parts little. It is true, that they have (some of them) a diaphragm and an intestine; and they have all skins; which in most of the *insecta* are cast off. They are not (generally) of long life: yet bees have been known to live seven years: and snakes are thought, the rather for the casting of their spoil, to live till they be old: and eels, which many times breed of putrefaction, will live and grow very long: and those that interchange from worms to flies in the summer, and from flies to worms in the winter, have been kept in boxes four years at the least. Yet there are certain flies that are called *ephemera* that live but a day. The cause is the exility of the spirit, or perhaps the absence of the sun; for that if they were brought in, or kept close, they might live longer. Many of the *insecta*, (as butterflies, and other flies) revive easily when they seem dead, being brought to the sun, or fire. The cause whereof is the diffusion of the vital spirit, and easy dilating of it by a little heat. They stir a good while after their heads are off, or that they be cut in pieces; which is caused also, for that their vital spirits are more diffused throughout all their parts, and less confined to organs than in perfect creatures.

698. THE *insecta* have voluntary motion, and therefore imagination; and whereas some of the ancients have said that their motion is indeterminate, and their imagination indefinite, it is negligently observed; for ants go right forwards to their hills; and bees do (admirably) know the way from a flowery heath two or three miles off to their hives. It may be, gnats and flies have their imagination more mutable and giddy, as small birds likewise have. It is said by some of the ancients, that they have only the sense of feeling, which is manifestly untrue; for if they go forth-right to a place, they must needs have sight; besides, they delight more in one flower or herb than in another, and therefore have taste: and bees are called with sound upon brass, and therefore they have hearing; which sheweth likewise, that though their spirit be diffused, yet there is a seat of their senses in their head.

OTHER observations concerning the *insecta*, together with the enumeration of them, we refer to that place, where we mean to handle the title of animals in general.

Experiment solitary touching leaping.

699. A man leapeth better with weights in his hands than without. The cause is, for that the weight (if it be proportionable) strengtheneth the sinews by contracting them. For otherwise, where no contraction is needful, weight hindereth. As we see in horse-races, men are curious to foresee that there be not the least weight upon the one horse more than upon the other. In leaping with weights the arms are first cast backwards, and then forwards, with so much the greater force; for the hands go backward before they take their rise. *Quære*, if the contrary motion of the spirits, immediately before the motion we intend, doth not cause the spirits as it were to break forth with more force? as breath also drawn and kept in, cometh forth more forcibly: and in casting of any thing, the arms, to make a greater swing, are first cast backward.

Experiment solitary touching the pleasures and displeasures of the senses, especially of hearing.

700. OF musical tones and unequal sounds we have spoken before; but touching the pleasure and displeasure of the senses, not so fully. Harsh sounds, as of a saw when it is sharpen'd; grinding of one stone against another; squeaking or shrieking noise; make a shivering or horror in the body, and set the teeth on edge. The cause is, for that the objects of the ear do affect the spirits (immediately) most with pleasure and offence. We see there is no colour that affecteth the eye much with displeasure: there be sights that are horrible, because they excite the memory of things that are odious, or fearful; but the same things painted do little affect. As for smells, tastes and touches, they be things that do affect by a participation, or impulsion of the body of the object. So it is sound alone that doth immediately and incorporeally affect most; this is most manifest in musick, and concords and discords in musick: for all sounds, whether they be sharp or flat, if they be sweet, have a roundness and equality; and if they be harsh, are unequal: for a discord it self is but a harshness of divers sounds meeting. It is true, that inequality not stayed upon, but passing, is rather an increase of sweetness; as in the purling of a wreathed string; and in the raucity of a trumpet; and in the nightingale-pipe of a regal; and in a discord straight falling upon a concord; but if you stay upon it, it is offensive: and therefore there be these three degrees of pleasing and displeasing in sounds, sweet sounds, discords, and harsh sounds, which we call by divers names, as shrieking or grating, such as we now speak of. As for the setting of the teeth on edge, we plainly see what an intercourse there is between the teeth and the organ of the hearing, by the taking of the end of a bow between the teeth, and striking upon the string.

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N A T U R A L H I S T O R Y.

C E N T. VIII.

Experiment solitary touching veins of medicinal earth.

701. **T**HERE be minerals and fossils in great variety; but of veins of earth medicinal, but few: the chief are, *terra lemnia*, *terra sigillata communis*, and *bolus armenus*; whereof *terra lemnia* is the chief. The virtues of them are, for curing of wounds, stanching of blood, stopping of fluxes, and rheums, and arresting the spreading of poison, infection, and putrefaction: and they have of all other simples the perfectest and purest quality of drying, with little or no mixture of any other quality. Yet it is true, that the bole-armoniack is the most cold of them; and that *terra lemnia*, is the most hot; for which cause the island *Lemnos*, where it is digged, was in the old fabulous ages consecrated to *Vulcan*.

Experiment solitary touching the growth of sponges.

702. ABOUT the bottom of the *Streights* are gathered great quantities of sponges, which are gathered from the sides of rocks, being as it were a large but tough moss. It is the more to be noted, because that there be but few substances, plant-like, that grow deep within the sea; for they are gathered sometimes fifteen fathom deep: and when they are laid on shore, they seem to be of great bulk; but crushed together, will be transported in a very small room.

Experiment solitary touching sea-fish put in fresh waters.

703. IT seemeth, that fish that are used to the salt water, do nevertheless delight more in fresh. We see, that salmons and smelts love to get into rivers, though it be against the stream. At the haven of *Constantinople* you shall have great quantities of fish that come from the *Euxine* sea, that when they come into the fresh water, do inebriate and turn up their bellies, so as you may take them with your hand. I doubt there hath not been sufficient experiment made of putting sea-fish into fresh water, ponds, and pools. It is a thing of great use and pleasure; for so you may have them new at some good distance from the sea: and besides, it may be, the fish will eat the pleasanter, and may fall to breed. And it is said, that *Colchester* oysters, which are put into pits, where the sea goeth and cometh, (but yet so, that there

there is fresh water coming also to them when the sea voideth,) become by that means fatter, and more grown.

Experiment solitary touching attraction by similitude of substance.

704. THE *Turkish* bow giveth a very forcible shoot; insomuch as it hath been known, that the arrow hath pierced a steel target, or a piece of brass of two inches thick: but that which is more strange, the arrow, if it be headed with wood, hath been known to pierce through a piece of wood of eight inches thick. And it is certain, that we had in use at one time, for sea fight, short arrows, which they called sprights, without any other heads, save wood sharpened; which were discharged out of muskets, and would pierce through the sides of ships where a bullet would not pierce. But this dependeth upon one of the greatest secrets in all nature; which is, that similitude of substance will cause attraction, where the body is wholly freed from the motion of gravity: for if that were taken away, lead would draw lead, and gold would draw gold, and iron would draw iron, without the help of the load-stone. But this same motion of weight or gravity, (which is a mere motion of the matter, and hath no affinity with the form, or kind,) doth kill the other motion, except it self be killed by a violent motion, as in these instances of arrows; for then the motion of attraction by similitude of substance beginneth to shew it self. But we shall handle this point of nature fully in due place.

Experiment solitary touching certain drinks in Turkey.

705. THEY have in *Turkey* and the east certain confections, which they call servets, which are like to candied conserves, and are made of sugar and lemons, or sugar and citrons, or sugar and violets, and some other flowers; and some mixture of amber for the more delicate persons; and those they dissolve in water, and thereof make their drink, because they are forbidden wine by their law. But I do much marvel, that no *Englishman*, or *Dutchman*, or *German*, doth set up brewing in *Constantinople*; considering they have such quantity of barley. For as for the general sort of men, frugality may be the cause of drinking water; for that is no small saving, to pay nothing for one's drink; but the better sort might well be at the cost. And yet I wonder the less at it, because I see *France*, *Italy*, or *Spain*, have not taken into use beer or ale; which (perhaps) if they did, would better both their healths and their complexion. It is likely it would be matter of great gain to any that should begin it in *Turkey*.

Experiments in consort touching sweat.

706. IN bathing in hot water, sweat (nevertheless) cometh not in the parts under the water. The cause is; first, for that sweat is a kind of colligation; and that kind of colligation is not made either by an over dry heat, or an over moist heat: for over moisture doth somewhat extinguish the heat, as we see that even hot water quencheth fire, and over dry heat shutteth the pores: and therefore men will sooner sweat covered before the sun, or fire, than if they stood naked: and earthen bottles, filled with hot water, do provoke in bed a sweat more daintily than brick-bats hot. Secondly, hot water doth cause evaporation from the skin; so as it spendeth the matter in those parts under the water, before it issueth in sweat. Again, sweat cometh more plentifully, if the heat be encreased by degrees, than if it be greatest at first, or equal. The cause is, for that the pores are
better

better opened by a gentle heat, than by a more violent; and by their opening, the sweat issueth more abundantly. And therefore physicians may do well when they provoke sweat in bed by bottles, with a decoction of sudorifick herbs in hot water, to make two degrees of heat in the bottles; and to lay in the bed the less heated first, and after half an hour, the more heated.

707. SWEAT is salt in taste; the cause is, for that that part of the nourishment which is fresh and sweet, turneth into blood and flesh; and the sweat is only that part which is separate and excerned. Blood also raw hath some saltness more than flesh; because the assimilation into flesh is not without a little and subtile excretion from the blood.

708. SWEAT cometh forth more out of the upper parts of the body than the lower; the reason is, because those parts are more replenished with spirits; and the spirits are they that put forth sweat: besides, they are less fleshy, and sweat issueth (chiefly) out of the parts that are less fleshy, and more dry; as the forehead and breast.

709. MEN sweat more in sleep than waking; and yet sleep doth rather stay other fluxions, than cause them; as rheums, looseness of the body, &c. The cause is, for that in sleep the heat and spirits do naturally move inwards, and there rest. But when they are collected once within, the heat becometh more violent and irritate; and thereby expelleth sweat.

710. COLD sweats are (many times) mortal, and near death; and always ill, and suspected; as in great fears, hypochondriacal passions, &c. The cause, for that cold sweats come by a relaxation or forsaking of the spirits, whereby the moisture of the body, which heat did keep firm in the parts, severeth and issueth out.

711. IN those diseases which cannot be discharged by sweat, sweat is ill, and rather to be stayed; as in diseases of the lungs, and fluxes of the belly: but in those diseases which are expelled by sweat, it easeth and lighteneth; as in agues, pestilences, &c. The cause is, for that sweat in the later sort is partly critical, and sendeth forth the matter that offendeth; but in the former, it either proceedeth from the labour of the spirits, which sheweth them oppressed; or from motion of consent, when nature not able to expel the disease where it is seated, moveth to an expulsion indifferent over all the body.

Experiment solitary touching the glow-worm.

712. THE nature of the glow-worm is hitherto not well observed. Thus much we see; that they breed chiefly in the hottest months of summer; and that they breed not in champain, but in bushes and hedges. Whereby it may be conceived, that the spirit of them is very fine, and not to be refined but by summer heats: and again, that by reason of the fineness, it doth easily exhale. In *Italy*, and the hotter countries, there is a fly they call *Lucciole*, that shineth as the glow-worm doth; and it may be is the flying glow-worm. But that fly is chiefly upon fens and marshes. But yet the two former observations hold; for they are not seen but in the heat of summer; and sedge, or other green of the fens, give as good shade as bushes. It may be the glow-worms of the cold countries, ripen not so far as to be winged.

Experiments in consort touching the impressions, which the passions of the mind make upon the body.

713. THE passions of the mind work upon the body the impressions following.

lowing. Fear causeth paleness; trembling; the standing of the hair upright; starting; and screeching. The paleness is caused, for that the blood runneth inward to succour the heart. The trembling is caused, for that through the flight of the spirits inward, the outward parts are destituted, and not sustained. Standing upright of the hair is caused, for that by shutting of the pores of the skin, the hair that lieth aslope must needs rise. Starting is both an apprehension of the thing feared; (and in that kind it is a motion of shrinking;) and likewise an inquisition in the beginning, what the matter should be; (and in that kind it is a motion of erection :) and therefore when a man would listen suddenly to any thing, he starteth; for the starting is an erection of the spirits to attend. Screeching is an appetite of expelling that which suddenly striketh the spirits: for it must be noted, that many motions, though they be unprofitable to expel that which hurteth, yet they are offers of nature, and cause motions by consent; as in groaning, or crying upon pain.

714. GRIEF and pain cause sighing, sobbing, groaning, screaming, and roaring; tears, distorting of the face, grinding of the teeth, sweating. Sighing is caused by the drawing in of a greater quantity of breath to refresh the heart that laboureth: like a great draught when one is thirsty. Sobbing is the same thing stronger. Groaning, and screaming, and roaring, are caused by an appetite of expulsion, as hath been said: for when the spirits cannot expel the thing that hurteth, in their strife to do it, by motion of consent, they expel the voice. And this is when the spirits yield, and give over to resist; for if one do constantly resist pain, he will not groan. Tears are caused by a contraction of the spirits of the brain; which contraction by consequence astringeth the moisture of the brain, and thereby sendeth tears into the eyes. And this contraction, or compression, causeth also wringing of the hands; for wringing is a gesture of expression of moisture. The distorting of the face is caused by a contention, first to bear and resist, and then to expel; which maketh the parts knit first, and afterwards open. Grinding of the teeth is caused (likewise) by a gathering and ferring of the spirits together to resist; which maketh the teeth also to set hard one against another. Sweating is also a compound motion, by the labour of the spirits, first to resist, and then to expel.

715. JOY causeth a cheerfulness and vigour in the eyes; singing, leaping, dancing, and sometimes tears. All these are the effects of the dilatation, and coming forth of the spirits into the outward parts; which maketh them more lively and stirring. We know it hath been seen, that excessive sudden joy hath caused present death, while the spirits did spread so much as they could not retire again. As for tears, they are the effects of compression of the moisture of the brain, upon dilatation of the spirits. For compression of the spirits worketh an expression of the moisture of the brain by consent, as hath been said in grief. But then in joy, it worketh it diversly; *viz.* by propulsion of the moisture, when the spirits dilate, and occupy more room.

716. ANGER causeth paleness in some, and the going and the coming of the colour in others: also trembling in some; swelling, foaming at the mouth, stamping, bending of the fist. Paleness, and going and coming of the colour, are caused by the burning of the spirits about the heart; which to refresh themselves, call in more spirits from the outward parts. And if the paleness be alone, without sending forth the colour again, it is commonly joined with some fear; but in many there is no paleness at all, but

contra-

contrariwise redness about the cheeks and gills; which is by the sending forth of the spirits in an appetite to revenge. Trembling in anger is likewise by a calling in of the spirits; and is commonly when anger is joined with fear. Swelling is caused, both by a dilatation of the spirits by over-heating, and by a liquefaction or boiling of the humours thereupon. Foaming at the mouth is from the same cause, being an ebullition: stamping, and bending of the fist, are caused by an imagination of the act of revenge.

717. LIGHT displeasure or dislike, causeth shaking of the head, frowning and knitting of the brows. These effects arise from the same causes that trembling and horror do; namely, from the retiring of the spirits, but in a less degree. For the shaking of the head is but a slow and definite trembling; and is a gesture of slight refusal; and we see also, that a dislike causeth (often) that gesture of the hand, which we use when we refuse a thing, or warn it away. The frowning and knitting of the brows, is a gathering, or ferring of the spirits, to resist in some measure. And we see also this knitting of the brows will follow upon earnest studying, or cogitation of any thing, though it be without dislike.

718. SHAME causeth blushing; and casting down of the eyes. Blushing is the resort of blood to the face; which in the passion of shame is the part that laboureth most. And although the blushing will be seen in the whole breast if it be naked, yet that is but in passage to the face. As for the casting down of the eyes, it proceedeth of the reverence a man beareth to other men; whereby, when he is ashamed, he cannot endure to look firmly upon others: and we see, that blushing, and the casting down of the eyes both, are more when we come before many; *ore Pompeii quid mollius? nunquam non coram pluribus erubuit*: and likewise when we come before great or reverend persons.

719. PITY causeth sometimes tears; and a flexion or cast of the eye aside. Tears come from the same cause that they do in grief: for pity is but grief in another's behalf. The cast of the eye is a gesture of aversion, or lothness to behold the object of pity.

720. WONDER causeth astonishment, or an immoveable posture of the body; casting up of the eyes to heaven; and lifting up of the hands. For astonishment, it is caused by the fixing of the mind upon one object of cogitation, whereby it doth not spaiate and transcur, as it useth; for in wonder the spirits fly not as in fear; but only settle, and are made less apt to move. As for the casting up of the eyes, and lifting up of the hands, it is a kind of appeal to the Deity, which is the author, by power and providence, of strange wonders.

721. LAUGHING causeth a dilatation of the mouth and lips; a continued expulsion of the breath, with the loud noise, which maketh the interjection of laughing; shaking of the breast and sides: running of the eyes with water, if it be violent and continued. Wherein first it is to be understood, that laughing is scarce (properly) a passion, but hath its source from the intellect; for in laughing there ever precedeth a conceit of somewhat ridiculous. And therefore it is proper to man. Secondly, that the cause of laughing is but a light touch of the spirits, and not so deep an impression as in other passions. And therefore (that which hath no affinity with the passions of the mind) it is moved, and that in great vehemency, only by tickling some parts of the body: and we see that men even in a grieved state of mind, yet cannot sometimes forbear laughing. Thirdly, it is ever joined with some degree of delight: and therefore exhilaration hath some affinity with joy, though it

be a much lighter motion : *res severa est verum gaudium*. Fourthly, that the object of it is deformity, absurdity, shrewd turns, and the like. Now to speak of the causes of the effects before mentioned, whereunto these general notes give some light. For the dilatation of the mouth and lips, continued expulsion of the breath and voice, and shaking of the breast and sides, they proceed (all) from the dilatation of the spirits; especially being sudden. So likewise, the running of the eyes with water, (as hath been formerly touched, where we spake of the tears of joy and grief) is an effect of dilatation of the spirits. And for suddenness, it is a great part of the matter : for we see, that any shrewd turn that lighteth upon another ; or any deformity, &c. moveth laughter in the instant ; which after a little time it doth not. So we cannot laugh at any thing after it is stale, but whilst it is new : and even in tickling, if you tickle the sides, and give warning ; or give a hard or continued touch, it doth not move laughter so much.

722. LUST causeth a flagrancy in the eyes, and priapism. The cause of both these is, for that in lust, the sight and the touch are the things desired ; and therefore the spirits resort to those parts which are most affected. And note well in general, (for that great use may be made of the observation) that (evermore) the spirits, in all passions, resort most to the parts that labour most, or are most affected. As in the last which hath been mentioned, they resort to the eyes and venereous parts : in fear and anger to the heart : in shame to the face : and in light dislikes to the head.

Experiments in consort touching drunkenness.

723. IT hath been observed by the ancients, and is yet believed, that the sperm of drunken men is unfruitful. The cause is, for that it is over-moistened, and wanteth spissitude : And we have a merry saying, that they that go drunk to bed get daughters.

724. DRUNKEN men are taken with a plain defect, or destitution in voluntary motion. They reel ; they tremble ; they cannot stand, nor speak strongly. The cause is, for that the spirits of the wine oppress the spirits animal, and occupate part of the place where they are ; and so make them weak to move. And therefore drunken men are apt to fall asleep : and opiates, and stupefactive, (as poppy, henbane, hemlock, &c.) induce a kind of drunkenness by the grossness of their vapour ; as wine doth by the quantity of the vapour. Besides, they rob the spirits animal of their matter, whereby they are nourished : for the spirits of the wine prey upon it as well as they : and so they make the spirits less supple and apt to move.

725. DRUNKEN men imagine every thing turneth round ; they imagine also that things come upon them ; they see not well things afar off ; those things that they see near hand, they see out of their place ; and (sometimes) they see things double. The cause of the imagination that things turn round, is, for that the spirits themselves turn, being compressed by the vapour of the wine ; (for any liquid body upon compression, turneth, as we see in water :) and it is all one to the sight, whether the visual spirits move, or the object moveth, or the medium moveth. And we see that long turning round breedeth the same imagination. The cause of the imagination that things come upon them is, for that the spirits visual themselves draw back ; which maketh the object seem to come on ; and besides, when they see things turn round, and move, fear maketh them think they come upon them. The cause that they cannot see things afar off, is the weakness of the spirits ; for in every megrim, or *vertigo*, there is an obtenebration joined with a semblance

blance of turning round; which we see also in the lighter sort of swoonings. The cause of seeing things out of their place, is the refraction of the spirits visual; for the vapour is as an unequal medium; and it is as the sight of things out of place in water. The cause of seeing things double, is, the swift and unquiet motion of the spirit, (being oppressed) to and fro; for, (as was said before) the motion of the spirits visual, and the motion of the object, make the same appearances; and for the swift motion of the object, we see, that if you fillip a lute-string, it sheweth double or treble.

726. MEN are sooner drunk with small draughts than with great. And again, wine sugar'd inebriateth less than wine pure. The cause of the former is, for that the wine descendeth not so fast to the bottom of the stomach, but maketh longer stay in the upper part of the stomach, and sendeth vapours faster to the head; and therefore inebriateth sooner. And for the same reason, sops in wine, (quantity for quantity) inebriate more than wine of it self. The cause of the latter is, for that the sugar doth inspissate the spirits of the wine, and maketh them not so easy to resolve into vapour. Nay farther, it is thought to be some remedy against inebriating, if wine sugar'd be taken after wine pure. And the same effect is wrought either by oil, or milk, taken upon much drinking.

Experiment solitary touching the help or hurt of wine, tho' moderately used.

727. THE use of wine in dry and consumed bodies is hurtful; in moist and full bodies it is good. The cause is, for that the spirits of the wine do prey upon the dew or radical moisture (as they term it) of the body, and so deceive the animal spirits. But where there is moisture enough, or superfluous, there wine helpeth to digest, and desiccate the moisture.

Experiments solitary touching caterpillars.

728. THE caterpillar is one of the most general of worms, and breedeth of dew and leaves; for we see infinite number of caterpillars which breed upon trees and hedges, by which the leaves of the trees or hedges are in great part consumed; as well by their breeding out of the leaf, as by their feeding upon the leaf. They breed in the spring chiefly, because then there is both dew and leaf. And they breed commonly when the east winds have much blown; the cause whereof is, the dryness of that wind; for to all vivification upon putrefaction, it is requisite the matter be not too moist; and therefore we see they have cobwebs about them, which is a sign of a slimy dryness; as we see upon the ground, whereupon, by dew and sun, cobwebs breed all over. We see also the green caterpillar breedeth in the inward parts of roses, especially not blown, where the dew sticketh; but especially caterpillars, both the greatest, and the most, breed upon cabbages, which have a fat leaf, and apt to putrefy. The caterpillar towards the end of summer waxeth volatile, and turneth to a butterfly, or perhaps some other fly. There is a caterpillar that hath a fur or down upon it, and seemeth to have affinity with the silk-worm.

Experiment solitary touching the flies cantharides.

729. The flies *cantharides* are bred of a worm, or caterpillar, but peculiar to certain fruit trees; as are the fig-tree, the pine-tree, and the wild briar; all which bear sweet fruit, and fruit that hath a kind of secret biting or sharpness: for the fig hath a milk in it, that is sweet and corrosive; the pine-apple hath a kernel that is strong and absterfive: the fruit of the briar

is said to make children, or those that eat them, scabbed. And therefore, no marvel though *cantharides* have such a corrosive and cauterising quality; for there is not one other of the *insecta*, but is bred of a duller matter. The body of the *cantharides* is bright coloured; and it may be, that the delicate colour'd dragon-flies may have likewise some corrosive quality.

Experiments in consort touching lassitude.

730. **LASSITUDE** is remedied by bathing, or anointing with oil and warm water. The cause is, for that all lassitude is a kind of contusion, and compression of the parts; and bathing and anointing, give a relaxation or emolition; and the mixture of oil and water, is better than either of them alone; because water entereth better into the pores, and oil after entry softneth better. It is found also, that the taking of tobacco doth help and discharge lassitude. The reason whereof is, partly, because by chearing or comforting of the spirits, it openeth the parts compressed or contused; and chiefly, because it refresheth the spirits by the opiate virtue thereof, and so dischargeth weariness, as sleep likewise doth.

731. **IN** going up a hill, the knees will be most weary; in going down a hill, the thighs. The cause is, for that in the lift of the feet, when a man goeth up the hill, the weight of the body beareth most upon the knees; and in going down the hill, upon the thighs.

Experiment solitary touching the casting of the skin and shell in some creatures.

732. **THE** casting of the skin is by the ancients compared to the breaking of the secundine, or caul, but not rightly; for that were to make every casting of the skin a new birth: and besides, the secundine is but a general cover, not shaped according to the parts, but the skin is shaped according to the parts. The creatures that cast their skin are, the snake, the viper, the grasshopper, the lizard, the silk-worm, &c. Those that cast their shell are, the lobster, the crab, the crawfish, the hodmandod or dodman, the tortoise, &c. The old skins are found, but the old shells never: so as it is like they scale off, and crumble away by degrees. And they are known by the extreme tenderness and softness of the new shell, and somewhat by the freshness of the colour of it. The cause of the casting of skin and shell, should seem to be the great quantity of matter in those creatures that is fit to make skin or shell: and again, the looseness of the skin or shell, that sticketh not close to the flesh. For it is certain, that it is the new skin or shell that putteth off the old: so we see, that in deer it is the young horn that putteth off the old; and in birds, the young feathers put off the old: and so birds that have much matter for their beak, cast their beaks, the new beak putting off the old.

Experiments in consort touching the postures of the body.

733. **LYING** not erect, but hollow, which is in the making of the bed; or with the legs gathered up, which is in the posture of the body, is the more wholesome. The reason is, the better comforting of the stomach, which is by that less pensile: and we see that in weak stomachs, the laying up of the legs high, and the knees almost to the mouth, helpeth and comforteth. We see also that galley-slaves, notwithstanding their misery otherwise, are commonly fat and fleshy; and the reason is, because the stomach is supported somewhat in sitting, and is pensile in standing or going. And therefore, for prolongation of life, it is good to chuse those exercises where the limbs

limbs move more than the stomach and belly; as in rowing, and in sawing, being fet.

734. MEGRIMS and giddiness are rather when we rise after long sitting, than while we sit. The cause is, for that the vapours, which were gathered by sitting, by the sudden motion, fly more up into the head.

735. LEANING long upon any part maketh it numb, and, as we call it, asleep. The cause is, for that the compression of the part suffereth not the spirits to have free access; and therefore when we come out of it, we feel a stinging or pricking, which is the re-entrance of the spirits.

Experiment solitary touching pestilential years.

736. IT hath been noted, that those years are pestilential and unwholesome, when there are great numbers of frogs, flies, locusts, &c. The cause is plain; for that those creatures being engender'd of putrefaction, when they abound, shew a general disposition of the year, and constitution of the air to diseases of putrefaction. And the same prognostick (as hath been said before) holdeth, if you find worms in oak-apples: for the constitution of the air appeareth more subtilly in any of these things, than to the sense of man.

Experiment solitary touching the prognosticks of hard winters.

737. IT is an observation amongst countrey people, that years of store of haws and hips do commonly portend cold winters; and they ascribe it to God's providence, that (as the scripture saith) reacheth even to the falling of a sparrow; and much more is like to reach to the preservation of birds in such seasons. The natural cause also may be the want of heat, and abundance of moisture in the summer precedent; which putteth forth those fruits, and must needs leave great quantity of cold vapours not dissipated; which causeth the cold of the winter following.

Experiment solitary touching medicines that condense and relieve the spirits.

738. THEY have in Turkey a drink called coffee, made of a berry of the same name as black as foot, and of a strong scent, but not aromatical; which they take, beaten into powder, in water, as hot as they can drink it: and they take it, and sit at it in their coffee-houses, which are like our taverns. This drink comforteth the brain and heart, and helpeth digestion. Certainly this berry-coffee, the root and leaf betle, the leaf tobacco, and the tear of poppey, (*opium*;) of which the *Turks* are great takers, (supposing it expelleth all fear;) do all condense the spirits, and make them strong and aleger. But it seemeth they are taken after several manners; for coffee and *opium* are taken down, tobacco but in smoak, and betle is but champed in the mouth with a little lime. It is like there are more of them, if they were well found out, and well corrected. *Quære* of henbane-seed; of mandrake; of saffron, root and flower; of *folium indicum*; of ambergreece; of the *Assyrian amomum*, if it may be had; and of the scarlet powder, which they call *kermes*; and (generally) of all such things as do inebriate and provoke sleep. Note, that tobacco is not taken in root or seed, which are more forcible ever than leaves.

Experiment solitary touching paintings of the body.

739 The *Turks* have a black powder made of a mineral called alcohole, which with a fine long pencil they lay under their eye-lids, which doth colour

lour them black ; whereby the white of the eye is set off more white. With the same powder they colour also the hairs of their eye-lids, and of their eye-brows, which they draw into embowed arches. You shall find that *Xenophon* maketh mention, that the *Medes* used to paint their eyes. The *Turks* use with the same tincture to colour the hair of their heads and beards black. And divers with us that are grown grey, and yet would appear young, find means to make their hair black, by combing it (as they say) with a leaden comb, or the like. As for the *Chineses*, who are of an ill complexion, (being olivaster) they paint their cheeks scarlet, especially their king and grantees. Generally, barbarous people, that go naked, do not only paint themselves, but they pounce and raise their skin, that the painting may not be taken forth, and make it into works. So do the *West-Indians* ; and so did the ancient *Picts* and *Britons* ; so that it seemeth men would have the colours of birds feathers, if they could tell how ; or at least, they will have gay skins instead of gay clothes.

Experiment solitary touching the use of bathing and anointing.

740. IT is strange, that the use of bathing, as a part of diet, is left. With the *Romans* and the *Grecians* it was as usual, as eating or sleeping ; and so is it amongst the *Turks* at this day ; whereas with us it remaineth but as a part of physick. I am of opinion, that the use of it, as it was with the *Romans*, was hurtful to health ; for that it made the body soft, and easy to waste. For the *Turks* it is more proper, because of their drinking water and feeding upon rice, and other food of small nourishment, maketh their bodies so solid and hard, as you need not fear that bathing should make them frothy. Besides, the *Turks* are great fitters, and seldom walk ; whereby they sweat less, and need bathing more. But yet certain it is, that bathing, and especially anointing, may be so used as it may be a great help to health, and prolongation of life. But hereof we shall speak in due place, when we come to handle experiments medicinal.

Experiment solitary touching chambletting of paper.

741. THE *Turks* have a pretty art of chambletting of paper, which is not with us in use. They take divers oiled papers, and put them severally (in drops) upon water, and stir the water lightly, and then wet their paper (being of some thickness) with it, and the paper will be waved and veined, like chamblet or marble.

Experiment solitary touching cuttle-ink.

742. IT is somewhat strange, that the blood of all birds and beasts, and fishes, should be of a red colour, and only the blood of the cuttle should be as black as ink. A man would think, that the cause should be the high concoction of that blood ; for we see in ordinary puddings, that the boiling turneth the blood to be black ; and the cuttle is accounted a delicate meat, and is much in request.

Experiment solitary touching encrease of weight in earth.

743. IT is reported of credit, that if you take earth from land adjoining to the river of *Nile*, and preserve it in that manner, that it neither come to be wet nor wasted ; and weigh it daily, it will not alter weight until the seventeenth of *June*, which is the day when the river beginneth to rise ; and then it will grow more and more ponderous, till the river cometh to its height.

height. Which if it be true, it cannot be caused but by the air, which then beginneth to condense; and so turneth within that small mould into a degree of moisture, which produceth weight. So it hath been observed, that tobacco cut, and weighed, and then dried by the fire, loseth weight; and after being laid in the open air, recovereth weight again. And it should seem, that as soon as ever the river beginneth to encrease, the whole body of the air thereabouts suffereth a change: for (that which is more strange) it is credibly affirmed, that upon that very day when the river first riseth, great plagues in *Cairo* use suddenly to break up.

Experiments in consort touching sleep.

744. THOSE that are very cold, and especially in their feet, cannot get to sleep: the cause may be, for that in sleep is required a free respiration, which cold doth shut in and hinder; for we see, that in great colds one can scarce draw his breath. Another cause may be, for that cold calleth the spirits to succour; and therefore they cannot so well close, and go together in the head; which is ever requisite to sleep. And for the same cause, pain and noise hinder sleep; and darkness (contrariwise) furthereth sleep.

745. SOME noises (whereof we spake in the hundred and twelfth experiment) help sleep; as the blowing of the wind, the trickling of water, humming of bees, soft singing, reading, &c. The cause is, for that they move in the spirits a gentle attention; and whatsoever moveth attention without too much labour, stilleth the natural and discursive motion of the spirits.

746. SLEEP nourisheth, or at least preserveth bodies, a long time, without other nourishment. Beasts that sleep in winter (as it is noted of wild bears) during their sleep wax very fat, though they eat nothing. Bats have been found in ovens, and other hollow close places, matted one upon another; and therefore it is likely that they sleep in the winter time, and eat nothing. *Quaere*, whether bees do not sleep all winter, and spare their honey? Butterflies, and other flies, do not only sleep, but lie as dead all winter; and yet with a little heat of sun or fire, revive again. A dormouse, both winter and summer, will sleep some days together, and eat nothing.

Experiments in consort touching teeth and hard substances in the bodies of living creatures.

To restore teeth in age, were *magnale naturae*. It may be thought of. But howsoever, the nature of the teeth deserveth to be enquired of, as well as the other parts of living creatures bodies.

747. THERE be five parts in the bodies of living creatures, that are of hard substance; the skull, the teeth, the bones, the horns, and the nails. The greatest quantity of hard substance continued, is towards the head. For there is the skull of one entire bone; there are the teeth; there are the maxillary bones: there is the hard bone, that is the instrument of hearing; and thence issue the horns: so that the building of living creatures bodies, is like the building of a timber house, where the walls and other parts have columns and beams; but the roof is in the better sort of houses, all tile, or lead, or stone. As for birds, they have three other hard substances proper to them; the bill, which is of like matter with the teeth; for no birds have teeth: the shell of the egg; and their quills: for as for their spur, it is but a nail. But no living creatures, that have shells very hard, (as oysters, cockles, muscles, scallops, crabs, lobsters, craw-fish, shrimps, and especially the tortoise) have bones within them, but only little gristles.

748. BONES

748. BONES, after full growth, continue at a stay; and so doth the skull: horns, in some creatures, are cast and renewed: teeth stand at a stay, except their wearing: as for nails, they grow continually: and bills and beaks will overgrow, and sometimes be cast; as in eagles and parrots.

749. Most of the hard substances fly to the extrems of the body: as skull, horns, teeth, nails, and beaks: only the bones are more inward, and clad with flesh. As for the entrails, they are all without bones; save that a bone is (sometimes) found in the heart of a stag; and it may be in some other creature.

750. THE skull hath brains, as a kind of marrow within it. The back-bone hath one kind of marrow, which hath an affinity with the brain; and other bones of the body have another. The jaw-bones have no marrow sever'd, but a little pulp of marrow diffused. Teeth likewise are thought to have a kind of marrow diffused, which causeth the sense and pain: but it is rather sinew; for marrow hath no sense; no more than blood. Horn is alike throughout; and so is the nail.

751. NONE other of the hard substances have sense, but the teeth; and the teeth have sense, not only of pain but of cold.

BUT we will leave the enquiries of other hard substances unto their several places; and now enquire only of the teeth.

752. THE teeth are, in men, of three kinds: sharp, as the foreteeth; broad, as the back-teeth, which we call the molar-teeth, or grinders; and pointed-teeth, or canine, which are between both. But there have been some men, that have had their teeth undivided, as of one whole bone, with some little mark in the place of the division; as *Pyrrhus* had. Some creatures have over-long, or out-growing teeth, which we call fangs, or tusks; as boars, pikes, salmons, and dogs, though less. Some living creatures have teeth against teeth; as men and horses; and some have teeth, especially their master-teeth, indented one within another like saws, as lions; and so again have dogs. Some fishes have divers rows of teeth in the roofs of their mouths; as pikes, salmons, trouts, &c. And many more in salt-waters. Snakes, and other serpents have venomous teeth; which are sometimes mistaken for their sting.

753. No beast that hath horns, hath upper teeth; and no beast that hath teeth above, wanteth them below: but yet if they be of the same kind, it followeth not, that if the hard matter goeth not into upper teeth, it will go into horns; nor yet *e converso*; for Does, that have no horns, have no upper teeth.

754. HORSES have, at three years old, a tooth put forth, which they call the colt's tooth; and at four years old there cometh the mark-tooth, which hath a hole as big as you may lay a pea within it; and that weareth shorter and shorter every year; till that at eight years old the tooth is smooth, and the hole gone; and then they say, that the mark is out of the horse's mouth.

755. THE teeth of men breed first, when the child is about a year and half old: and then they cast them, and new come about seven years old. But divers have backward-teeth come forth at twenty, yea some at thirty and forty. *Quaere* of the manner of the coming of them forth. They tell a tale of the old countess of *Desmond*, who lived till she was seven-score years old, that she did *dentire* twice or thrice; casting her old teeth, and others coming in their place.

756. TEETH are much hurt by sweet-meats; and by painting with mercury;

cury: and by things over-hot; and by things over-cold; and by rheums. And the pain of the teeth is one of the sharpest of pains.

757. CONCERNING teeth, these things are to be considered. 1. The preserving of them. 2. The keeping of them white. 3. The drawing of them with least pain. 4. The staying and easing of the tooth-ach. 5. The binding in of artificial teeth, where teeth have been stricken out. 6. And last of all, that great one of restoring teeth in age. The instances that give any likelihood of restoring teeth in age, are; the late coming of teeth in some; and the renewing of the beaks in birds, which are commaterial with teeth. *Quære* therefore more particularly how that cometh. And again, the renewing of horns. But yet that hath not been known to have been provoked by art; therefore let trial be made, whether horns may be procured to grow in beasts that are not horned and how? And whether they may be procured to come larger than usual; as to make an ox, or a deer, have a greater head of horns? And whether the head of a deer, that by age is more spitted, may be brought again to be more branched: for these trials, and the like, will shew, whether by art such hard matter can be called and provoked. It may be tried also, whether birds may not have something done to them when they are young, whereby they may be made to have greater or longer bills; or greater and longer talons? And whether children may not have some wash, or something to make their teeth better and stronger? Coral is in use as an help to the teeth of children.

Experiments in consort touching the generation and bearing of living creatures in the womb.

758. SOME living creatures generate but at certain seasons of the year; as deer, sheep, wild conies, &c. and most sorts of birds and fishes: others at any time of the year, as men; and all domestick creatures; as horses, hogs, dogs, cats, &c. The cause of generation at all seasons seemeth to be fulness: for generation is from redundance. This fulness ariseth from two causes; either from the nature of the creature, if it be hot, and moist, and sanguine; or from plenty of food. For the first, men, horses, dogs, &c. which breed at all seasons, are full of heat and moisture; doves are the fullest of heat and moisture amongst birds, and therefore breed often; the tame dove almost continually. But deer are a melancholy dry creature, as appeareth by their fearfulness, and the hardness of their flesh. Sheep are a cold creature, as appeareth by their mildness, and for that they seldom drink. Most sort of birds are of a dry substance in comparison of beasts. Fishes are cold. For the second cause, fulness of food; men, kine, swine, dogs, &c. feed full; and we see that those creatures, which being wild, generate seldom, being tame, generate often; which is from warmth, and fulness of food. We find, that the time of going to rut of deer is in *September*; for that they need the whole summer's feed and grass to make them fit for generation. And if rain come early about the middle of *September*, they go to rut somewhat the sooner; if drought, somewhat the later. So sheep, in respect of their small heat, generate about the same time, or somewhat before. But for the most part, creatures that generate at certain seasons, generate in the spring; as birds and fishes: for that the end of the winter, and the heat and comfort of the spring prepareth them. There is also another reason, why some creatures generate at certain seasons; and that is the relation of their time of bearing, to the time of generation: for no creature goeth to generate, whilst the female is full; nor whilst she is busy in sitting, or rearing her young.

And therefore it is found by experience, that if you take the eggs, or young ones, out of the nests of birds, they will fall to generate again three or four times one after another.

759. OF living creatures, some are longer time in the womb, and some shorter. Women go commonly nine months; the cow and the ewe about six months; Does go about nine months; mares eleven months; bitches nine weeks; elephants are said to go two years; for the received tradition of ten years is fabulous. For birds there is double enquiry; the distance between the treading or coupling, and the laying of the egg; and again, between the egg laid, and the disclosing or hatching. And amongst birds, there is less diversity of time, than amongst other creatures; yet some there is: for the hen sitteth but three weeks; the turkey-hen, goose, and duck, a month: *Quære* of others. The cause of the great difference of times amongst living creatures, is, either from the nature of the kind; or from the constitution of the womb. For the former, those that are longer in coming to their maturity or growth, are longer in the womb; as is chiefly seen in men: and so elephants which are long in the womb, are long time in coming to their full growth. But in most other kinds, the constitution of the womb, (that is, the hardness or dryness thereof) is concurrent with the former cause. For the colt hath about four years of growth; and so the fawn; and so the calf. But whelps, which come to their growth (commonly) within three quarters of a year, are but nine weeks in the womb. As for birds, as there is less diversity amongst them in the time of their bringing forth; so there is less diversity in the time of their growth; most of them coming to their growth within a twelvemonth.

760. SOME creatures bring forth many young ones at a burthen; as bitches, hares, coney, &c. Some ordinarily but one; as women, lionesses, &c. This may be caused, either by the quantity of sperm required to the producing one of that kind; which if less be required, may admit greater number; if more, fewer: or by the partitions and cells of the womb, which may sever the sperm.

Experiments in consort touching species visible.

761. THERE is no doubt, but light by refraction will shew greater, as well as things coloured. For like as a shilling in the bottom of the water will shew greater; so will a candle in a lanthorn, in the bottom of the water. I have heard of a practice, that glow-worms in glasses were put in the water to make the fish come. But I am not yet informed, whether when a diver diveth, having his eyes open, and swimmeth upon his back; whether (I say) he see things in the air, greater or less. For it is manifest, that when the eye standeth in the finer medium, and the object is in the grosser, things shew greater; but contrariwise, when the eye is placed in the grosser medium, and the object in the finer, how it worketh I know not.

762. IT would be well bolted out, whether great refractions may not be made upon reflexions, as well as upon direct beams. For example, we see, that take an empty basin, put an angel of gold, or what you will, into it; then go so far from the basin, till you cannot see the angel, because it is not in a right line; then fill the basin with water, and you shall see it out of its place, because of the reflexion. To proceed therefore, put a looking-glass into a basin of water; I suppose you shall not see the image in a right line, or at equal angles, but aside. I know not whether this experiment may not be extended so, as you might see the image, and not the glass; which for beauty
and

and strangeness were a fine proof: for then you should see the image like a spirit in the air. As for example, if there be a cistern or pool of water, you shall place over against it a picture of the devil, or what you will, so as you do not see the water. Then put a looking-glass in the water: now if you can see the devil's picture aside, not seeing the water, it would look like a devil indeed. They have an old tale in *Oxford*, that friar *Bacon* walked between two steeples: which was thought to be done by glasses, when he walked upon the ground.

Experiments in consort touching impulsion and percussio.

763. A weighty body put into motion, is more easily impelled, than at first when it resteth. The cause is, partly because motion doth discuss the torpor of solid bodies; which beside their motion of gravity, have in them a natural appetite not to move at all; and partly, because a body that resteth, doth get, by the resistance of the body upon which it resteth, a stronger compression of parts than it hath of it self: and therefore needeth more force to be put in motion. For if a weighty body be penfile, and hang but by a thread, the percussio will make an impulsion very near as easily, as if it were already in motion.

764. A body over great, or over small, will not be thrown so far as a body of a middle size: so that (it seemeth) there must be a commensuration, or proportion between the body moved and the force, to make it move well. The cause is, because to the impulsion there is requisite the force of the body that moveth, and the resistance of the body that is moved: and if the body be too great, it yieldeth too little; and if it be too small, it resisteth too little.

765. It is common experience, that no weight will press or cut so strong, being laid upon a body, as falling or stricken from above. It may be the air hath some part in furthering the percussio; but the chief cause I take to be, for that the parts of the body moved have by impulsion, or by the motion of gravity continued a compression in them, as well downwards as they have when they are thrown, or shot through the air forwards. I conceive also, that the quick loss of that motion preventeth the resistance of the body below; and priority of the force (always) is of great efficacy, as appeareth in infinite instances.

Experiment solitary touching titillation.

766. TICKLING is most in the soles of the feet, and under the arm-holes, and on the sides. The cause is, the thinness of the skin in those parts, joined with the rareness of being touched there: for all tickling is a light motion of the spirits, which the thinness of the skin, and suddenness and rareness of touch do further: for we see a feather, or a rush, drawn along the lip or cheek, doth tickle; whereas a thing more obtuse, or a touch more hard, doth not. And for suddenness, we see no man can tickle himself: we see also that the palm of the hand, though it hath as thin a skin as the other parts mentioned, yet is not ticklish, because it is accustomed to be touched. Tickling also causeth laughter. The cause may be the emission of the spirits, and so of the breath, by a flight from titillation; for upon tickling we see there is ever a starting, or shrinking away of the part to avoid it; and we see also, that if you tickle the nostrils with a feather, or straw, it procureth sneezing; which is a sudden emission of the spirits that do likewise expel the moisture. And tickling is ever painful, and not well endured.

Experiment solitary touching the scarcity of rain in AEgypt.

767. IT is strange, that the river of *Nilus* overflowing, as it doth, the countrey of *AEgypt*, there should be nevertheless little or no rain in that countrey. The cause must be either in the nature of the water, or in the nature of the air, or of both. In the water, it may be ascribed either unto the long race of the water: for swift running waters vapour not so much as standing waters; or else to the concoction of the water; for waters well concocted vapour not so much as waters raw; no more than waters upon the fire do vapour so much after some time of boiling as at the first. And it is true, that the water of *Nilus* is sweeter than other waters in taste; and it is excellent good for the stone, and hypochondriacal melancholy, which sheweth it is lenifying; and it runneth through a countrey of a hot climate and flat, without shade either of woods or hills, whereby the sun must needs have great power to concoct it. As for the air, (from whence I conceive this want of showers cometh chiefly,) the cause must be, for that the air is of it self thin and thirsty; and as soon as ever it getteth any moisture from the water, it imbibeth and dissipateth it in the whole body of the air, and suffereth it not to remain in vapour, whereby it might breed rain.

Experiment solitary touching clarification.

768. IT hath been touched in the title of percolations, (namely such as are inwards) that the whites of eggs and milk do clarify; and it is certain, that in *AEgypt* they prepare and clarify the water of *Nile*, by putting it into great jars of stone, and stirring it about with a few stamped almonds, wherewith they also besmear the mouth of the vessel; and so draw it off, after it hath rested some time. It were good to try this clarifying with almonds in new beer, or muste, to hasten and perfect the clarifying.

Experiment solitary touching plants without leaves.

769. THERE be scarce to be found any vegetables, that have branches and no leaves, except you allow coral for one. But there is also in the desarts of *S. Macario* in *AEgypt* a plant which is long, leafless, brown of colour, and branched like coral, save that it closeth at the top. This being set in water within a house, spreadeth and displayeth strangely; and the people thereabout have a superstitious belief, that in the labour of women it helpeth to the easy deliverance.

Experiment solitary touching the materials of glass.

770. THE crystalline *Venice* glass, is reported to be a mixture in equal portions of stones brought from *Pavia* by the river *Ticinum*; and the ashes of a weed, called by the *Arabs* *kal*, which is gathered in a desert between *Alexandria* and *Rosetta*; and is by the *AEgyptians* used first for fuel; and then they crush the ashes into lumps like a stone, and so sell them to the *Venetians* for their glass-works.

Experiment solitary touching prohibition of putrefaction, and the long conservation of bodies.

771. IT is strange, and well to be noted, how long carcases have continued uncorrupt, and in their former dimensions, as appeareth in the mummies of *AEgypt*; having lasted, as is conceived, (some of them,) three thousand years. It is true, they find means to draw forth the brains, and to take forth the

the entrails, which are the parts aptest to corrupt. But that is nothing to the wonder: for we see what a soft and corruptible substance the flesh of all the other parts of the body is. But it should seem, that according to our observation and axiom, in our hundredth experiment, putrefaction, which we conceive to be so natural a period of bodies, is but an accident; and that matter maketh not that haste to corruption that is conceived. And therefore bodies in shining amber, in quick-silver, in balms, (whereof we now speak,) in wax, in honey, in gums, and (it may be) in conservatories of snow, &c. are preserved very long. It need not go for repetition, if we resume again that which we said in the aforesaid experiment concerning annihilation; namely, that if you provide against three causes of putrefaction, bodies will not corrupt: the first is, that the air be excluded, for that undermineth the body, and conspireth with the spirit of the body to dissolve it. The second is, that the body adjacent and ambient be not commaterial, but merely heterogeneal towards the body that is to be preserved; for if nothing can be received by the one, nothing can issue from the other; such are quick-silver and white amber, to herbs, and flies, and such bodies. The third is, that the body to be preserved be not of that gross that it may corrupt within it self, although no part of it issue into the body adjacent: and therefore it must be rather thin and small, than of bulk. There is a fourth remedy also, which is, that if the body to be preserved be of bulk, as a corps is, then the body that encloseth it must have a virtue to draw forth, and dry the moisture of the inward body; for else the putrefaction will play within, though nothing issue forth. I remember *Livy* doth relate, that there were found at a time two coffins of lead in a tomb; whereof the one contained the body of king *Numa*, it being some four hundred years after his death: and the other, his books of sacred rites and ceremonies, and the discipline of the pontifs; and that in the coffin that had the body, there was nothing (at all) to be seen, but a little light cinders about the sides; but in the coffin that had the books, they were found as fresh as if they had been but newly written, being written in parchment, and covered over with watch candles of wax three or four fold. By this it seemeth that the *Romans* in *Numa's* time were not so good embalmers as the *AEgyptians* were; which was the cause that the body was utterly consumed. But I find in *Plutarch*, and others, that when *Augustus Caesar* visited the sepulchre of *Alexander the Great* in *Alexandria*, he found the body to keep its dimension: but withal, that notwithstanding all the embalming, (which no doubt was of the best,) the body was so tender, as *Caesar* touching but the nose of it, defaced it. Which maketh me find it very strange, that the *AEgyptian* mummies should be reported to be as hard as stone-pitch; for I find no difference but one, which indeed may be very material; namely, that the ancient *AEgyptian* mummies were shrowded in a number of folds of linen, besmeared with gums, in manner of sear-cloth, which it doth not appear was practised upon the body of *Alexander*.

Experiment solitary touching the abundance of nitre in certain sea-shores.

772. NEAR the castle of *Caty*, and by the wells of *Assan*, in the land of *Idumaea*, a great part of the way you would think the sea were near at hand, tho' it be a good distance off: and it is nothing but the shining of the nitre upon the sea-sands, such abundance of nitre the shores there do put forth.

Experiment solitary touching bodies that are born up by water.

773. THE dead-sea, which vomiteth up *bitumen*, is of that craffitude, as living bodies bound hand and foot cast into it have been born up, and not sunk; which sheweth, that all sinking into water is but an over-weight of the body put into the water in respect of the water; so that you may make water so strong and heavy, of quick-silver, (perhaps) or the like, as may bear up iron; of which I see no use, but imposture. We see also, that all metals except gold, for the same reason swim upon quick-silver.

Experiment solitary touching fuel that consumeth little or nothing.

774. IT is reported, that at the foot of a hill, near the *mare mortuum*, there is a black stone (whereof pilgrims make fires) which burneth like a coal, and diminisheth not, but only waxeth brighter and whiter. That it should do so, is not strange; for we see iron red-hot burneth, and consumeth not; but the strangeness is, that it should continue any time so: for iron, as soon as it is out of the fire, deadeth straitways. Certainly it were a thing of great use and profit, if you could find out fuel that would burn hot, and yet last long: neither am I altogether incredulous, but there may be such candles as they say are made of salamander's wool; being a kind of mineral, which whiteneth also in the burning, and consumeth not. The question is this; flame must be made of somewhat, and commonly it is made of some tangible body which hath weight: but it is not impossible perhaps that it should be made of spirit, or vapour, in a body, (which spirit or vapour hath no weight,) such as is the matter of *ignis fatuus*. But then you will say, that that vapour also can last but a short time: to that it may be answer'd, that by the help of oil, and wax, and other candle-stuff, the flame may continue, and the wick not burn.

Experiment solitary oeconomical touching cheap fuel.

775. SEA-COAL lasts longer than char-coal; and char-coal of roots, being coaled into great pieces, lasts longer than ordinary char-coal. Turf and peat, and cow-sheards, are cheap fuels, and last long. Small-coal, or briar-coal, poured upon char-coal, make them last longer. Sedge is a cheap fuel to brew or bake with; the rather because it is good for nothing else. Trial would be made of some mixture of sea-coal with earth or chalk; for if that mixture be, as the sea-coal men use it, privily, to make the bulk of the coal greater, it is deceit; but if it be used purposely, and be made known, it is saving.

Experiment solitary touching the gathering of wind for freshnes.

776. IT is at this day in use in *Gaza*, to couch potsherds or vessels of earth in their walls to gather the wind from the top, and to pass it down in spouts into rooms. It is a device for freshnes in great heats: and it is said, there are some rooms in *Italy* and *Spain* for freshnes, and gathering the winds and air in the heats of summer: but they be but pennings of the winds, and enlarging them again, and making them reverberate and go round in circles, rather than this device of spouts in the wall.

Experiment solitary touching the trials of airs.

777. THERE would be used much diligence in the choice of some bodies and places (as it were) for the tasting of air; to discover the wholesomeness
or

or unwholesomeness, as well of seasons, as of the seats of dwellings. It is certain, that there be some houses wherein confitures and pies will gather mould more than in others. And I am persuaded, that a piece of raw flesh or fish, will sooner corrupt in some airs than in others. They be noble experiments that can make this discovery; for they serve for a natural divination of seasons, better than the astronomers can by their figures: and again, they teach men where to chuse their dwelling, for their better health.

Experiment solitary touching encreasing of milk in milch beasts.

778. THERE is a kind of stone about *Bethlehem*, which they grind to powder, and put into water, whereof cattle drink, which maketh them give more milk. Surely there would be some better trials made of mixtures of water in ponds for cattle, to make them more milch, or to fatten them, or to keep them from murrain. It may be chalk and nitre are of the best.

Experiment solitary touching sand of the nature of glass.

779. IT is reported, that in the valley near the mountain *Carmel* in *Judaea* there is a sand, which of all other hath most affinity with glass; inso-much as other minerals laid in it turn to a glassy substance without the fire; and again, glass put into it turneth into the mother sand. The thing is very strange, if it be true: and it is likeliest to be caused by some natural furnace or heat in the earth; and yet they do not speak of any eruption of flames. It were good to try in glass-works, whether the crude materials of glass, mingled with glass, already made and re-moulten, do not facilitate the making of glass with less heat.

Experiment solitary touching the growth of coral.

780. IN the sea, upon the south-west of *Sicily*, much coral is found. It is a sub-marine plant, it hath no leaves: it brancheth only when it is under water; it is soft, and green of colour; but being brought into the air, it becometh hard and shining red, as we see. It is said also to have a white berry; but we find it not brought over with the coral. Belike it is cast away as nothing worth: enquire better of it, for the discovery of the nature of the plant.

Experiment solitary touching the gathering of manna.

781. The manna of *Calabria* is the best, and in most plenty. They gather it from the leaf of the mulberry tree; but not of such mulberry trees as grow in the valleys. And manna falleth upon the leaves by night, as other dews do. It should seem, that before those dews come upon trees in the valleys, they dissipate and cannot hold out. It should seem also, the mulberry leaf it self hath some coagulating virtue, which inspissateth the dew, for that it is not found upon other trees: and we see by the silk-worm which feedeth upon that leaf, what a dainty smooth juice it hath; and the leaves also, (especially of the black mulberry) are somewhat bristly, which may help to preserve the dew. Certainly it were not amiss to observe a little better the dews that fall upon trees, or herbs, growing on mountains; for it may be, many dews fall, that spend before they come to the valleys. And I suppose, that he that would gather the best *May-dew* for medicine, should gather it from the hills.

Expe-

Experiment solitary touching the correcting of wine.

782. IT is said, they have a manner to prepare their *Greek* wines, to keep them from fuming and inebriating, by adding some sulphur or alume: whereof the one is unctuous, and the other is astringent. And certain it is, that those two natures do best repress fumes. This experiment would be transferred unto other wine and strong beer, by putting in some like substances while they work; which may make them both to fume less, and to inflame less.

Experiment solitary touching the materials of wild-fire.

783. IT is conceived by some, (not improbably) that the reason why wild-fires (whereof the principal ingredient is *bitumen*) do not quench with water, is, for that the first concretion of *bitumen*, is a mixture of a fiery and watery substance: so is not sulphur. This appeareth, for that in the place near *Puteoli*, which they call the court of *Vulcan*, you shall hear under the earth a horrible thundring of fire and water conflicting together: and there break forth also spouts of boiling water. Now that place yieldeth great quantities of *bitumen*; whereas *AEtna*, and *Vesuvius*, and the like, which consist upon sulphur, shoot forth smoak, and ashes, and pumice, but no water. It is reported also, that *bitumen* mingled with lime, and put under water, will make as it were an artificial rock; the substance becometh so hard.

Experiment solitary touching plaister growing as hard as marble.

784. THERE is a cement, compounded of flower, whites of eggs, and stone powdered, that becometh hard as marble: wherewith *Piscina Mirabilis*, near *Cuma*, is said to have the walls plaistered. And it is certain and tried, that the powder of load-stone and flint, by the addition of whites of eggs and gum-dragon, made into paste, will in a few days harden to the hardness of a stone.

Experiment solitary touching judgment of the cure in some ulcers and burts.

785. It hath been noted by the ancients, that in full or impure bodies, ulcers or hurts in the legs are hard to cure, and in the head more easy. The cause is, for that ulcers or hurts in the legs require desiccation, which by the defluxion of humours to the lower parts is hindered; whereas hurts and ulcers in the head require it not; but contrariwise dryness maketh them more apt to consolidate. And in modern observation, the like difference hath been found between *French-men* and *English-men*; whereof the one's constitution is more dry, and the other's more moist. And therefore a hurt of the head is harder to cure in a *French-man*, and of the leg in an *English-man*.

Experiment solitary touching the healthfulness or unhealthfulness of the southern wind.

786. IT hath been noted by the ancients, that southern winds, blowing much, without rain, do cause a feverous disposition of the year; but with rain, not. The cause is, for that southern winds do of themselves qualify the air, to be apt to cause fevers; but when showers are joined, they do refrigerate in part, and check the sultry heat of the southern wind. Therefore this holdeth not in the sea-coasts, because the vapour of the sea, without showers, doth refresh.

Experiment solitary touching wounds.

787. IT hath been noted by the ancients, that wounds which are made with brasse, heal more easily than wounds made with iron. The cause is, for that brasse hath in it self a fanative virtue; and so in the very instant helpeth somewhat: but iron is corrosive, and not fanative. And therefore it were good, that the instruments which are used by chirurgeons about wounds, were rather of brasse than iron.

Experiment solitary touching mortification by cold.

788. IN the cold countries, when men's noses and ears are mortified, and (as it were) gangrened with cold, if they come to a fire they rot off presently. The cause is, for that the few spirits that remain in those parts, are suddenly drawn forth, and so putrefaction is made compleat. But snow put upon them helpeth; for that it preserveth those spirits that remain, till they can revive; and besides, snow hath in it a secret warmth: as the monk proved out of the text; *qui dat nivem sicut lanam, gelu sicut cineres spargit*. Whereby he did infer, that snow did warm like wool, and frost did fret like ashes. Warm water also doth good; because by little and little it openeth the pores, without any sudden working upon the spirits. This experiment may be transferred unto the cure of gangrenes, either coming of themselves, or induced by too much applying of opiates: wherein you must beware of dry heat, and resort to things that are refrigerant, with an inward warmth and virtue of cherishing.

Experiment solitary touching weight.

789. WEIGH iron and *aqua fortis* severally; then dissolve the iron in the *aqua fortis*, and weigh the dissolution; and you shall find it to bear as good weight as the bodies did severally; notwithstanding a good deal of waste, by a thick vapour that issueth during the working: which sheweth that the opening of a body doth increase the weight. This was tried once or twice, but I know not whether there were any error in the trial.

Experiment solitary touching the super-natation of bodies.

790. TAKE of *aqua fortis* two ounces, of quicksilver two drams, (for that charge the *aqua fortis* will bear;) the dissolution will not bear a flint as big as a nutmeg: yet (no doubt) the increasing of the weight of water, will increase its power of bearing; as we see brine, when it is salt enough, will bear an egg. And I remember well a physician, that used to give some mineral baths for the gout, &c. And the body when it was put into the bath, could not get down so easily as in ordinary water. But it seemeth, the weight of the quicksilver, more than the weight of a stone, doth not compensate the weight of a stone, more than the weight of the *aqua fortis*.

Experiment solitary touching the flying of unequal bodies in the air.

761. LET there be a body of unequal weight; (as of wood and lead, or bone and lead;) if you throw it from you with the light end forward, it will turn, and the weightier end will recover to be forwards; unless the body be over long. The cause is, for that the more dense body hath a more violent pressure of the parts from the first impulsion; which is the cause (though heretofore not found out, as hath been often said) of all violent motions: and when the hinder part moveth swifter, (for that it less endureth pressure

of parts) than the forward part can make way for it, it must needs be that the body turn over: for (turned) it can more easily draw forward the lighter part. *Galilaeus* noteth it well; that if an open trough wherein water is, be driven faster than the water can follow, the water gathereth upon an heap towards the hinder end, where the motion began; which he supposeth (holding confidently the motion of the earth) to be the cause of the ebbing and flowing of the ocean; because the earth over-runneeth the water. Which theory, though it be false, yet the first experiment is true. As for the inequality of the pressure of parts, it appeareth manifestly in this; that if you take a body of stone, or iron, and another of wood, of the same magnitude and shape, and throw them with equal force, you cannot possibly throw the wood so far as the stone or iron.

Experiment solitary touching water, that it may be the medium of sounds.

792. IT is certain, (as it hath been formerly in part touched) that water may be the medium of sounds. If you dash a stone against a stone in the bottom of the water, it maketh a sound. So a long pole struck upon gravel in the bottom of the water, maketh a sound. Nay, if you should think that the sound cometh up by the pole, and not by the water, you shall find that an anchor let down by a rope, maketh a sound; and yet the rope is no solid body whereby the sound can ascend.

Experiment solitary of the flight of the spirits upon odious objects.

793. ALL objects of the senses which are very offensive, do cause the spirits to retire; and upon their flight, the parts are (in some degree) destitute; and so there is induced in them a trepidation and horror. For sounds, we see that the grating of a saw, or any very harsh noise, will set the teeth on edge, and make all the body shiver. For tastes, we see, that in the taking of a potion, or pills, the head and the neck shake. For odious smells, the like effect followeth, which is less perceived, because there is a remedy at hand by stopping of the nose: but in horses that can use no such help, we see the smell of a carrion, especially of a dead horse, maketh them fly away, and take on almost as if they were mad. For feeling, if you come out of the sun suddenly into a shade, there followeth a chillness or shivering in all the body. And even in sight, which hath (in effect) no odious object, coming into sudden darkness, induceth an offer to shiver.

Experiment solitary touching the super-reflexion of echo's.

794. THERE is in the city of *Ticinum* in *Italy*, a church that hath windows only from above: it is in length an hundred feet, in breadth twenty feet, and in height near fifty; having a door in the midst. It reporteth the voice twelve or thirteen times, if you stand by the close end wall, over-against the door. The echo fadeth, and dieth by little and little, as the echo at *Pont-Charenton* doth. And the voice soundeth, as if it came from above the door. And if you stand at the lower end, or on either side of the door, the echo holdeth; but if you stand in the door, or in the midst just over-against the door, not. Note that all echo's sound better against old walls than new; because they are more dry and hollow.

Experiment solitary touching the force of imagination, imitating that of the sense.

795. THOSE effects which are wrought by the percussion of the sense, and
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by things in fact, are produced likewise in some degree by the imagination. Therefore if a man see another eat sour or acid things, which set the teeth on edge, this object tainteth the imagination. So that he that seeth the thing done by another, hath his own teeth also set on edge. So if a man see another turn swiftly and long; or if he look upon wheels that turn, himself waxeth turn-sick. So if a man be upon an high place without rails, or good hold, except he be used to it, he is ready to fall: for imagining a fall, it putteth his spirits into the very action of a fall. So many upon the seeing of others bleed, or strangled, or tortured, themselves are ready to faint, as if they bled, or were in strife.

Experiment solitary touching preservation of bodies.

796. TAKE a stock-gilly-flower, and tie it gently upon a stick, and put them both into a stoop glass full of quicksilver, so that the flower be covered: then lay a little weight upon the top of the glass, that may keep the stick down; and look upon them after four or five days; and you shall find the flower fresh, and the stalk harder, and less flexible, than it was. If you compare it with another flower gathered at the same time, it will be the more manifest. This sheweth that bodies do preserve excellently in quicksilver; and not preserve only, but by the coldness of the quicksilver indurate; for the freshness of the flower may be merely conservation; which is the more to be observed, because the quicksilver presseth the flower; but the stiffness of the stalk cannot be without induration, from the cold (as it seemeth) of the quicksilver.

Experiment solitary touching the growth or multiplying of metals.

797. IT is reported by some of the ancients, that in *Cyprus* there is a kind of iron, that being cut into pieces, and put into the ground, if it be well water'd, will encrease into greater pieces. This is certain, and known of old; that lead will multiply and encrease; as hath been seen in old statues of stone which have been put in cellars; the feet of them being bound with leaden bands; where (after a time) there appeared, that the lead did swell; inasmuch as it hanged upon the stone like warts.

Experiment solitary touching the drowning of the more base metal in the more precious.

798. I call drowning of metals, when that the baser metal is so incorporate with the more rich, as it can by no means be separated again; which is a kind of version, though false: as if silver should be inseparably incorporated with gold; or copper, and lead, with silver. The ancient *electrum* had in it a fifth of silver to the gold, and made a compound metal, as fit for most uses as gold; and more resplendent, and more qualified in some other properties; but then that was easily separated. This to do privily, or to make the compound pass for the rich metal simple, is an adulteration or counterfeiting: But if it be done avowedly, and without disguising, it may be a great saving of the richer metal. I remember to have heard of a man, skilful in metals, that a fifteenth part of silver incorporate with gold, will not be recovered by any water of separation, except you put a greater quantity of silver to draw to it the less; which (he said) is the last refuge in separations. But that is a tedious way, which no man (almost) will think on. This would be better enquired; and the quantity of the fifteenth turned to a twentieth; and likewise with some little additional, that may further the in-

trinfick incorporation. Note, that filver in gold will be detected by weight, compared with the dimension; but lead in filver, (lead being the weightier metal,) will not be detected; if you take so much the more filver, as will countervail the over-weight of the lead.

Experiment solitary touching fixation of bodies.

799. GOLD is the only substance, which hath nothing in it volatile, and yet melteth without much difficulty. The melting sheweth that it is not jejune, or scarce in spirit. So that the fixing of it is not want of spirit to fly out, but the equal spreading of the tangible parts, and the close coacervation of them: whereby they have the less appetite, and no means (at all) to issue forth. It were good therefore to try, whether glass remolten do lose any weight? for the parts in glass are evenly spread; but they are not so close as in gold; as we see by the easy admission of light, heat, and cold; and by the smallness of the weight. There be other bodies fixed which have little or no spirit; so as there is nothing to fly out; as we see in the stuff, whereof coppels are made; which they put into furnaces, upon which fire worketh not: so that there are three causes of fixation; the even spreading both of the spirits and tangible parts, the closeness of the tangible parts, and the jejuneness or extreme comminution of spirits; of which three, the two first may be joined with a nature liquefiable, the last not.

Experiment solitary touching the restless nature of things in themselves, and their desire to change.

800. IT is a profound contemplation in nature, to consider of the emptiness (as we may call it) or insatisfaction of several bodies, and of their appetite to take in others. Air taketh in lights, and sounds, and smells, and vapours; and it is most manifest, that it doth it with a kind of thirst, as not satisfied with its own former consistence; for else it would never receive them in so suddenly and easily. Water, and all liquors, do hastily receive dry and more terrestrial bodies, proportionable: and dry bodies, on the other side, drink in waters and liquors: so that (as it was well said by one of the ancients, of earthy and watery substances) one is a glue to another. Parchment, skins, cloth, &c. drink in liquors, though themselves be entire bodies, and not comminuted, as sand and ashes, not apparently porous: metals themselves do receive in readily strong-waters; and strong-waters likewise do readily pierce into metals and stones: and that strong-water will touch upon gold, that will not touch upon silver; and *è converso*. And gold, which seemeth by the weight to be the closest and most solid body, doth greedily drink in quick-silver. And it seemeth, that this reception of other bodies is not violent: for it is (many times) reciprocal, and as it were with consent. Of the cause of this, and to what axiom it may be referred, consider attentively; for as for the pretty assertion, that matter is like a common strumpet that desireth all forms, it is but a wandering notion. Only flame doth not content it self to take in any other body, but either to overcome and turn another body into it self, as by victory: or it self to die, and go out.



NATURAL HISTORY.

CENT. IX.

Experiments in consort touching perception in bodies insensible, tending to natural divination or subtile trials.

IT is certain, that all bodies whatsoever, though they have no sense, yet they have perception: for when one body is applied to another, there is a kind of election to embrace that which is agreeable, and to exclude or expel that which is ingrate: and whether the body be alterant, or altered, evermore a perception precedeth operation; for else all bodies would be alike one to another. And sometimes this perception, in some kind of bodies, is far more subtile than the sense; so that the sense is but a dull thing in comparison of it: we see a weather-glass will find the least difference of the weather, in heat, or cold, when men find it not. And this perception also is sometimes at distance, as well as upon the touch; as when the load-stone draweth iron; or flame fireth *Naphtha* of *Babylon*, a great distance off. It is therefore a subject of a very noble enquiry, to enquire of the more subtile perceptions; for it is another key to open nature, as well as the sense, and sometimes better. And besides, it is a principal means of natural divination; for that which in these perceptions appeareth early, in the great effects cometh long after. It is true also, that it serveth to discover that which is hid, as well as to foretel that which is to come, as it is in many subtile trials; as to try whether seeds be old or new, the sense cannot inform; but if you boil them in water, the new seeds will sprout sooner: and so of water, the taste will not discover the best water; but the speedy consuming of it, and many other means, which we have heretofore set down, will discover it. So in all physiognomy, the lineaments of the body will discover those natural inclinations of the mind which dissimulation will conceal, or discipline will suppress. We shall therefore now handle only those two perceptions, which pertain to natural divination and discovery; leaving the handling of perception in other things to be disposed elsewhere. Now it is true, that divination is attained by other means; as if you know the causes, if you know the concomitants, you may judge of the effect to follow: and the like may be said of discovery; but we tie our selves here to that divination and discovery chiefly, which is caused by an early or subtile perception.

THE aptness or propension of air or water, to corrupt or putrefy, (no doubt) is to be found before it break forth into manifest effects of diseases, blasting,

blasting, or the like. We will therefore set down some prognosticks of pestilential and unwholesome years.

801. THE wind blowing much from the south without rain, and worms in the oak-apple, have been spoken of before. Also the plenty of frogs, grasshoppers, flies, and the like creatures bred of putrefaction, doth portend pestilential years.

802. GREAT and early heats in the spring, (and namely in *May*,) without winds, portend the same; and generally so do years with little wind or thunder.

803. GREAT droughts in summer, lasting till towards the end of *August*, and some gentle showers upon them, and then some dry weather again, do portend a pestilent summer the year following: for about the end of *August* all the sweetness of the earth, which goeth into plants and trees, is exhalled, (and much more if the *August* be dry;) so that nothing then can breathe forth of the earth but a gross vapour, which is apt to corrupt the air: and that vapour, by the first showers, if they be gentle, is released, and cometh forth abundantly. Therefore they that come abroad soon after those showers, are commonly taken with sickness: and in *Africa*, no body will stir out of doors after the first showers. But if the first showers come vehemently, then they rather wash and fill the earth, than give it leave to breathe forth presently. But if dry weather come again, then it fixeth and continueth the corruption of the air, upon the first showers begun; and maketh it of ill influence, even to the next summer; except a very frosty winter discharge it, which seldom succeedeth such droughts.

804. THE lesser infections, of the small-pox, purple fevers, agues, in the summer precedent, and hovering all winter, do portend a great pestilence in the summer following; for putrefaction doth not rise to its height at once.

805. IT were good to lay a piece of raw flesh or fish in the open air; and if it putrefy quickly, it is a sign of a disposition in the air to putrefaction. And because you cannot be informed whether the putrefaction be quick or late, except you compare this experiment with the like experiment in another year, it were not amiss in the same year, and at the same time, to lay one piece of flesh or fish in the open air, and another of the same kind and bigness within doors: for I judge, that if a general disposition be in the air to putrefy, the flesh, or fish, will sooner putrefy abroad where the air hath more power, than in the house, where it hath less, being many ways corrected. And this experiment would be made about the end of *March*: for that season is likeliest to discover what the winter hath done, and what the summer following will do, upon the air. And because the air (no doubt) receiveth great tincture and infusion from the earth; it were good to try that exposing of flesh, or fish, both upon a stake of wood some height above the earth, and upon the flat of the earth.

806. TAKE *May* dew, and see whether it putrefy quickly or no; for that likewise may disclose the quality of the air, and vapour of the earth, more or less corrupted.

807. A dry *March* and a dry *May*, portend a wholesome summer, if there be a showering *April* between: but otherwise it is a sign of a pestilential year.

808. As the discovery of the disposition of the air is good for the prognosticks of wholesome and unwholesome years; so it is of much more use, for the choice of places to dwell in: at the least, for lodges, and retiring places
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for health: (for mansion-houses respect provisions as well as health,) wherein the experiments above-mentioned may serve.

809. BUT for the choice of places, or seats, it is good to make trial, not only of aptness of air to corrupt, but also of the moisture and dryness of the air, and the temper of it, in heat or cold; for that may concern health diversely. We see that there be some houses, wherein sweet meats will relent, and baked meats will mould, more than in others; and wainscots will also sweat more; so that they will almost run with water: all which (no doubt) are caused chiefly by the moistness of the air in those seats. But because it is better to know it before a man buildeth his house than to find it after, take the experiments following.

810. LAY wool, or a sponge, or bread, in the place you would try, comparing it with some other places; and see whether it doth not moisten, and make the wool, or sponge, &c. more ponderous than the other: and if it do, you may judge of that place, as situate in a gross and moist air.

811. BECAUSE it is certain, that in some places, either by the nature of the earth, or by the situation of woods and hills, the air is more unequal than in others; and inequality of air is ever an enemy to health; it were good to take two weather-glasses, matches in all things, and to set them, for the same hours of one day, in several places, where no shade is, nor enclosures; and to mark when you set them, how far the water cometh; and to compare them, when you come again, how the water standeth then: and if you find them unequal, you may be sure that the place where the water is lowest is in the warmer air, and the other in the colder. And the greater the inequality be, of the ascent or descent of the water, the greater is the inequality of the temper of the air.

812. THE predictions likewise of cold and long winters, and hot and dry summers, are good to be known; as well for the discovery of the causes, as for divers provisions. That of plenty of haws and hips, and briar-berries, hath been spoken of before. If wainscot, or stone, that have used to sweat, be more dry in the beginning of winter, or the drops of the eaves of houses come more slowly down than they use, it portendeth a hard and frosty winter. The cause is, for that it sheweth an inclination of the air to dry weather; which in winter is ever joined with frost.

813. GENERALLY a moist and a cool summer portendeth a hard winter. The cause is, for that the vapours of the earth are not dissipated in the summer by the sun; and so they rebound upon the winter.

814. A hot and dry summer, and autumn, and especially if the heat and drought extend far into *September*, portendeth an open beginning of winter; and colds to succeed toward the latter part of the winter, and the beginning of the spring: for till then, the former heat and drought bear the sway; and the vapours are not sufficiently multiplied.

815. AN open and warm winter portendeth a hot and dry summer: for the vapours disperse into the winter showers; whereas cold and frost keepeth them in, and transporteth them into the late spring, and summer following.

816. BIRDS that use to change countries at certain seasons, if they come earlier, do shew the temperature of weather, according to that countrey whence they came: as the winter birds, (namely, woodcocks, feldfares, &c.) if they come earlier, and out of the northern countries, with us shew cold winters. And if it be in the same countrey, then they shew a temperature of season, like unto that season in which they come: as swallows, bats, euckoes,

cuckoes, &c. that come towards summer, if they come early shew a hot summer to follow.

817. THE prognosticks, more immediate, of weather to follow soon after, are more certain than those of seasons. The resounding of the sea upon the shore; and the murmur of winds in the woods, without apparent wind, shew wind to follow; for such winds breathing chiefly out of the earth, are not at the first perceived, except they be pent by water or wood. And therefore a murmur out of caves likewise portendeth as much.

818. THE upper regions of the air perceive the collection of the matter of tempests and winds, before the air here below: and therefore the obscuring of the smaller stars, is a sign of tempest following. And of this kind you shall find a number of instances in our inquisition *de ventis*.

819. GREAT mountains have a perception of the disposition of the air to tempests, sooner than the valleys or plains below: and therefore they say in *Wales*, when certain hills have their night-caps on, they mean mischief. The cause is, for that tempests, which are for the most part bred above in the middle region, (as they call it) are soonest perceived to collect in the places next it.

820. THE air, and fire, have subtile perceptions of wind rising, before men find it. We see the trembling of a candle will discover a wind that otherwise we do not feel; and the flexuous burning of flames doth shew the air beginneth to be unquiet; and so do coals of fire by casting off the ashes more than they use. The cause is, for that no wind at the first, till it hath struck and driven the air, is apparent to the sense: but flame is easier to move than air: and for the ashes, it is no marvel, though wind unperceived shake them off; for we usually try which way the wind bloweth, by casting up grafs, or chaff, or such light things into the air.

821. WHEN wind expireth from under the sea, as it causeth some resounding of the water (whereof we spake before) so it causeth some light motions of bubbles, and white circles of froth. The cause is, for that the wind cannot be perceived by the sense, until there be an eruption of a great quantity from under the water; and so it getteth into a body: whereas in the first putting up it cometh in little portions.

822. WE spake of the ashes that coals cast off; and of grafs and chaff carried by the wind; so any light thing that moveth, when we find no wind, sheweth a wind at hand; as when feathers, or down of thistles, fly to and fro in the air.

FOR prognosticks of weather from living creatures, it is to be noted; that creatures that live in the open air, (*sub dio*) must needs have a quicker impression from the air, than men that live most within doors; and especially birds who live in the air freest and clearest; and are aptest by their voice to tell tales what they find; and likewise by the motion of their flight to express the same.

823. WATER-fowls, (as sea-gulls, moor-hens, &c.) when they flock and fly together from the sea towards the shores; and contrariwise, land birds, (as crows, swallows, &c.) when they fly from the land to the waters, and beat the waters with their wings, do foreshew rain and wind. The cause is, pleasure that both kinds take in the moistness and density of the air; and so desire to be in motion, and upon the wing, whithersoever they would otherwise go: for it is no marvel, that water-fowl do joy most in that air, which is likest water; and land birds also, (many of them) delight in bathing, and moist air. For the same reason also, many birds do prune their feathers;

thers; and geese do gaggle; and crows seem to call upon rain: all which is but the comfort they seem to receive in the relenting of the air.

824. THE heron, when she soareth high, (so as sometimes she is seen to pass over a cloud) sheweth winds: but kites flying aloft, shew fair and dry weather. The cause may be, for that they both mount most into the air, of that temper wherein they delight: and the heron being a water-fowl, taketh pleasure in the air that is condensed; and besides, being but heavy of wing, needeth the help of the grosser air. But the kite affecteth not so much the grossness of the air, as the cold and freshness thereof; for being a bird of prey, and therefore hot, she delighteth in the fresh air; and (many times) flyeth against the wind; as trouts and salmons swim against the stream. And yet it is true also, that all birds find an ease in the depth of the air; as swimmers do in a deep water. And therefore when they are aloft, they can uphold themselves with their wings spread, scarce moving them.

825. FISHES, when they play towards the top of the water, do commonly foretel rain. The cause is, for that a fish hating the dry, will not approach the air till it groweth moist; and when it is dry, will fly it, and swim lower.

826. BEASTS do take comfort (generally) in a moist air; and it maketh them eat their meat better: and therefore sheep will get up betimes in the morning to feed against rain; and cattle, and deer, and coney, will feed hard before rain; and a heifer will put up her nose, and snuff in the air against rain.

827. THE trefoil against rain swelleth in the stalk; and so standeth more upright; for by wet, stalks do erect, and leaves bow down. There is a small red flower in the stubble-fields, which country people call the wincopie; which if it open in the morning, you may be sure of a fair day to follow.

828. EVEN in men, aches, and hurts, and corns, do engrieve either towards rain, or towards frost: for the one maketh the humours more to abound; and the other maketh them sharper. So we see both extremes bring the gout.

829. WORMS, vermin, &c. do foreshew (likewise) rain: for earth-worms will come forth, and moles will cast up more, and fleas bite more, against rain.

830. SOLID bodies likewise foreshew rain. As stones and wainscot when they sweat: and boxes and pegs of wood, when they draw and wind hard; though the former be but from an outward cause; for that the stone, or wainscot, turneth and beateth back the air against itself; but the latter is an inward swelling of the body of the wood itself.

Experiment solitary touching the nature of appetite in the stomach.

831. APPETITE is moved chiefly by things that are cold and dry; the cause is, for that cold is a kind of indigence of nature, and calleth upon supply; and so is dryness: and therefore all four things (as vinegar, juice of lemons, oil of vitriol, &c.) provoke appetite. And the disease which they call *appetitus caninus*, consisteth in the matter of an acid and glassy phlegm in the mouth of the stomach. Appetite is also moved by four things; for that four things induce a contraction in the nerves, placed in the mouth of the stomach; which is a great cause of appetite. As for the cause why onions, and salt, and pepper, in baked meats, move appetite, it is by vellication of those nerves; for motion whetteth. As for wormwood, olives, capers, and others of that kind which participate of bitterness, they move appetite by absterfion.

So as there be four principal causes of appetite; the refrigeration of the stomach joined with some dryness; contraction, vellication, and absterfion: besides hunger, which is an emptiness: and yet over-fasting doth (many times) cause the appetite to cease; for that want of meat maketh the stomach draw humours; and such humours as are light and cholerick, which quench appetite most.

Experiment solitary touching sweetness of odour from the rainbow.

832. It hath been observed by the ancients, that where a rainbow seemeth to hang over, or to touch, there breatheth forth a sweet smell. The cause is, for that this happeneth but in certain matters, which have in themselves some sweetness; which the gentle dew of the rainbow doth draw forth: and the like do soft showers; for they also make the ground sweet: but none are so delicate as the dew of the rainbow where it falleth. It may be also that the water itself hath some sweetness: for the rainbow consisteth of a glomeration of small drops, which cannot possibly fall, but from the air that is very low; and therefore may hold the very sweetness of the herbs and flowers, as a distilled water: for rain, and other dew that fall from high, cannot preserve the smell, being dissipated in the drawing up: neither do we know, whether some water itself may not have some degree of sweetness. It is true, that we find it sensibly in no pool, river, nor fountain; but good earth newly turn'd up, hath a freshness and good scent; which water, if it be not too equal, (for equal objects never move the sense) may also have. Certain it is, that bay-salt, which is but a kind of water congeal'd, will sometimes smell like violets.

Experiment solitary touching sweet smells.

833. To sweet smells heat is requisite, to concoct the matter; and some moisture to spread the breath of them. For heat, we see that woods and spices are more odorate in the hot countries, than in the cold: for moisture, we see that things too much dried, lose their sweetness: and flowers growing, smell better in a morning, or evening, than at noon. Some sweet smells are destroyed by approach to the fire; as violets, wall-flowers, gilly-flowers, pinks; and generally all flowers that have cool and delicate spirits. Some continue both on the fire, and from the fire; as rose-water, &c. Some do scarce come forth, or at least not so pleasantly, as by means of the fire; as juniper, sweet gums, &c. And all smells that are enclosed in a fast body, but (generally) those smells are the most grateful, where the degree of heat is small; or where the strength of the smell is allayed; for these things do rather woo the sense, than satiate it. And therefore the smell of violets and roses exceedeth in sweetness that of spices and gums: and the strongest sort of smells are best in a weft afar off.

Experiment solitary touching the corporeal substance of smells.

834. It is certain, that no smell issueth, but with emission of some corporeal substance; not as it is in light, and colours, and in sounds. For we see plainly, that smell doth spread nothing that distance that the other do. It is true, that some woods of oranges, and heaths of rosemary, will smell a great way into the sea, perhaps twenty miles; but what is that, since a peal of ordnance will do as much, which moveth in a small compass? Whereas those woods and heaths are of vast spaces; besides, we see that smells do adhere to hard bodies; as in perfuming of gloves, &c. which sheweth

sheweth them corporeal; and do last a great while, which founds and light do not.

Experiment solitary touching fetid and fragrant odours.

835. THE excrements of most creatures smell ill; chiefly to the same creature that voideth them: for we see besides that of man, that pigeons and horses thrive best, if their houses and stables be kept sweet; and so of cage birds: and the cat burieth that which she voideth: and it holdeth chiefly in those beasts which feed upon flesh. Dogs (almost) only of beasts delight in fetid odours; which sheweth there is somewhat in their sense of smell, differing from the smells of other beasts. But the cause why excrements smell ill, is manifest; for that the body itself rejecteth them; much more the spirits: and we see that those excrements that are of the first digestion, smell the worst; as the excrements from the belly: those that are from the second digestion less ill; as urine: and those that are from the third; yet less: for sweat is not so bad as the other two; especially of some persons, that are full of heat. Likewise most putrefactions are of an odious smell: for they smell either fetid or mouldy. The cause may be, for that putrefaction doth bring forth such a consistence, as is most contrary to the consistence of the body whilst it is sound: for it is a mere dissolution of that form. Besides, there is another reason which is profound: and it is, that the objects that please any of the senses, have (all) some equality, and (as it were) order in their composition: but where those are wanting, the object is ever ingrate. So mixture of many disagreeing colours is ever unpleasant to the eye: mixture of discordant sounds is unpleasant to the ear: mixture, or hotch-potch of many tastes, is unpleasant to the taste: harshness and ruggedness of bodies is unpleasant to the touch: now it is certain, that all putrefaction being a dissolution of the first form, is a mere confusion and unformed mixture of the part. Nevertheless it is strange, and seemeth to cross the former observation, that some putrefactions and excrements do yield excellent odours, as civet and musk; and as some think ambergrease: for diverse take it (though improbably) to come from the sperm of a fish: and the moss we spake of from apple-trees, is little better than an excretion. The reason may be, for that there passeth in the excrements, and remaineth in the putrefactions, some good spirits; especially where they proceed from creatures that are very hot. But it may be also joined with a further cause which is more subtle; and it is, that the senses love not to be over-pleased; but to have a commixture of somewhat that is in itself ingrate. Certainly, we see how discords in music, falling upon concords, make the sweetest strains: and we see again, what strange tastes delight the taste; as red herrings, caviary, parmesan, &c. And it may be the same holdeth in smells: for those kind of smells that we have mention'd, are all strong, and do pull and vellicate the sense. And we find also, that places where men urine, commonly have some smell of violets: and urine, if one hath eaten nutmeg, hath so too.

THE slothful, general, and indefinite contemplations, and notions, of the elements and their conjugations; of the influences of heaven; of heat, cold, moisture, drought, qualities active, passive, and the like; have swallowed up the true passages, and processes, and affects, and consistences of matter and natural bodies. Therefore they are to be set aside, being but notional and ill limited; and definite axioms are to be drawn out of measured instances: and so assent to be made to the more general axioms by scale. And of these kinds of processes of natures, and characters of matter, we will now set down some instances.

Experiment solitary touching the causes of putrefaction.

836. ALL putrefactions come chiefly from the inward spirits of the body; and partly also from the ambient body, be it air, liquor, or whatsoever else. And this last, by two means: either by ingress of the substance of the ambient body into the body putrefied; or else by excitation and solicitation of the body putrefied, and the parts thereof, by the body ambient. As for the received opinion, that putrefaction is caused, either by cold, or peregrine and preternatural heat, it is but nugation: for cold in things inanimate, is the greatest enemy that is to putrefaction; though it extinguisheth vivification, which ever consisteth in spirits attenuate, which the cold doth congeal and coagulate. And as for the peregrine heat, it is thus far true, that if the proportion of the adventine heat be greatly predominant to the natural heat and spirits of the body, it tendeth to dissolution, or notable alteration. But this is wrought by emission, or suppression, or suffocation, of the native spirits; and also by the disordination and discomposure of the tangible parts, and other passages of nature, and not by a conflict of heats.

Experiment solitary touching bodies unperfectly mixed.

837. IN versions, or main alterations of bodies, there is a medium between the body, as it is at first, and the body resulting; which medium is *corpus imperfecte mistum*, and is transitory, and not durable; as mists, smoaks, vapours, *chylus* in the stomach, living creatures in the first vivification: and the middle action, which produceth such imperfect bodies, is fitly called (by some of the ancients) iniquation, or inconcoction, which is a kind of putrefaction: for the parts are in confusion, till they settle one way or other.

Experiment solitary touching concoction and crudity.

838. The word concoction, or digestion, is chiefly taken into use from living creatures and their organs; and from thence extended to liquors and fruits, &c. Therefore they speak of meat concocted; urine and excrements concocted; and the four digestions, (in the stomach, in the liver, in the arteries and nerves, and in the several parts of the body,) are likewise called concoctions: and they are all made to be the works of heat: all which notions are but ignorant catches of a few things, which are most obvious to mens observations. The constantest notion of concoction is, that it should signify the degrees of alteration, of one body into another, from crudity to perfect concoction; which is the ultimity of that action or process: and while the body to be converted and altered, is too strong for the efficient that should convert or alter it, (whereby it resisteth and holdeth fast in some degree the first form or consistence) it is (all that while) crude and inconcoct; and the process is to be called crudity and inconcoction. It is true, that concoction is in great part the work of heat, but not the work of heat alone: for all things that further the conversion, or alteration, (as rest, mixture of a body already concocted, &c.) are also means to concoction. And there are of concoction two periods; the one assimilation, or absolute conversion and subaction; the other maturation; whereof the former is most conspicuous in the bodies of living creatures; in which there is an absolute conversion and assimilation of the nourishment into the body: and likewise in the bodies of plants: and again in metals, where there is a full transmutation. The other, (which is maturation) is seen in liquors and fruits; wherein there is not desired, nor pretended, an utter conversion, but only an alteration to that

that form, which is most sought for man's use ; as in clarifying of drinks, ripening of fruits, &c. But note, that there be two kinds of absolute conversions ; the one is, when a body is converted into another body, which was before ; as when nourishment is turned into flesh ; that is it which we call assimilation. The other is, when the conversion is into a body merely new, and which was not before ; as if silver should be turned to gold, or iron to copper : and this conversion is better called, for distinction sake, transmutation.

Experiment solitary touching alterations, which may be called majors.

839. THERE are also divers other great alterations of matter and bodies, besides those that tend to concoction and maturation ; for whatsoever doth so alter a body, as it returneth not again to that it was, may be called *alteratio major* ; as when meat is boiled, roasted, or fried, &c. or when bread and meat are baked ; or when cheese is made of curds, or butter of cream, or coals of wood, or bricks of earth ; and a number of others. But to apply notions philosophical to plebeian terms ; or to say, where the notions cannot fitly be reconciled, that there wanteth a term or nomenclature for it, (as the ancients used,) they be but shifts of ignorance ; for knowledge will be ever a wandering and indigested thing, if it be but a commixture of a few notions that are at hand and occur, and not excited from sufficient number of instances, and those well collated.

THE consistences of bodies are very diverse : dense, rare, tangible, pneumatical, volatile, fixed ; determinate, not determinate ; hard, soft, cleaving, not cleaving ; congelable, not congelable ; liquefiable, not liquefiable ; fragile, tough ; flexible, inflexible ; tractile, or to be drawn forth in length, intractile ; porous, solid ; equal and smooth, unequal ; venous, and fibrous, and with grains, entire ; and divers others ; all which, to refer to heat, and cold, and moisture, and drought, is a compendious and inutile speculation. But of these see principally our *Abecedarium naturae* ; and otherwise *sparsim* in this our *Sylva sylvarum* : nevertheless in some good part, we shall handle divers of them now presently.

Experiment solitary touching bodies liquefiable, and not liquefiable.

840. LIQUEFIABLE, and not liquefiable, proceed from these causes : liquefaction is ever caused by the detention of the spirits, which play within the body, and open it. Therefore such bodies as are more turgid of spirit, or that have their spirits more straitly imprisoned ; or again, that hold them better pleased and content, are liquefiable : for these three dispositions of bodies do arrest the emission of the spirits. An example of the first two properties is in metals ; and of the last in grease, pitch, sulphur, butter, wax, &c. The disposition not to liquefy proceedeth from the easy emission of the spirits, whereby the grosser parts contract ; and therefore bodies jejune of spirits, or which part with their spirits more willingly, are not liquefiable ; as wood, clay, free-stone, &c. But yet even many of those bodies that will not melt, or will hardly melt, will notwithstanding soften ; as iron in the forge ; and a stick bathed in hot ashes, which thereby becometh more flexible. Moreover there are some bodies which do liquefy or dissolve by fire ; as metals, wax, &c. and other bodies, which dissolve in water ; as salt, sugar, &c. The cause of the former proceedeth from the dilatation of the spirits by heat : the cause of the latter proceedeth from the opening of the tangible parts, which desire to receive the liquor. Again, there are some bodies

dies that dissolve with both; as gum, &c. And those be such bodies, as on the one side have good store of spirit; and on the other side, have the tangible parts indigent of moisture; for the former helpeth to the dilating of the spirits by the fire; and the latter stimulateth the parts to receive the liquor.

Experiment solitary touching bodies fragile and tough.

841. OF bodies, some are fragile; and some are tough, and not fragile; and in the breaking, some fragile bodies break but where the force is; some shatter and fly in many places. Of fragility, the cause is an impotency to be extended: and therefore stone is more fragile than metal; and so fictile earth is more fragile than crude earth; and dry wood than green. And the cause of this unaptness to extension, is the small quantity of spirits; (for it is the spirit that furthereth the extension or dilatation of bodies;) and it is ever concomitant with porosity, and with dryness in the tangible parts: contrariwise, tough bodies have more spirit, and fewer pores, and moister tangible parts: therefore we see that parchment or leather will stretch, paper will not; woollen cloth will tenter, linen scarcely.

Experiment solitary touching the two kinds of pneumatics in bodies.

842. ALL solid bodies consist of parts of two several natures, pneumatical and tangible; and it is well to be noted, that the pneumatical substance is in some bodies the native spirit of the body, and in some other, plain air that is gotten in: as in bodies deficcate, by heat or age: for in them, when the native spirit goeth forth, and the moisture with it, the air with time getteth into the pores. And those bodies are ever the more fragile; for the native spirit is more yielding and extensive, (especially to follow the parts,) than air. The native spirits also admit great diversity; as hot, cold, active, dull, &c. whence proceed most of the virtues and qualities (as we call them) of bodies: but the air intermixed is without virtues, and maketh things insipid, and without any extimulation.

Experiment solitary touching concretion and dissolution of bodies.

843. THE concretion of bodies is (commonly) solved by the contrary; as ice, which is congealed by cold, is dissolved by heat; salt and sugar, which are excocted by heat, are dissolved by cold and moisture. The cause is, for that these operations are rather returns to their former nature, than alterations; so that the contrary cureth. As for oil, it doth neither easily congeal with cold, nor thicken with heat. The cause of both effects, though they be produced by contrary efficient, seemeth to be the same; and that is, because the spirit of the oil, by either means, exhaleth little, for the cold keepeth it in; and the heat, (except it be vehement,) doth not call it forth. As for cold, though it take hold of the tangible parts, yet as to the spirits, it doth rather make them swell than congeal them: as when ice is congealed in a cup, the ice will swell instead of contracting, and sometimes rift.

Experiment solitary touching hard and soft bodies.

844. OF bodies, some (we see) are hard, and some soft: the hardness is caused (chiefly) by the jejuneness of the spirits, and their imparity with the tangible parts: both which, if they be in a greater degree, make them not only hard, but fragile and less enduring of pressure; as steel, stone, glass, dry wood, &c. Softness cometh (contrariwise) by the greater quantity

of

of spirits, (which ever helpeth to induce yielding and cession,) and by the more equal spreading of the tangible parts, which thereby are more sliding and following; as in gold, lead, wax, &c. But note, that soft bodies, (as we use the word) are of two kinds; the one, that easily giveth place to another body, but altereth not bulk, by rising in other places: and therefore we see that wax, if you put any thing into it, doth not rise in bulk, but only giveth place: for you may not think, that in printing of wax, the wax riseth up at all; but only the depressed part giveth place, and the other remaineth as it was. The other that altereth bulk in the cession, as water, or other liquors, if you put a stone or any thing into them, they give place (indeed) easily, but then they rise all over; which is a false cession; for it is in place, and not in body.

Experiment solitary touching bodies ductile and tensile.

845. ALL bodies ductile and tensile, (as metals) that will be drawn into wires; wool and tow that will be drawn into yarn or thread, have in them the appetite of not discontinuing strong, which maketh them follow the force that pulleth them out; and yet so, as not to discontinue or forsake their own body. Viscous bodies, (likewise) as pitch, wax, bird-lime, cheese toast-ed, will draw forth and rope. But the difference between bodies fibrous, and bodies viscous, is plain; for all wool, and tow, and cotton, and silk (especially raw-silk) have, besides their desire of continuance, in regard of the tenuity of their thread, a greediness of moisture; and by moisture to join and incorporate with other thread; especially if there be a little wreathing; as appeareth by the twisting of thread, and the practice of twirling about of spindles. And we see also, that gold and silver thread cannot be made without twisting.

Experiment solitary touching other passions of matter, and characters of bodies.

846. THE differences of imcompressible and not imcompressible, figurable and not figurable; mouldable, and not mouldable; scissible and not scissible; and many other passions of matter, are plebeian notions, applied unto the instruments and uses which men ordinarily practise; but they are all but the effects of some of these causes following; which we will enumerate without applying them, because that will be too long. The first is the cession or not cession of bodies, into a smaller space or room, keeping the outward bulk, and not flying up. The second is the stronger or weaker appetite in bodies to continuity, and to fly discontinuity. The third is the disposition of bodies to contract and not contract: and again, to extend or not extend. The fourth is the small quantity, or great quantity of the pneumatical in bodies. The fifth is the nature of the pneumatical, whether it be native spirit of the body, or common air. The sixth is, the nature of the native spirits in the body, whether they be active and eager, or dull and gentle. The seventh is the emission or detention of the spirits in bodies. The eighth is the dilatation, or contraction of the spirits in bodies, while they are detained. The ninth is the collocation of the spirits in bodies, whether the collocation be equal or unequal; and again, whether the spirits be coacervate or diffused. The tenth is the density or rarity of the tangible parts. The eleventh is the equality or inequality of the tangible parts. The twelfth is the digestion or crudity of the tangible parts. The thirteenth is the nature of the matter, whether sulphureous or mercurial, watery or oily, dry and terrestrial, or moist and liquid; which natures of sulphureous and mercurial, seem to be
natures

natures radical and principal. The fourteenth is the placing of the tangible parts in length or transverse; (as it is in the warp and the woof of textiles) more inward, or more outward, &c. The fifteenth is the porosity or imporosity betwixt the tangible parts, and the greatness or smallness of the pores. The sixteenth is the collocation and posture of the pores. There may be more causes; but these do occur for the present.

Experiment solitary touching induration by sympathy.

847. TAKE lead and melt it, and in the midst of it, when it beginneth to congeal, make a little dint or hole, and put quicksilver wrapped in a piece of linen into that hole, and the quicksilver will fix and run no more, and endure the hammer. This is a noble instance of induration, by consent of one body with another, and motion of excitation to imitate; for to ascribe it only to the vapour of lead, is less probable. *Quaere*, whether the fixing may be in such a degree, as it will be figured like other metals? For if so, you may make works of it for some purposes, so they come not near the fire.

Experiment solitary touching honey and sugar.

848. SUGAR hath put down the use of honey, insomuch as we have lost those observations and preparations of honey which the ancients had, when it was more in price. First, it seemeth that there was in old time tree-honey, as well as bee-honey, which was the tear or blood issuing from the tree: insomuch as one of the ancients relateth, that in *Trebisond* there was honey issuing from the box-trees, which made men mad. Again, in ancient time there was a kind of honey, which either of its own nature, or by art, would grow as hard as sugar, and was not so luscious as ours. They had also a wine of honey, which they made thus. They crushed the honey into a great quantity of water, and then strained the liquor; after they boiled it in a copper to the half; then they poured it into earthen vessels for a small time; and after turned it into vessels of wood, and kept it for many years. They have also at this day, in *Russia*, and those northern countries, mead-simple, which (well made and seasoned) is a good wholesome drink, and very clear. They use also in *Wales* a compound drink of mead, with herbs and spices. But mean while it were good, in recompence of that we have lost in honey, there were brought in use a sugar mead, (for so we may call it,) tho' without any mixture at all of honey; and to brew it, and keep it stale, as they use mead: for certainly, though it would not be so absterfivè, and opening, and solutive a drink as mead; yet it will be more grateful to the stomach, and more lenitive, and fit to be used in sharp diseases: for we see, that the use of sugar in beer and ale, hath good effects in such cases.

Experiment solitary touching the finer sort of base metals.

849. IT is reported by the ancients, that there was a kind of steel in some places, which would polish almost as white and bright as silver. And that there was in *India* a kind of brass, which (being polished) could scarce be discerned from gold. This was in the natural ure; but I am doubtful, whether men have sufficiently refined metals, which we count base; as whether iron, brass, and tin be refined to the height? But when they come to such a fineness, as serveth the ordinary use, they try no farther.

Experiment solitary touching cements and quarries.

850. THERE having been found certain cements under earth that are very soft;

soft; and yet, taken forth into the sun, harden as hard as marble: there are also ordinary quarries in *Somersetshire*, which in the quarry cut soft to any bigness, and in the building prove firm and hard.

Experiment solitary touching the altering of the colour of hairs and feathers.

851. LIVING creatures (generally) do change their hair with age, turning to be grey and white: as is seen in men, though some earlier, some later; in horses that are dappled, and turn white; in old squirrels that turn grisly; and many others. So do some birds; as cygnets from grey turn white; hawks from brown turn more white. And some birds there be that upon their moulting do turn colour; as robin-red-breasts, after their moulting, grow to be red again by degrees; so do goldfinches upon the head. The cause is, for that moisture doth (chiefly) colour hair and feathers; and dryness turneth them grey and white; now hair in age waxeth dryer: so do feathers. As for feathers, after moulting, they are young feathers, and so all one as the feathers of young birds. So the beard is younger than the hair of the head, and doth (for the most part) wax hoary later. Out of this ground a man may devise the means of altering the colour of birds, and the retardation of hoary-hairs. But of this see the fifth experiment.

Experiment solitary touching the differences of living creatures, male and female.

852. THE difference between male and female, in some creatures, is not to be discerned, otherwise than in the parts of generation: as in horses and mares, dogs and bitches, doves he and she, and others. But some differ in magnitude, and that diversly; for in most the male is the greater; as in man, pheasants, peacocks, turkeys, and the like: and in some few, as in hawks, the female. Some differ in the hair and feathers, both in the quantity, crispation and colours of them; as he-lions are hirsute, and have great mains: the shees are smooth like cats. Bulls are more crisp upon the forehead than cows; the peacock, and pheasant-cock, and goldfinch-cock, have glorious and fine colours; the hens have not. Generally the hees in birds have the fairest feathers. Some differ in divers feathers; as bucks have horns, does none; rams have more wreathed horns than ewes; cocks have great combs and spurs, hens little or none; boars have great fangs, sows much less. The turkey-cock hath great and swelling gills, the hen hath less; men have generally deeper and stronger voices than women. Some differ in faculty; as the cocks amongst singing-birds are the best singers. The chief cause of all these (no doubt) is, for that the males have more strength of heat than the females; which appeareth manifestly in this, that all young creatures males are like females; and so are eunuchs, and geld creatures of all kinds, liker females. Now heat causeth greatness of growth, generally, where there is moisture enough to work upon: but if there be found in any creature, (which is seen rarely) an over-great heat in proportion to the moisture, in them the female is the greater; as in hawks and sparrows. And if the heat be balanced with the moisture, then there is no difference to be seen between male and female; as in the instances of horses and dogs. We see also, that the horns of oxen and cows, for the most part, are larger than the bulls; which is caused by abundance of moisture, which in the horns of the bull faileth. Again, heat causeth pilosity and crispation, and so likewise beards in men. It also expelleth finer moisture, which want of heat cannot expel; and that is the cause of the beauty and variety of feathers. Again,

heat doth put forth many excrescences, and much solid matter, which want of heat cannot do: and this is the cause of horns, and of the greatness of them; and of the greatness of the combs and spurs of cocks, gills of turkey-cocks, and fangs of boars. Heat also dilateth the pipes and organs, which causeth the deepness of the voice. Again, heat refineth the spirits, and that causeth the cock-finging-bird to excel the hen.

Experiment solitary touching the comparative magnitude of living creatures.

853. THERE be fishes greater than any beasts; as the whale is far greater than the elephant: and beasts are (generally) greater than birds. For fishes, the cause may be, that because they live not in the air, they have not their moisture drawn and soaked by the air and sun-beams. Also they rest always in a manner, and are supported by the water; whereas motion and labour do consume. As for the greatness of beasts, more than of birds, it is caused, for that beasts stay longer time in the womb than birds, and there nourish and grow; whereas in birds, after the egg lay'd, there is no further growth or nourishment from the female; for the sitting doth vivify, and not nourish.

Experiment solitary touching exsufflation of fruits.

854. WE have partly touched before the means of producing fruits without cores or stones. And this we add farther, that the cause must be abundance of moisture; for that the core and stone are made of a dry sap: and we see, that it is possible to make a tree put forth only in blossom, without fruit; as in cherries with double flowers; much more in fruit without stone or cores. It is reported, that a cion of an apple, grafted upon a colewort-stalk, sendeth forth a great apple without a core. It is not unlikely, that if the inward pith of a tree were taken out, so that the juice came only by the bark, it would work the effect. For it hath been observed, that in pollards, if the water get in on the top, and they become hollow, they put forth the more. We add also, that it is delivered for certain by some, that if the cion be grafted the small end downwards, it will make fruit have little or no cores and stones.

Experiment solitary touching the melioration of tobacco.

855. TOBACCO is a thing of great price, if it be in request: for an acre of it will be worth (as is affirmed) two hundred pounds by the year towards charge. The charge of making the ground, and otherwise is great, but nothing to the profit; but the *English* tobacco hath small credit, as being too dull and earthy: nay, the *Virginian* tobacco, though that be in a hotter climate, can get no credit, for the same cause: so that a trial to make tobacco more aromatical, and better concocted here in *England*, were a thing of great profit. Some have gone about to do it by drenching the *English* tobacco in a decoction or infusion of *Indian* tobacco: but those are but sophistication and toys; for nothing that is once perfect, and hath run its race, can receive much amendment. You must ever resort to the beginnings of things for melioration. The way of maturation of tobacco must, as in other plants, be from the heat either of the earth, or of the sun: we see some leading of this in muskmelons, which are sown upon a hot bed dunded below, upon a bank turned upon the south sun, to give heat by reflexion; laid upon tiles, which increaseth the heat, and covered with straw to keep them from cold. They remove them also, which addeth some life: and by these helps

helps they become as good in *England*, as in *Italy* or *Provence*. These, and the like means, may be tried in tobacco. Enquire also of the steeping of roots, in some such liquor as may give them vigour to put forth strong.

Experiment solitary touching several heats working the same effects.

856. HEAT of the sun for the maturation of fruits; yea, and the heat of vivification of living creatures, are both represented and supplied by the heat of fire; and likewise the heats of the sun, and life, are represented one by the other. Trees set upon the backs of chimneys do ripen fruit sooner. Vines, that have been drawn in at the window of a kitchen, have sent forth grapes ripe a month (at least) before others. Stoves at the back of walls bring forth oranges here with us. Eggs, as is reported by some, have been hatched in the warmth of an oven. It is reported by the ancients, that the ostrich layeth her eggs under sand, where the heat of the sun discloseth them.

Experiment solitary touching swelling and dilatation in boiling.

857. BARLEY in the boiling swelleth not much; wheat swelleth more; rice extremely; insomuch as a quarter of a pint (unboiled) will arise to a pint boiled. The cause (no doubt) is, for that the more close and compact the body is, the more it will dilate: now barley is the most hollow; wheat more solid than that; and rice most solid of all. It may be also that some bodies have a kind of lentour, and more depertible nature than others; as we see it evident in coloration; for a small quantity of saffron will tinct more than a very great quantity of brasil or wine.

Experiment solitary touching the dulcoration of fruits.

858. FRUIT groweth sweet by rolling, or pressing them gently with the hand; as rolling pears, damascenes, &c. by rottenness; as medlars; services, sloes, hips, &c. by time; as apples, wardenes, pomgranates, &c. by certain special maturations; as by laying them in hay, straw, &c. and by fire; as in roasting, stewing, baking, &c. The cause of the sweetness by rolling and pressing, is emollition, which they properly induce; as in beating of stock-fish, flesh, &c. By rottenness is, for that the spirits of the fruit, by putrefaction gather heat, and thereby digest the harder parts, for in all putrefactions there is a degree of heat: By time and keeping is, because the spirits of the body do ever feed upon the tangible parts, and attenuate them: By several maturations is, by some degree of heat: And by fire is, because it is the proper work of heat to refine, and to incorporate; and all sourness consisteth in some grossness of the body: and all incorporation doth make the mixture of the body more equal in all the parts; which ever induceth a milder taste.

Experiment solitary touching flesh edible, and not edible.

859. OF fleshs, some are edible; some, except it be in famine, not. For those that are not edible, the cause is, for that they have (commonly) too much bitterness of taste; and therefore those creatures, which are fierce and cholerick, are not edible; as lions, wolves, squirrels, dogs, foxes, horses, &c. As for kine, sheep, goats, deer, swine, coney, hares, &c. we see they are mild and fearful. Yet it is true, that horses, which are beasts of courage, have been, and are eaten by some nations; as the *Scythians* were called *Hippophagi*; and the *Chinese* eat horse-flesh at this day; and some gluttons have

used to have colts-flesh baked. In birds, such as are *carnivorae*, and birds of prey, are commonly no good meat; but the reason is, rather the cholerick nature of those birds, than their feeding upon flesh: for pewets, gulls, shovelers, ducks, do feed upon flesh, and yet are good meat. And we see, that those birds which are of prey, or feed upon flesh, are good meat, when they are very young; as hawks, rooks out of the nest, owls, &c. man's flesh is not eaten. The reasons are three: first, because men in humanity do abhor it: secondly, because no living creature that dieth of it self is good to eat: and therefore the canibals (themselves) eat no man's flesh, of those that die of themselves, but of such as are slain. The third is, because there must be (generally) some disparity between the nourishment and the body nourished; and they must not be over-near, or like: yet we see, that in great weaknesses and consumptions, men have been sustained with woman's milk: and *Ficinus* fondly (as I conceive) adviseth, for the prolongation of life, that a vein be opened in the arm of some wholesome young man, and the blood to be sucked. It is said, that witches do greedily eat man's flesh; which if it be true, besides a devilish appetite in them, it is likely to proceed, for that man's flesh may send up high and pleasing vapours, which may stir the imagination; and witches felicity is chiefly in imagination, as hath been said.

Experiment solitary touching the salamander.

860. THERE is an ancient received tradition of the salamander, that it liveth in the fire, and hath force also to extinguish the fire. It must have two things, if it be true, to this operation: the one a very close skin, whereby flame, which in the midst is not so hot, cannot enter; for we see that if the palm of the hand be anointed thick with white of egg, and then *aqua vitae* be poured upon it and enflamed, yet one may endure the flame a pretty while. The other is some extreme cold, and quenching virtue in the body of that creature, which choaketh the fire. We see that milk quencheth wild fire better than water, because it entreth better.

Experiment solitary touching the contrary operations of time upon fruits and liquors.

861. TIME doth change fruits (as apples, pears, pomgranates, &c.) from more sour to more sweet: but contrariwise liquors (even those that are of the juice of fruit) from more sweet to more sour; as wort, muste, new verjuice, &c. The cause is, the congregation of the spirits together: for in both kinds the spirit is attenuated by time; but in the first kind it is more diffused, and more mastered by the grosser parts, which the spirits do but digest: but in drinks the spirits do reign, and finding less opposition of the parts, become themselves more strong; which causeth also more strength in the liquor: such, as if the spirits be of the hotter sort, the liquor becometh apt to burn; but in time, it causeth likewise, when the higher spirits are evaporated, more sourness.

Experiment solitary touching blows and bruises.

862. IT hath been observed by the ancients, that plates of metal, and especially of brass, applied presently to a blow, will keep it down from swelling. The cause is repercussion, without humectation, or entrance of any body: for the plate hath only a virtual cold, which doth not search into the hurt; whereas all plaisters and ointments do enter. Surely, the cause that blows and bruises induce swellings, is, for that the spirits resorting to succour

succour the part that laboureth, draw also the humours with them: for we see, that it is not the repulse and the return of the humour in the parts stricken that causeth it; for that gouts and tooth-aches cause swelling, where there is no percussio at all.

Experiment solitary touching the orrice root.

863. THE nature of the orrice root is almost singular; for there be few odoriferous roots; and in those that are in any degree sweet, it is but the same sweetness with the wood or leaf: but the orrice is not sweet in the leaf: neither is the flower any thing so sweet as the root. The root seemeth to have a tender dainty heat; which when it cometh above ground to the sun and the air, vanisheth: for it is a great mollifier; and hath a smell like a violet.

Experiment solitary touching the compression of liquors.

864. IT hath been observed by the ancients, that a great vessel full, drawn into bottles; and then the liquor put again into the vessel; will not fill the vessel again so full as it was, but that it may take in more liquor: and that this holdeth more in wine than in water. The cause may be trivial; namely, by the expence of the liquor, in regard some may stick to the sides of the bottles: but there may be a cause more subtile; which is, that the liquor in the vessel is not so much compressed as in the bottle; because in the vessel the liquor meeteth with liquor chiefly; but in the bottles a small quantity of liquor meeteth with the sides of the bottles, which compress it so that it doth not open again.

Experiment solitary touching the working of water upon air contiguous.

865. WATER, being contiguous with air, cooleth it, but moisteneth it not, except it vapour. The cause is, for that heat and cold have a virtual transition, without communication of substance; but moisture not: and to all madefaction there is required an imbibition: but where the bodies are of such several levity and gravity as they mingle not, there can follow no imbibition. And therefore, oil likewise lieth at the top of the water without commixture: and a drop of water running swiftly over a straw or smooth body, wetteth not.

Experiment solitary touching the nature of air.

866. STAR-light nights, yea and bright moon-shine nights, are colder than cloudy nights. The cause is, the dryness and fineness of the air, which thereby becometh more piercing and sharp; and therefore great continents are colder than islands: and as for the moon, though it self inclineth the air to moisture, yet when it shineth bright, it argueth the air is dry. Also close air is warmer than open air; which (it may be) is, for that the true cause of cold is an expiration from the globe of the earth, which in open places is stronger; and again, air it self, if it be not altered by that expiration, is not without some secret degree of heat; as it is not likewise without some secret degree of light: for otherwise cats and owls could not see in the night; but that air hath a little light, proportionable to the visual spirits of those creatures.

Experiments in consort touching the eyes and sight.

867. THE eyes do move one and the same way; for when one eye moveth

to the nostril, the other moveth from the nostril. The cause is motion of consent, which in the spirits and parts spiritual is strong. But yet use will induce the contrary; for some can squint when they will: and the common tradition is, that if children be set upon a table with a candle behind them, both eyes will move outwards; as affecting to see the light, and so induce squinting.

868. WE see more exquisitely with one eye shut, than with both open. The cause is, for that the spirits visual unite themselves more, and so become stronger. For you may see, by looking in a glass, that when you shut one eye, the pupil of the other eye that is open, dilateth.

869. THE eyes, if the sight meet not in one angle, see things double. The cause is, for that seeing two things, and seeing one thing twice, worketh the same effect: and therefore a little pellet held between two fingers laid across, seemeth double.

870. PORE-blind men see best in the dimmer light; and likewise have their sight stronger near hand, than those that are not pore-blind; and can read and write smaller letters. The cause is, for that the spirits visual in those that are pore-blind, are thinner and rarer than in others; and therefore the greater light disperseth them. For the same cause they need contracting; but being contracted, are more strong than the visual spirits of ordinary eyes are; as when we see through a level, the sight is the stronger; and so is it when you gather the eye-lids somewhat close: and it is commonly seen in those that are pore-blind, that they do much gather the eye-lids together. But old men, when they would see to read, put the paper somewhat afar off: The cause is, for that old men's spirits visual, contrary to those of pore-blind men, unite not, but when the object is at some good distance from their eyes.

871. MEN see better, when their eyes are over-against the sun, or a candle, if they put their hand a little before their eye. The reason is, for that the glaring of the sun, or the candle, doth weaken the eye; whereas the light circumfused is enough for the perception. For we see, that an over-light maketh the eyes dazzle; insomuch as perpetual looking against the sun would cause blindness. Again, if men come out of a great light into a dark room; and contrariwise, if they come out of a dark room into a light room, they seem to have a mist before their eyes, and see worse than they shall do, after they have stayed a little while, either in the light, or in the dark. The cause is, for that the spirits visual are upon a sudden change, disturbed and put out of order; and till they be recollected, do not perform their function well. For when they are much dilated by light, they cannot contract suddenly; and when they are much contracted by darkness, they cannot dilate suddenly. And excess of both these, (that is, of the dilatation and contraction of the spirits visual) if it be long, destroyeth the eye. For as long looking against the sun, or fire, hurteth the eye by dilatation; so curious painting in small volumes, and reading of small letters, do hurt the eye by contraction.

872. IT hath been observed, that in anger the eyes wax red; and in blushing, not the eyes, but the ears, and the parts behind them. The cause is, for that in anger the spirits ascend and wax eager: which is most easily seen in the eyes, because they are translucent; though withal it maketh both the cheeks and the gills red; but in blushing, it is true the spirits ascend likewise to succour both the eyes and the face, which are the parts that labour: but then they are repulsed by the eyes, for that the eyes in shame do

do put back the spirits that ascend to them, as unwilling to look abroad : for no man in that passion doth look strongly, but dejectedly ; and that repulsion from the eyes, diverteth the spirits and heat more to the ears, and the parts by them.

873. THE objects of the sight may cause a great pleasure and delight in the spirits, but no pain, or great offence ; except it be by memory, as hath been said. The glimpses and beams of diamonds that strike the eye ; *Indian* feathers, that have glorious colours ; the coming into a fair garden ; the coming into a fair room richly furnished ; a beautiful person ; and the like ; do delight and exhilarate the spirits much. The reason why it holdeth not in the offence, is, for that the sight is most spiritual of the senses ; whereby it hath no object gross enough to offend it. But the cause (chiefly) is, for that there be no active objects to offend the eye. For harmonical sounds, and discordant sounds, are both active and positive : so are sweet smells and stinks : so are bitter and sweet in tastes : so are over-hot and over-cold in touch : but blackness and darkness are indeed but privatives ; and therefore have little or no activity. Somewhat they do contristate, but very little.

Experiment solitary touching the colour of the sea, or other water.

874. WATER of the sea, or otherwise, looketh blacker when it is moved, and whiter when it resteth. The cause is, for that by means of the motion, the beams of light pass not straight, and therefore must be darkened ; whereas, when it resteth, the beams do pass straight. Besides, splendor hath a degree of whiteness ; especially if there be a little repercussion : for a looking-glass with the steel behind, looketh whiter than glass simple. This experiment deserveth to be driven farther, in trying by what means motion may hinder sight.

Experiment solitary touching shell-fish.

875. SHELL-fish have been, by some of the ancients, compared and sorted with the *insecta* ; but I see no reason why they should ; for they have male and female as other fish have : neither are they bred of putrefaction ; especially such as do move. Nevertheless it is certain, that oysters, and cockles, and muscles, which move not, have not discriminate sex. *Quære* in what time, and how they are bred ? It seemeth that shells of oysters are bred where none were before ; and it is tried, that the great horse-muscle, with the fine shell, that breedeth in ponds, hath bred within thirty years : but then, which is strange, it hath been tried, that they do not only gape and shut as the oysters do, but remove from one place to another.

Experiment solitary touching the right side and the left.

876. THE senses are alike strong, both on the right side and on the left ; but the limbs on the right side are stronger. The cause may be, for that the brain, which is the instrument of sense, is alike on both sides ; but motion, and habilities of moving, are somewhat holpen from the liver, which lieth on the right side. It may be also, for that the senses are put in exercise indifferently on both sides from the time of our birth ; but the limbs are used most on the right side, whereby custom helpeth ; for we see, that some are left-handed ; which are such as have used the left hand most.

Experiment solitary touching frictions.

877. FRICTIONS make the parts more fleshy and full; as we see both in men, and in the currying of horses, &c. The cause is, for that they draw greater quantity of spirits and blood to the parts: and again, because they draw the aliment more forcibly from within: and again, because they relax the pores, and so make better passage for the spirits, blood and aliment: lastly, because they dissipate and digest any inutile or excrementitious moisture, which lieth in the flesh; all which help assimilation. Frictions also do more fill and impinguate the body than exercise. The cause is, for that in frictions the inward parts are at rest; which in exercises are beaten (many times) too much: and for the same reason, (as we have noted heretofore,) gally-slaves are fat and fleshy, because they stir the limbs more, and the inward parts less.

Experiment solitary touching globes appearing flat at distance.

878. ALL globes afar off appear flat. The cause is, for that distance, being a secondary object of sight, is not otherwise discerned, than by more or less light; which disparity, when it cannot be discerned, all seemeth one: as it is (generally) in objects not distinctly discerned; for so letters, if they be so far off as they cannot be discerned, shew but as a dusky paper: and all engravings and embossings (afar off) appear plain.

Experiment solitary touching shadows.

879. THE uttermost parts of shadows seem ever to tremble. The cause is, for that the little motes which we see in the sun do ever stir, tho' there be no wind; and therefore those moving, in the meeting of the light and the shadow, from the light to the shadow, and from the shadow to the light, do shew the shadow to move, because the medium moveth.

Experiment solitary touching the rolling and breaking of the seas.

880. SHALLOW and narrow seas, break more than deep and large. The cause is, for that the impulsion being the same in both; where there is greater quantity of water, and likewise space enough, there the water rolleth and moveth, both more slowly, and with a sloper rise and fall: but where there is less water, and less space, and the water dasheth more against the bottom, there it moveth more swiftly, and more in precipice; for in the breaking of the waves there is ever a precipice.

Experiment solitary touching the dulcoration of salt water.

881. IT hath been observed by the ancients, that salt water boiled, or boiled and cooled again, is more potable, than of it self raw: And yet the taste of salt in distillations by fire riseth not, for the distilled water will be fresh. The cause may be, for that the salt part of the water doth partly rise into a kind of scum on the top, and partly goeth into a sediment in the bottom; and so is rather a separation than an evaporation. But it is too gross to rise into a vapour; and so is a bitter taste likewise; for simple distilled waters, of wormwood, and the like, are not bitter.

Experiment solitary touching the return of saltness in pits upon the sea-shore.

882. IT hath been set down before, that pits upon the sea-shore turn into fresh water, by percolation of the salt through the sand: but it is farther noted,

noted, by some of the ancients, that in some places of *Africa*, after a time, the water in such pits will become brackish again. The cause is, for that after a time, the very sands through which the salt water passeth, become salt; and so the strainer it self is tinged with salt. The remedy therefore is, to dig still new pits, when the old wax brackish; as if you would change your strainer.

Experiment solitary touching attraction by similitude of substance.

883. IT hath been observed by the ancients, that salt water will dissolve salt put into it in less time than fresh water will dissolve it. The cause may be, for that the salt in the precedent water doth, by similitude of substance, draw the salt new put in unto it; whereby it diffuseth in the liquor more speedily. This is a noble experiment, if it be true, for it sheweth means of more quick and easy infusions; and it is likewise a good instance of attraction, by similitude of substance. Try it with sugar put into water formerly sugar'd and into other water unsugar'd.

Experiment solitary touching attraction.

884. PUT sugar into wine, part of it above, part under the wine, and you shall find (that which may seem strange) that the sugar above the wine will soften and dissolve sooner than that within the wine. The cause is, for that the wine entereth that part of the sugar which is under the wine, by simple infusion or spreading; but that part above the wine is likewise forced by sucking; for all spongy bodies expel the air and draw in liquor, if it be contiguous: as we see it also in sponges put part above the water. It is worthy the enquiry, to see how you may make more accurate infusions, by help of attraction.

Experiment solitary touching heat under earth.

885. WATER in wells is warmer in winter than in summer; and so air in caves. The cause is, for that in the higher parts, under the earth, there is a degree of some heat; (as appeareth in sulphureous veins, &c.) which shut close in, (as in winter,) is the more; but if it perspire, (as it doth in summer,) it is the less.

Experiment solitary touching flying in the air.

886. IT is reported, that amongst the *Leucadians*, in ancient time, upon a superstition they did use to precipitate a man from a high cliff into the sea; tying about him with strings, at some distance, many great fowls; and fixing unto his body divers feathers, spread, to break the fall. Certainly many birds of good wing, (as kites, and the like,) would bear up a good weight as they fly; and spreading of feathers thin and close, and in great breadth, will likewise bear up a great weight, being even laid, without tilting upon the sides. The farther extension of this experiment for flying may be thought upon.

Experiment solitary touching the dye of scarlet.

887. THERE are in some places (namely in *Cephalenia*;) a little shrub which they call holly-oak, or dwarf-oak: upon the leaves whereof there riseth a tumor like a blister; which they gather, and rub out of it a certain red dust, that converteth (after a while) into worms, which they kill with wine, (as is reported,) when they begin to quicken: with this dust they dye scarlet.

Experiment solitary touching maleficiating.

888. IN *Zant* it is very ordinary to make men impotent, to accompany with their wives. The like is practised in *Gascony*; where it is called *No-ver l'eguillette*. It is practised always upon the wedding-day. And in *Zant* the mothers themselves do it, by way of prevention; because thereby they hinder other charms, and can undo their own. It is a thing the civil law taketh knowledge of; and therefore is of no light regard.

Experiment solitary touching the rise of water by means of flame.

889. IT is a common experiment, but the cause is mistaken. Take a pot, (or better a glass, because therein you may see the motion,) and set a candle lighted in the bottom of a basin of water, and turn the mouth of the pot or glass over the candle, and it will make the water rise. They ascribe it to the drawing of heat, which is not true: for it appeareth plainly to be but a motion of *nexe*, which they call *ne detur vacuum*; and it proceedeth thus. The flame of the candle, as soon as it is covered, being suffocated by the close air, lesseneth by little and little; during which time there is some little ascent of water, but not much: for the flame occupying less and less room, as it lesseneth, the water succeedeth. But upon the instant of the candle's going out, there is a sudden rise of a great deal of water; for that the body of the flame filleth no more place, and so the air and the water succeed. It worketh the same effect, if instead of water you put flower or sand into the basin: which sheweth, that it is not the flame's drawing the liquor as nourishment, as it is supposed; for all bodies are alike unto it, as it is ever in motion of *nexe*; insomuch as I have seen the glass, being held by the hand, hath lifted up the basin and all; the motion of *nexe* did so clasp the bottom of the basin. That experiment, when the basin was lifted up, was made with oil, and not with water: nevertheless this is true, that at the very first setting of the mouth of the glass upon the bottom of the basin, it draweth up the water a little, and then standeth at a stay, almost till the candle's going out, as was said. This may shew some attraction at first: but of this we will speak more, when we handle attractions by heat.

Experiments in consort touching the influences of the moon.

OF the power of the celestial bodies, and what more secret influences they have, besides the two manifest influences of heat and light, we shall speak when we handle experiments touching the celestial bodies: mean while we will give some directions for more certain trials, of the virtue and influences of the moon, which is our nearest neighbour.

THE influences of the moon (most observed) are four; the drawing forth of heat; the inducing of putrefaction; the encrease of moisture; the exciting of the motions of spirits.

890. FOR the drawing forth of heat, we have formerly prescribed to take water warm, and to set part of it against the moon-beams, and part of it with a screen between; and to see whether that which standeth exposed to the beams will not cool sooner. But because this is but a small interposition, (tho' in the sun we see a small shade doth much,) it were good to try it when the moon shineth, and when the moon shineth not at all; and with water warm in a glass-bottle, as well as in a dish; and with cinders, and with iron red hot, &c.

891. FOR the inducing of putrefaction, it were good to try it with flesh,
or

or fish, exposed to the moon-beams; and again exposed to the air, when the moon shineth not for the like time; to see whether will corrupt sooner: and try it also with capon, or some other fowl, laid abroad, to see whether it will mortify and become tender sooner; try it also with dead flies, or dead worms, having a little water cast upon them, to see whether will putrefy sooner. Try it also with an apple, or orange, having holes made in their tops, to see whether will rot or mould sooner? Try it also with *Holland* cheese, having wine put into it, whether will breed mites sooner or greater?

892. FOR the increase of moisture, the opinion received is; that seeds will grow soonest; and hair, and nails, and hedges, and herbs, cut, &c. will grow soonest, if they be set or cut in the increase of the moon. Also that brains in rabbits, woodcocks, calves, &c. are fullest in the full of the moon: and so of marrow in the bones; and so of oysters and cockles, which of all the rest are the easiest tried if you have them in pits.

893. TAKE some seeds, or roots, (as onions, &c.) and set some of them immediately after the change; and others of the same kind immediately after the full: let them be as like as can be; the earth also the same as near as may be; and therefore best in pots. Let the pots also stand where no rain or sun may come to them, lest the difference of the weather confound the experiment: and then see in what time the seeds set in the increase of the moon, come to a certain height; and how they differ from those that are set in the decrease of the moon.

894. IT is like, that the brain of man waxeth moister and fuller upon the full of the moon: and therefore it were good for those that have moist brains, and are great drinkers, to take fume of *lignum aloes*, rosemary, frankincense, &c. about the full of the moon. It is like also, that the humours in men's bodies increase and decrease as the moon doth; and therefore it were good to purge some day or two after the full; for that then the humours will not replenish so soon again.

895. As for the exciting of the motion of the spirits, you must note that the growth of hedges, herbs, hair, &c. is caused from the moon, by exciting of the spirits, as well as by increase of the moisture. But for spirits in particular, the great instance is in lunacies.

896. THERE may be other secret effects of the influence of the moon, which are not yet brought into observation. It may be, that if it so fall out, that the wind be north, or north-east, in the full of the moon, it increaseth cold; and if south, or south-west, it disposeth the air for a good while to warmth and rain; which would be observed.

897. IT may be, that children, and young cattle, that are brought forth in the full of the moon, are stronger and larger than those that are brought forth in the wane; and those also which are begotten in the full of the moon: so that it might be good husbandry to put rams and bulls to their females, somewhat before the full of the moon. It may be also, that the eggs lay'd in the full of the moon breed the better bird: and a number of the like effects which may be brought into observation. *Quære* also, whether great thunders and earthquakes be not most in the full of the moon.

Experiment solitary touching vinegar.

898. THE turning of wine to vinegar, is a kind of putrefaction: and in making of vinegar, they use to set vessels of wine over-against the noon-sun; which calleth out the more oily spirits, and leaveth the liquor more sour and hard. We see also, that burnt wine is more hard and astringent, than wine

unburnt. It is said, that cyder in navigations under the line ripeneth, when wine or beer soureth. It were good to set a rundlet of verjuice over-against the sun in summer, as they do vinegar, to see whether it will ripen and sweeten.

Experiment solitary touching creatures that sleep all winter.

899. THERE be divers creatures that sleep all winter, as the bear, the hedge-hog, the bat, the bee, &c. These all wax fat when they sleep, and egest not. The cause of their fattening during their sleeping time, may be the want of assimilating; for whatsoever assimilateth not to flesh, turneth either to sweat or fat. These creatures, for part of their sleeping time, have been observed not to stir at all; and for the other part, to stir, but not to remove. And they get warm and close places to sleep in. When the *Flemings* wintered in *Nova Zembla*, the bears about the middle of *November* went to sleep; and then the foxes began to come forth, which durst not before. It is noted by some of the ancients, that the she-bear breedeth, and lieth in with her young, during that time of rest: and that a bear big with young hath seldom been seen.

Experiment solitary touching the generation of creatures by copulating, and by putrefaction.

900. SOME living creatures are procreated by copulation between male and female: some by putrefaction; and of those which come by putrefaction, many do (nevertheless) afterwards procreate by copulation. For the cause of both generations: first, it is most certain, that the cause of all vivification, is a gentle and proportionable heat, working upon a glutinous and yielding substance: for the heat doth bring forth spirit in that substance; and the substance being glutinous produceth two effects; the one, that the spirit is detained, and cannot break forth: the other, that the matter being gentle and yielding, is driven forwards by the motion of the spirits, after some swelling into shape and members. Therefore all sperm, all menstruous substance, all matter whereof creatures are produced by putrefaction, have evermore a closeness, lentor, and sequacity. It seemeth therefore, that the generation by sperm only, and by putrefaction, have two different causes. The first is, for that creatures which have a definite and exact shape, (as those have which are procreated by copulation) cannot be produced by a weak and casual heat; nor out of matter, which is not exactly prepared according to the species. The second is, for that there is a greater time required for maturation of perfect creatures; for if the time required in vivification be of any length, then the spirit will exhale before the creature be mature: except it be inclosed in a place where it may have continuance of the heat, access of some nourishment to maintain it, and closeness that may keep it from exhaling: And such places are the wombs and matrices of the females. And therefore all creatures made of putrefaction, are of more uncertain shape; and are made in shorter time; and need not so perfect an enclosure, though some closeness be commonly required. As for the heathen opinion, which was, that upon great mutations of the world, perfect creatures were first engendred of concretion; as well as frogs, and worms, and flies, and such like, are now; we know it to be vain: but if any such thing should be admitted, discoursing according to sense, it cannot be, except you admit of a *chaos* first, and commixture of heaven and earth. For the frame of the world once in order, cannot effect it by any excess or casualty.

N A T U R A L H I S T O R Y.

CENT. X.

Experiments in consort touching the transmission and influx of immateriate virtues; and the force of imagination.

THE philosophy of *Pythagoras*, (which was full of superstition) did first plant a monstrous imagination, which afterwards was, by the school of *Plato*, and others, watered and nourished. It was, that the world was one, entire, perfect, living creature; insomuch as *Apollonius* of *Tyana*, a *Pythagorean* prophet, affirmed, that the ebbing and flowing of the sea, was the respiration of the world, drawing in water as breath, and putting it forth again. They went on, and inferred; that if the world were a living creature, it had a soul and spirit; which also they held, calling it *spiritus mundi*; the spirit or soul of the world: by which they did not intend God; (for they did admit of a Deity besides;) but only the soul or essential form of the universe. This foundation being laid, they might build upon it what they would; for in a living creature, though never so great, (as for example, in a great whale) the sense and the affects of any one part of the body, instantly make a transcurfion throughout the whole body: so that by this they did insinuate, that no distance of place, nor want or indisposition of matter, could hinder magical operations; but that (for example) we might here in *Europe*, have sense and feeling of that which was done in *China*: and likewise we might work any effect without and against matter; and this not holpen by the co-operation of angels or spirits, but only by the unity and harmony of nature. There were some also that stayed not here; but went farther, and held; that if the spirit of man, (whom they call the microcosm) do give a fit touch to the spirit of the world, by strong imaginations and beliefs, it might command nature; for *Paracelsus*, and some darksome authors of magick, do ascribe to imagination exalted, the power of miracle-working faith. With these vast and bottomless follies men have been (in part) entertained.

BUT we, that hold firm to the works of God, and to the sense, which is God's lamp; (*lucerna Dei spiraculum hominis*;) will enquire with all sobriety and severity, whether there be to be found in the foot steps of nature, any such transmission and influx of immateriate virtues; and what the force of imagination is; either upon the body imaginant, or upon another body: wherein it will be like that labour of *Hercules*, in purging the stable of *Augeas*, to separate from superstitious and magical arts and observations, any thing that

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is clean and pure natural; and not to be either contemned or condemned. And although we shall have occasion to speak of this in more places than one, yet we will now make some entrance thereinto.

Experiments in consort, monitory, touching transmission of spirits, and the force of imagination.

901. MEN are to be admonished, that they do not withdraw credit from the operations by transmission of spirits, and force of imagination, because the effects fail sometimes. For as in infection, and contagion from body to body, (as the plague, and the like) it is most certain, that the infection is received (many times) by the body passive, but yet is by the strength and good disposition thereof, repulsed and wrought out, before it be formed in a disease; so much more in impressions from mind to mind, or from spirit to spirit, the impression taketh, but is encountred and overcome by the mind and spirit, which is passive, before it work any manifest effect. And therefore they work most upon weak minds and spirits: as those of women; sick persons; superstitious and fearful persons; children and young creatures:

Nescio quis teneros oculus mihi fascinat agnos:

The poet speaketh not of sheep, but of lambs. As for the weakness of the power of them upon kings and magistrates; it may be ascribed (besides the main, which is the protection of God over those that execute his place) to the weakness of the imagination of the imaginant: for it is hard for a witch or a forcerer to put on a belief that they can hurt such persons.

902. MEN are to be admonished on the other side, that they do not easily give place and credit to these operations, because they succeed many times; for the cause of this success is (oft) to be truly ascribed unto the force of affection and imagination upon the body agent; and then by a secondary means it may work upon a diverse body: as for example; if a man carry a planet's seal, or a ring, or some part of a beast, believing strongly that it will help him to obtain his love; or to keep him from danger of hurt in fight; or to prevail in a suit, &c. it may make him more active and industrious; and again, more confident and persisting, than otherwise he would be. Now the great effects that may come of industry and perseverance, (especially in civil business) who knoweth not? For we see audacity doth almost bind and mate the weaker sort of minds; and the state of human actions is so variable, that to try things oft, and never to give over, doth wonders: therefore it were a mere fallacy and mistaking to ascribe that to the force of imagination upon another body, which is but the force of imagination upon the proper body; for there is no doubt, but that imagination and vehement affection work greatly upon the body of the imaginant; as we shall shew in due place.

903. MEN are to be admonished, that as they are not to mistake the causes of these operations; so much less they are to mistake the fact, or effect; and rashly to take that for done which is not done. And therefore as divers wise judges have prescribed and cautioned, men may not too rashly believe the confessions of witches, nor yet the evidence against them. For the witches themselves are imaginative, and believe oft-times they do that which they do not: and people are credulous in that point, and ready to impute accidents and natural operations to witch-craft. It is worthy the observing, that both in ancient and late times, (as in the *Thessalian* witches, and the meetings of witches that have been recorded by so many late confessions) the
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great wonders which they tell, of carrying in the air, transforming themselves into other bodies, &c. are still reported to be wrought, not by incantations or ceremonies, but by ointments, and anointing themselves all over: this may justly move a man to think, that these fables are the effects of imagination: for it is certain, that ointments do all, (if they be laid on any thing thick,) by stopping of the pores, shut in the vapours, and send them to the head extremely. And for the particular ingredients of those magical ointments, it is like they are opiate and soporiferous. For anointing of the forehead, neck, feet, back-bone, we know is used for procuring dead sleeps: and if any man say that this effect would be better done by inward potions; answer may be made, that the medicines, which go to the ointments, are so strong, that if they were used inwards, they would kill those that use them: and therefore they work potently, though outwards.

WE will divide the several kinds of the operations by transmission of spirits and imagination, which will give no small light to the experiments that follow. All operations by transmission of spirits and imagination have this; that they work at distance, and not at touch; and they are these being distinguished.

904. THE first is the transmission or emission of the thinner (and more airy) parts of bodies; as in odours and infections; and this is, of all the rest, the most corporeal. But you must remember withal, that there be a number of those emissions, both wholesome and unwholesome, that give no smell at all: for the plague, many times when it is taken, giveth no scent at all: and there be many good and healthful airs that do appear by habitation and other proofs that differ not in smell from other airs. And under this head you may place all imbibitions of air, where the substance is material, odour-like; whereof some nevertheless are strange, and very suddenly diffused; as the alteration which the air receiveth in *Ægypt*, almost immediately, upon the rising of the river of *Nilus*, whereof we have spoken.

905. THE second is the transmission or emission of those things that we call spiritual species; as visibles and sounds: the one whereof we have handled, and the other we shall handle in due place. These move swiftly, and at great distance; but then they require a medium well disposed, and their transmission is easily stopped.

906. THE third is the emissions, which cause attraction of certain bodies at distance; wherein though the loadstone be commonly placed in the first rank, yet we think good to except it, and refer it to another head: but the drawing of amber and jet, and other electrick bodies, and the attraction in gold of the spirit of quicksilver at distance; and the attraction of heat at distance; and that of fire to *Naphtha*; and that of some herbs to water, tho' at distance; and divers others; we shall handle, but yet not under this present title, but under the title of attraction in general.

907. THE fourth is the emission of spirits, and immateriate powers and virtues, in those things which work by the universal configuration and sympathy of the world; not by forms, or celestial influxes, (as is vainly taught and received,) but by the primitive nature of matter, and the seeds of things. Of this kind is (as we yet suppose) the working of the loadstone, which is by consent with the globe of the earth: of this kind is the motion of gravity, which is by consent of dense bodies with the globe of the earth: of this kind is some disposition of bodies to rotation, and particularly from east to west: of which kind we conceive the main float and refloat of the sea is, which is by consent of the universe, as part of the diurnal motion. These
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immaterial virtues have this property differing from others ; that the diversity of the medium hindereth them not ; but they pass through all mediums, yet at determinate distances. And of these we shall speak, as they are incident to several titles.

908. The fifth is the emission of spirits ; and this is the principal in our intention to handle now in this place ; namely, the operation of the spirits of the mind of man upon other spirits : and this is of a double nature ; the operations of the affections, if they be vehement ; and the operation of the imagination, if it be strong. But these two are so coupled, as we shall handle them together ; for when an envious, or amorous aspect, doth infect the spirits of another, there is joined both affection and imagination.

909. The sixth is, the influxes of the heavenly bodies, besides those two manifest ones, of heat and light. But these we will handle, where we handle the celestial bodies and motions.

910. The seventh is the operations of sympathy, which the writers of natural magick have brought into an art or precept : and it is this ; that if you desire to superinduce any virtue or disposition upon a person, you should take the living creature, in which that virtue is most eminent, and in perfection ; of that creature you must take the parts wherein that virtue chiefly is collocate : again, you must take those parts in the time and act when that virtue is most in exercise ; and then you must apply it to that part of man wherein that virtue chiefly consisteth. As if you would superinduce courage and fortitude, take a lion or a cock ; and take the heart, tooth, or paw of the lion ; or the heart or spur of the cock : take those parts immediately after the lion or the cock have been in fight ; and let them be worn upon a man's heart or wrist. Of these and such like sympathies, we shall speak under this present title.

911. The eighth and last is, an emission of immaterial virtues ; such as we are a little doubtful to propound ; it is so prodigious : But that it is so constantly avouched by many : and we have set it down as a law to our selves, to examine things to the bottom ; and not to receive upon credit, or reject upon improbabilities, until there hath passed a due examination. This is the sympathy of individuals : for as there is a sympathy of species, so (it may be) there is a sympathy of individuals : that is, that in things, or the parts of things that have been once contiguous or entire, there should remain a transmission of virtue from the one to the other : as between the weapon and the wound. Whereupon is blazed abroad the operation of *unguentum teli* : and so of a piece of lard, or stick of elder, &c. that if part of it be consumed or putrefied, it will work upon the other part sever'd. Now we will pursue the instances themselves.

Experiments in consort touching emission of spirits in vapour or exhalation, odour-like.

912. THE plague is many times taken without manifest sense, as hath been said. And they report, that where it is found, it hath a scent of the smell of a mellow apple ; and (as some say) of *May-flowers* : and it is also received, that smells of flowers that are mellow and luscious, are ill for the plague ; as white lilies, cowslips and hyacinths.

913. THE plague is not easily received by such as continually are about them that have the plague ; as keepers of the sick, and physicians ; nor again by such as take antidotes, either inward, (as mithridate, juniper-berries, rue, leaf and seed, &c.) or outward, (as angelica, zedoary, and the like, in the mouth ;

mouth; tar, *galbanum*, and the like; in perfume;) nor again by old people, and such as are of a dry and cold complexion. On the other side, the plague taketh soonest hold of those that come out of a fresh air; and of those that are fasting, and of children; and it is likewise noted to go in a blood, more than to a stranger.

914. THE most pernicious infection, next the plague, is the smell of the jail, when prisoners have been long, and close, and nastily kept; whereof we have had, in our time, experience, twice or thrice; when both the judges that sate upon the jail, and numbers of those that attended the business, or were present, sicken'd upon it, and died. Therefore it were good wisdom, that in such cases the jail were aired before they be brought forth.

915. OUT of question, if such foul smells be made by art; and by the hand, they consist chiefly of man's flesh, or sweat putrefied; for they are not those stinks which the nostrils straight abhor and expel, that are most pernicious; but such airs as have some similitude with man's body; and so insinuate themselves, and betray the spirits. There may be great danger in using such compositions, in great meetings of people within houses; as in churches, at arraignments, at plays and solemnities, and the like: for poisoning of air is no less dangerous than poisoning of water, which hath been used by the *Turks* in the wars, and was used by *Emmanuel Comnenus* towards the Christians, when they passed through his country to the *Holy Land*. And these empoisonments of air are the more dangerous in meetings of people; because the much breath of people doth further the reception of the infection; and therefore, where any such thing is feared, it were good those publick places were perfumed, before the assemblies.

916. THE empoisonment of particular persons, by odours, hath been reported to be in perfumed gloves, or the like: and it is like, they mingle the poison that is deadly, with some smells that are sweet, which also maketh it the sooner received. Plagues also have been raised by anointing of the chinks of doors, and the like; not so much by the touch, as for that it is common for men, when they find any thing wet upon their fingers, to put them to their nose; which men therefore should take heed how they do. The best is, that these compositions of infectious airs cannot be made without danger of death, to them that make them. But then again, they may have some antidotes to save themselves; so that men ought not to be secure of it.

917. THERE have been in divers countries great plagues, by the putrefaction of great swarms of grasshoppers and locusts, when they have been dead and cast upon heaps.

918. IT happeneth often in mines, that there are damps which kill, either by suffocation, or by the poisonous nature of the mineral: and those that deal much in refining, or other works about metals and minerals, have their brains hurt and stupified by the metalline vapours. Amongst which it is noted, that the spirits of quicksilver ever fly to the skull, teeth, or bones; insomuch as gilders use to have a piece of gold in their mouth, to draw the spirits of the quicksilver; which gold afterwards they find to be whiten'd. There are also certain lakes and pits, such as that of *Avernus*, that poison birds (as is said) which fly over them; or men, that stay too long about them.

919. THE vapour of char-coal, or sea-coal, in a close room, hath killed many; and it is the more dangerous, because it cometh without any ill smell, but stealeth on by little and little, inducing only a faintness, without

any manifest strangling. When the *Dutchmen* winter'd at *Nova Zembla*, and that they could gather no more sticks, they fell to make fire of some sea-coal they had, wherewith (at first) they were much refreshed ; but a little after they had sate about the fire, there grew a general silence and lothness to speak amongst them ; and immediately after, one of the weakest of the company fell down in a swoon ; whereupon they doubting what it was, opened the door to let in air, and so saved themselves. The effect (no doubt) is wrought by the inspissation of the air ; and so of the breath and spirits. The like ensueth in rooms newly plaister'd, if a fire be made in them ; whereof no less man than the emperor *Jovinianus* died.

920. VIDE the experiment 803. touching the infectious nature of the air, upon the first showers, after long drought.

921. IT hath come to pass, that some apothecaries, upon stamping of *coliquintida*, have been put into a great scouring by the vapour only.

922. IT hath been a practice to burn a pepper they call guinea-pepper, which hath such a strong spirit, that it provoketh a continual sneezing in those that are in the room.

923. IT is an ancient tradition, that blear-eyes infect sound eyes ; and that a menstruous woman, looking upon a glass, doth rust it : nay, they have an opinion which seemeth fabulous ; that menstruous women going over a field, or garden, do corn and herbs good, by killing the worms.

924. THE tradition is no less ancient, that the basilisk killeth by aspect ; and that the wolf, if he see a man first, by aspect striketh a man hoarse.

925. PERFUMES convenient do dry and strengthen the brain, and stay rheums and defluxions, as we find in fume of rosemary dried, and *lignum aloes* ; and *calamus* taken at the mouth and nostrils : and no doubt there be other perfumes that do moisten and refresh, and are fit to be used in burning agues, consumptions, and too much wakefulness ; such as are rose-water, vinegar, lemon-peels, violets, the leaves of vines sprinkled with a little rose-water, &c.

926. THEY do use in sudden faintings and swoonings, to put a handkerchief with rose-water, or a little vinegar, to the nose ; which gathereth together again the spirits, which are upon point to resolve and fall away.

927. TOBACCO comforteth the spirits, and dischargeth weariness, which it worketh partly by opening, but chiefly by the opiate virtue, which condenseth the spirits. It were good therefore to try the taking of fumes by pipes (as they do in tobacco,) of other things ; as well to dry and comfort, as for other intentions. I wish trial be made of the drying fume of rosemary and *lignum aloes*, before-mentioned, in pipe ; and so of nutmeg, and *folium Indum*, &c.

928. THE following of the plough hath been approved for refreshing the spirits, and procuring appetite ; but to do it in the ploughing for wheat or rye, is not so good, because the earth has spent her sweet breath in vegetables put forth in summer. It is better therefore to do it when you sow barley. But because ploughing is tied to seasons, it is best to take the air of the earth new turned up, by digging with the spade, or standing by him that diggeth. Gentlewomen may do themselves much good by kneeling upon a cushion, and weeding. And these things you may practise in the best seasons ; which is ever the early spring, before the earth putteth forth the vegetables, and in the sweetest earth you can chuse. It would be done also when the dew is a little off the ground, lest the vapour be too moist. I knew a great man that lived long, who had a clean clod of earth brought to him every morning

morning as he fate in his bed; and he would hold his head over it a good pretty while. I commend also, sometimes, in digging of new earth, to pour in some *Malmsey* or *Greek* wine, that the vapour of the earth and wine together, may comfort the spirits the more; provided always it be not taken for a heathen sacrifice, or libation to the earth.

929. THEY have in physick use of pomanders, and knots of powders, for drying of rheums, comforting of the heart, provoking of sleep, &c. For though those things be not so strong as perfumes, yet you may have them continually in your hand; whereas perfumes you can take but at times: and besides, there be divers things that breathe better of themselves, than when they come to the fire; as *nigella Romana*, the seed of *melanthium*, *amomum*, &c.

930. THERE be two things, which (inwardly used) do cool and condense the spirits; and I wish the same to be tried outwardly in vapours. The one is nitre, which I would have dissolved in *Malmsey*, or *Greek* wine, and so the smell of the wine taken; or if you would have it more forcible, pour of it upon a fire-pan, well heated, as they do rose-water and vinegar. The other is the distilled water of wild poppy, which I wish to be mingled; at half, with rose-water, and so taken with some mixture of a few cloves in a perfuming-pan. The like would be done with the distilled water of saffron flowers.

931. SMELLS of musk, and amber, and civet, are thought to further venereous appetite; which they may do by the refreshing and calling forth of the spirits.

932. INCENSE and nidorous smells (such as were of sacrifices) were thought to intoxicate the brain, and to dispose men to devotion: which they may do by a kind of sadness, and contrition of the spirits; and partly also by heating and exalting them. We see, that amongst the *Jews*, the principal perfume of the sanctuary was forbidden all common uses.

933. THERE be some perfumes prescribed by the writers of natural magic, which procure pleasant dreams: and some others (as they say) that procure prophetic dreams; as the seeds of flax, flea-wort, &c.

934. IT is certain, that odours do, in a small degree, nourish; especially the odour of wine: and we see men an hungred do love to smell hot bread. It is related, that *Democritus*, when he lay a dying, heard a woman in the house complain, that she should be kept from being at a feast and solemnity, (which she much desired to see,) because there would be a corpse in the house; whereupon he caused loaves of new bread to be sent for, and opened them, and poured a little wine into them; and so kept himself alive with the odour of them, till the feast was past. I knew a gentleman that would fast (sometimes) three or four, yea five days, without meat, bread, or drink; but the same man used to have continually, a great wisp of herbs that he smelled on: and amongst those herbs, some esculent herbs of strong scent; as onions, garlic, leeks, and the like.

935. THEY do use, for the accident of the mother, to burn feathers, and other things of ill odour: and by those ill smells, the rising of the mother is put down.

936. THERE be airs which the physicians advise their patients to remove unto, in consumptions, or upon recovery of long sicknesses: which (commonly) are plain champains, but grasing, and not over-grown with heath; or the like; or else timber-shades, as in forests, and the like. It is noted also, that groves of bays do forbid pestilent airs; which was accounted a

great cause of the wholesome air of *Antiochia*. There be also some soils that put forth odorate herbs of themselves; as wild thyme, wild marjoram, penny-royal, camomile; and in which the briar roses smell almost like musk roses; which (no doubt) are signs that do discover an excellent air.

937. IT were good for men to think of having healthful air in their houses; which will never be if the rooms be low roofed, or full of windows and doors; for the one maketh the air close, and not fresh; and the other maketh it exceeding unequal; which is a great enemy to health. The windows also should not be high up to the roof, (which is in use for beauty and magnificence) but low. Also stone-walls are not wholesome; but timber is more wholesome; and especially brick: nay, it hath been used by some with great success to make their walls thick; and to put a lay of chalk between the bricks, to take away all dampishness.

Experiment solitary touching the emissions of spiritual species which affect the senses.

938. THESE emissions (as we said before) are handled, and ought to be handled by themselves under their proper titles; that is, visibles and audibles, each apart: in this place it shall suffice to give some general observations common to both. First, they seem to be incorporeal. Secondly, they work swiftly. Thirdly, they work at large distances. Fourthly, in curious varieties. Fifthly, they are not effective of any thing; nor leave no work behind them; but are energies merely: for their working upon mirrors, and places of echo, doth not alter any thing in those bodies; but it is the same action with the original, only repercussed. And as for the shaking of windows, or rarifying the air by great noises; and the heat caused by burning-glasses; they are rather concomitants of the audible and visible species, than the effects of them. Sixthly, they seem to be of so tender and weak a nature, as they affect only such a rare and attenuate substance, as is the spirit of living creatures.

Experiments in consort touching the emission or immateriate virtues from the minds and spirits of men, either by affections, or by imaginations, or by other impressions.

939. IT is mentioned in some stories, that where children have been exposed, or taken away young from their parents; and that afterward they have approached to their parents presence, the parents (though they have not known them) have had a secret joy or other alteration thereupon.

940. THERE was an *AEgyptian* soothsayer, that made *Antonius* believe, that his genius (which otherwise was brave and confident) was in the presence of *Octavianus Caesar*, poor and cowardly: and therefore he advised him, to absent himself, (as much as he could) and remove far from him. The soothsayer was thought to be suborned by *Cleopatra*, to make him live in *AEgypt*, and other remote places from *Rome*. Howsoever the conceit of a predominant or mastering spirit of one man over another, is ancient, and received still, even in vulgar opinion.

941. THERE are conceits, that some men that are of an ill and melancholy nature, do incline the company into which they come, to be sad and ill-disposed; and contrariwise, that others that are of a jovial nature, do dispose the company to be merry and chearful. And again, that some men are lucky to be kept company with, and employed; and others unlucky. Certainly, it is agreeable to reason, that there are at the least some light effluxions from

from spirit to spirit, when men are in presence one with another, as well as from body to body.

942. IT hath been observed, that old men who have loved young company, and been conversant continually with them, have been of long life; their spirits (as it seemeth) being recreated by such company. Such were the ancient sophists and rhetoricians; which ever had young auditors and disciples; as *Gorgias*, *Protagoras*, *Isocrates*, &c. who lived till they were an hundred years old. And so likewise did many of the grammarians and school-masters; such as was *Orbilius*, &c.

943. AUDACITY and confidence doth, in civil business, so great effects, as a man may (reasonably) doubt, that besides the very daring, and earnestness, and persisting, and importunity, there should be some secret binding, and stooping of other mens spirits to such persons.

944. THE affections (no doubt) do make the spirits more powerful and active; and especially those affections which draw the spirits into the eyes: which are two; love and envy, which is called *oculus malus*. As for love, the Platonists (some of them) go so far, as to hold that the spirit of the lover doth pass into the spirits of the person loved; which causeth the desire of return into the body, whence it was emitted: whereupon followeth that appetite of contact and conjunction which is in lovers. And this is observed likewise, that the aspects which procure love, are not gazings, but sudden glances and dartings of the eye. As for envy, that emitteth some malign and poisonous spirits, which taketh hold of the spirit of another; and is likewise of greatest force, when the cast of the eye is oblique. It hath been noted also, that it is most dangerous when an envious eye is cast upon persons in glory, and triumph, and joy. The reason whereof is, for that at such times the spirits come forth most into the outward parts, and so meet the percussing of the envious eye more at hand: and therefore it hath been noted, that after great triumphs, men have been ill-disposed for some days following. We see the opinion of fascination is ancient, for both effects; of procuring love; and sickness caused by envy: and fascination is ever by the eye. But yet if there be any such infection from spirit to spirit, there is no doubt but that it worketh by presence, and not by the eye alone; yet most forcibly by the eye.

945. FEAR and shame are likewise infective; for we see that the starting of one will make another ready to start: and when one man is out of countenance in a company, others do likewise blush in his behalf.

Now we will speak of the force of imagination upon other bodies; and of the means to exalt and strengthen it. Imagination, in this place, I understand to be, the representation of an individual thought. Imagination is of three kinds: the first joined with belief of that which is to come: the second joined with memory of that which is past; and the third is of things present, or as if they were present; for I comprehend in this, imagination feigned, and at pleasure; as if one should imagine such a man to be in the vestments of a pope; or to have wings. I single out for this time, that which is with faith, or belief of that which is to come. The inquisition of this subject in our way, (which is by induction) is wonderful hard: for the things that are reported are full of fables; and new experiments can hardly be made, but with extreme caution; for the reason which we will after declare.

THE power of imagination is in three kinds; the first upon the body of the imaginant; including likewise the child in the mother's womb; the second

cond is, the power of it upon dead bodies, as plants, wood, stone, metal, &c. The third is, the power of it upon the spirits of men and living creatures; and with this last we will only meddle.

THE problem therefore is, whether a man constantly and strongly believing, that such a thing shall be; (as that such an one will love him; or that such an one will grant him his request; or that such an one shall recover a sickness; or the like;) it doth help any thing to the effecting of the thing itself. And here again we must warily distinguish; for it is not meant, (as hath been partly said before) that it should help by making a man more stout, or more industrious; (in which kind a constant belief doth much; but merely by a secret operation, or binding, or changing the spirit of another: and in this it is hard (as we began to say) to make any new experiment; for I cannot command myself to believe what I will, and so no trial can be made. Nay it is worse; for whatsoever a man imagineth doubtingly, or with fear, must needs do hurt, if imagination have any power at all; for a man representeth that oftner that he feareth, than the contrary.

THE help therefore is, for a man to work by another, in whom he may create belief, and not by himself; until himself have found by experience, that imagination doth prevail; for then experience worketh in himself belief; if the belief that such a thing shall be, be joined with a belief that his imagination may procure it.

946. FOR example, I related one time to a man, that was curious and vain enough in these things, that I saw a kind of jugler, that had a pair of cards, and would tell a man what card he thought. This pretended learned man told me; it was a mistaking in me; for (said he) it was not the knowledge of the man's thought, (for that is proper to God) but it was the enforcing of a thought upon him, and binding his imagination by a stronger, that he could think no other card. And thereupon he asked me a question or two, which I thought he did but cunningly, knowing before what used to be the feats of the jugler. Sir, (said he) do you remember whether he told the card, the man thought, himself, or bade another to tell it. I answered (as was true,) that he bade another tell it. Whereunto he said; so I thought: for (said he) himself could not have put on so strong an imagination; but by telling the other the card, (who believed that the jugler was some strange man, and could do strange things) that other man caught a strong imagination. I hearkened unto him, thinking for a vanity he spoke prettily. Then he asked me another question: faith he, do you remember, whether he bade the man think the card first, and afterwards told the other man in his ear what he should think; or else that he did whisper first in the man's ear that should tell the card, telling that such a man should think such a card, and after bade the man think a card? I told him, as was true; that he did first whisper the man in the ear, that such a man should think such a card: upon this the learned man did much exult and please himself, saying; lo, you may see that my opinion is right: for if the man had thought first, his thought had been fixed; but the other imagining first, bound his thought. Which though it did somewhat sink with me, yet I made it lighter than I thought, and said; I thought it was confederacy between the jugler and the two servants: though (indeed) I had no reason so to think, for they were both my father's servants; and he had never played in the house before. The jugler also did cause a garter to be held up; and took upon him to know, that such an one should point in such a place of the garter; as it should be near so many inches

inches to the longer end, and so many to the shorter ; and still he did it, by first telling the imaginer, and after bidding the actor think.

HAVING told this relation, not for the weight thereof, but because it doth handfomely open the nature of the question, I return to that I said ; that experiments of imagination must be practised by others, and not by a man's self. For there be three means to fortify belief : the first is experience ; the second is reason ; and the third is authority : and that of these which is far the most potent, is authority ; for belief upon reason, or experience, will stagger.

947. FOR authority, it is of two kinds ; belief in an art ; and belief in a man. And for things of belief in an art, a man may exercise them by himself ; but for belief in a man, it must be by another. Therefore if a man believe in astrology, and find a figure prosperous ; or believe in natural magick, and that a ring with such a stone, or such a piece of a living creature, carried, will do good ; it may help his imagination : but the belief in a man is far the more active. But howsoever, all authority must be out of a man's self, turned (as was said) either upon an art, or upon a man : and where authority is from one man to another, there the second must be ignorant, and not learned, or full of thoughts ; and such are (for the most part) all witches and superstitious persons ; whose beliefs, tied to their teachers and traditions, are no whit controlled, either by reason or experience ; and upon the same reason, in magick, they use for (the most part) boys and young people, whose spirits easiliest take belief and imagination.

Now to fortify imagination, there be three ways : the authority whence the belief is derived, means to quicken and corroborate the imagination ; and means to repeat it and refresh it.

948. FOR the authority, we have already spoken : as for the second, namely the means to quicken and corroborate the imagination ; we see what hath been used in magick ; (if there be in those practices any thing that is purely natural ;) as vestments, characters, words, seals ; some parts of plants, or living creatures ; stones ; choice of the hour ; gestures and motions ; also incenses and odours ; choice of society, which increaseth imagination ; diets and preparations for some time before. And for words, there have been ever used, either barbarous words, of no sense, lest they should disturb the imagination ; or words of similitude, that may second and feed the imagination : and this was ever as well in heathen charms, as in charms of latter times. There are used also scripture words ; for that the belief that religious texts and words have power, may strengthen the imagination. And for the same reason, *Hebrew* words, (which amongst us is counted the holy tongue, and the words more mystical) are often used.

949. FOR the refreshing of the imagination, (which was the third means of exalting it) we see the practices of magick, as in images of wax, and the like, that should melt by little and little ; or some other things buried in muck, that should putrefy by little and little ; or the like : for so oft as the imaginant doth think of those things, so oft doth he represent to his imagination the effect of that he desireth.

950. IF there be any power in imagination, it is less credible that it should be so incorporeal and immateriate a virtue, as to work at great distances ; or through all mediums ; or upon all bodies : but that the distance must be competent ; the medium not adverse ; and the body apt and proportionate. Therefore if there be any operation upon bodies, in absence by nature, it is like to be conveyed from man to man, as fame is ; as if a witch, by imagination,

gination, should hurt any afar off, it cannot be naturally; but by working upon the spirit of some that cometh to the witch; and from that party upon the imagination of another; and so upon another; till it come to one that hath resort to the party intended; and so by him to the party intended himself. And although they speak, that it sufficeth, to take a point, or a piece of the garment, or the name of the party, or the like; yet there is less credit to be given to those things, except it be by working of evil spirits.

THE experiments, which may certainly demonstrate the power of imagination upon other bodies, are few or none: for the experiments of witchcraft are no clear proofs; for that they may be by a tacite operation of malign spirits: we shall therefore be forced in this enquiry, to resort to new experiments; wherein we can give only directions of trials, and not any positive experiments. And if any man think that we ought to have stayed till we had made experiment of some of them our selves, (as we do commonly in other titles) the truth is, that these effects of imagination upon other bodies have so little credit with us, as we shall try them at leisure; but in the mean time we will lead others the way.

951. WHEN you work by the imagination of another, it is necessary that he, by whom you work, have a precedent opinion of you, that you can do strange things; or that you are a man of art, as they call it; for else the simple affirmation to another, that this or that shall be, can work but a weak impression in his imagination.

952. IT were good, because you cannot discern fully of the strength of imagination in one man more than another, that you did use the imagination of one more than one, that so you may light upon a strong one. As if a physician should tell three or four of his patient's servants, that their master shall surely recover.

953. THE imagination of one, that you shall use, (such is the variety of mens minds,) cannot be always alike constant and strong; and if the success follow not speedily, it will faint and lose strength. To remedy this, you must pretend to him, whose imagination you use, several degrees of means, by which to operate: as to prescribe him that every three days, if he find not the success apparent, he do use another root, or part of a beast, or ring, &c. as being of more force; and if that fail, another; and if that, another, till seven times. Also you must prescribe a good large time for the effect you promise; as if you should tell a servant of a sick man, that his master shall recover, but it will be fourteen days ere he findeth it apparently, &c. All this to entertain the imagination that it waver less.

954. IT is certain, that potions, or things taken into the body; incenses and perfumes taken at the nostrils; and ointments of some parts; do (naturally) work upon the imagination of him that taketh them. And therefore it must needs greatly co-operate with the imagination of him whom you use, if you prescribe him, before he do use the receipt, for the work which he desireth, that he do take such a pill, or a spoonful of liquor; or burn such an incense; or anoint his temples, or the soles of his feet, with such an ointment, or oil: and you must chuse, for the composition of such pill, perfume, or ointment, such ingredients, as do make the spirits a little more gross or muddy; whereby the imagination will fix the better.

955. THE body passive, and to be wrought upon, (I mean not of the imaginant,) is better wrought upon, (as hath been partly touched) at some times, than at others: as if you should prescribe a servant about a sick person, (whom you have possessed that his master shall recover) when his ma-
ster

ster is fast asleep, to use such a root, or such a root. For imagination is like to work better upon sleeping men, than men awake ; as we shall shew when we handle dreams.

956. WE find in the art of memory, that images visible work better than other conceits : as if you would remember the word philosophy, you shall more surely do it, by imagining, that such a man, (for men are best places) is reading upon *Aristotle's* physicks ; than if you should imagine to say, I'll go study philosophy. And therefore this observation would be translated to the subject we now speak of : for the more lustrous the imagination is, it filleth and fixeth the better. And therefore I conceive, that you shall, in that experiment, (whereof we spake before,) of binding of thoughts, less fail, if you tell one that such an one shall name one of twenty men, than if it were one of twenty cards. The experiment of binding of thoughts would be diversified and tried to the full : and you are to note, whether it hit for the most part, though not always.

957. IT is good to consider, upon what things imagination hath most force : and the rule (as I conceive) is, that it hath most force upon things that have the lightest and easiest motions. And therefore above all, upon the spirits of men : and in them, upon such affections as move lightest ; as upon procuring of love : binding of lust, which is ever with imagination, upon men in fear ; or men in irresolution ; and the like. Whatsoever is of this kind would be thoroughly enquired. Trials likewise would be made upon plants, and that diligently : as if you should tell a man, that such a tree would die this year ; and will him at these and these times, to go unto it, to see how it thriveth. As for inanimate things, it is true, that the motions of shuffling of cards, or casting of dice, are very light motions : and there is a folly very usual, that gamesters imagine, that some that stand by them, bring them ill luck. There would be trial also made, of holding a ring by a thread in a glass, and telling him that holdeth it, before, that it shall strike so many times against the side of the glass, and no more ; or of holding a key between two mens fingers, without a charm ; and to tell those that hold it, that at such name it shall go off their fingers : for these two are extreme light motions. And howsoever I have no opinion of these things, yet so much I conceive to be true ; that strong imagination hath more force upon things living, or that have been living, than things merely inanimate : and more force likewise upon light, and subtile motions, than upon motions vehement, or ponderous.

958. IT is an usual observation, that if the body of one murdered be brought before the murtherer, the wounds will bleed afresh. Some do affirm, that the dead body, upon the presence of the murtherer, hath opened the eyes ; and that there have been such like motions, as well where the parties murdered have been strangled, or drowned, as where they have been killed by wounds. It may be, that this participateth of a miracle, by God's just judgment, who usually bringeth murders to light : but if it be natural, it must be referred to imagination.

959. THE tying of the point upon the day of marriage, to make men impotent towards their wives, which (as we have formerly touched) is so frequent in *Zant*, and *Gascony*, if it be natural, must be referred to the imagination of him that tieth the point. I conceive it to have the less affinity with witchcraft, because not peculiar persons only, (such as witches are,) but any body may do it.

Experiments in consort touching the secret virtue of sympathy and antipathy.

960. THERE be many things that work upon the spirits of man, by secret sympathy and antipathy: the virtues of precious stones worn, have been anciently and generally received; and curiously assigned to work several effects. So much is true; that stones have in them fine spirits; as appeareth by their splendour: and therefore they may work by consent upon the spirits of men, to comfort and exhilarate them. Those that are the best, for that effect, are the diamond, the emerald, the hyacinth-oriental, and the gill-stone, which is the yellow topaz. As for their particular proprieties, there is no credit to be given to them. But it is manifest, that light, above all things, excelleth in comforting the spirits of men: and it is very probable, that light waied doth the same effect, with more novelty. And this is one of the causes why precious stones comfort. And therefore it were good to have tinted lanterns, or tinted screens, of glass coloured into green, blue, carnation, crimson, purple, &c. and to use them with candles in the night. So likewise to have round glasses, not only of glass coloured through, but with colours laid between crystals, with handles to hold in one's hand. Prisms are also comfortable things. They have of *Paris-work*, looking-glasses, bordered with broad borders of small crystal, and great counterfeit precious stones, of all colours, that are most glorious and pleasant to behold; especially in the night. The pictures of *Indian* feathers are likewise comfortable and pleasant to behold. So also fair and clear pools do greatly comfort the eyes and spirits, especially when the sun is not glaring, but over-cast; or when the moon shineth.

961. THERE be divers sorts of bracelets fit to comfort the spirits; and they be of three intentions; refrigerant, corroborant, and aperient. For refrigerant, I wish them to be of pearl, or of coral, as is used: and it hath been noted that coral, if the party that weareth it be indisposed, will wax pale; which I believe to be true, because otherwise distemper of heat will make coral lose colour. I commend also beads, or little plates of *lapis lazuli*; and beads of nitre, either alone, or with some cordial mixture.

962. FOR corroboration and confortation, take such bodies as are of astringent quality, without manifest cold. I commend bead-amber, which is full of attraction, but yet is unctuous, and not cold; and is conceived to impinguate those that wear such beads: I commend also beads of hartshorn and ivory, which are of the like nature; also orange-beads; also beads of *lignum aloes*, macerated first in rose-water, and dry'd.

963. FOR opening, I commend beads, or pieces of the roots of *carduus benedictus*: also of the roots of piony the male; and of orrice; and of *calamus aromaticus*; and of rue.

964. THE cramp (no doubt) cometh of contraction of sinews; which is manifest, in that it cometh either by cold or dryness; as after consumptions, and long agues; for cold and dryness do (both of them) contract, and corrugate. We see also, that chafing a little above the place in pain, easeth the cramp; which is wrought by the dilatation of the contracted sinews by heat. There are in use, for the prevention of the cramp, two things; the one rings of sea-horse teeth worn upon the fingers; the other bands of green periwinkle, (the herb) tied about the calf of the leg, or the thigh, &c. where the cramp useth to come. I do find this the more strange, because neither of these have any relaxing virtue, but rather the contrary. I judge therefore,

fore, that their working is rather upon the spirits, within the nerves, to make them strive less, than upon the bodily substance of the nerves.

965. I would have trial made of two other kinds of bracelets, for comforting the heart and spirits; the one of the trochisk of vipers, made into little pieces of beads; for since they do great good inwards, (especially for pestilent agues) it is like they will be effectual outwards; where they may be applied in greater quantity. There would be trochisk likewise made of snakes; whose flesh dried, is thought to have a very opening and cordial virtue. The other is, of beads made of the scarlet powder, which they call *kermes*; which is the principal ingredient in their cordial confection *alkermes*: the beads would be made up with amber-grise, and some pomander.

966. IT hath been long received, and confirmed by divers trials; that the root of the male-piony dried, tied to the neck, doth help the falling-sickness; and likewise the *incubus*, which we call the mare. The cause of both these diseases, and especially of the epilepsy from the stomach, is the grossness of the vapours which rise and enter into the cells of the brain: and therefore the working is by extreme and subtile attenuation; which that simple hath. I judge the like to be in *castoreum*, musk, rue-seed, *agnus castus* seed, &c.

967. THERE is a stone which they call the blood-stone, which worn is thought to be good for them that bleed at the nose: which (no doubt) is by striction and cooling of the spirits. *Quaere*, if the stone taken out of the toad's head, be not of the like virtue; for the toad loveth shade and coolness.

968. LIGHT may be taken from the experiment of the horse-tooth ring, and the garland of periwinkle, how that those things which assuage the strife of the spirits, do help diseases contrary to the intention desired: for in the curing of the cramp, the intention is to relax the sinews, but the contraction of the spirits, that they strive less, is the best help: so to procure easy travails of women, the intention is to bring down the child; but the best help is, to stay the coming down too fast: whereunto they say, the toad-stone likewise helpeth. So in pestilent fevers, the intention is to expel the infection by sweat and evaporation; but the best means to do it is by nitre, *diascordium*, and other cool things, which do for a time arrest the expulsion, till nature can do it more quietly. For as one saith prettily; in the quenching of the flame of a pestilent ague; nature is like people that come to quench the fire of a house; which are so busy, as one of them letteth another. Surely it is an excellent axiom, and of manifold use, that whatsoever appeaseth the contention of the spirits, furthereth their action.

969. THE writers of natural magick commend the wearing of the spoil of a snake, for preserving of health. I doubt it is but a conceit; for that the snake is thought to renew her youth, by casting her spoil. They might as well take the beak of an eagle, or a piece of a hartshorn, because those renew.

970. IT hath been anciently received, (for *Pericles* the *Athenian* used it) and it is yet in use, to wear little bladders of quicksilver, or tablets of arsenick, as preservatives against the plague: not as they conceive for any comfort they yield to the spirits, but for that being poisons themselves, they draw the venom to them from the spirits.

971. VIDE the experiments 95, 96, and 97, touching the several sympathies and antipathies for medicinal use.

972. IT is said, that the guts or skin of a wolf being applied to the belly, do cure the colick. It is true, that the wolf is a beast of great edacity and digestion; and so it may be the parts of him comfort the bowels.

973. WE see scare-crows are set up to keep birds from corn and fruit; it is reported by some, that the head of a wolf, whole, dried, and hanged up in a dove-house, will scare away vermin; such as are weasles, pole-cats, and the like. It may be the head of a dog will do as much; for those vermin with us, know dogs better than wolves.

974. The brains of some creatures, (when their heads are roasted) taken in wine, are said to strengthen the memory; as the brains of hares, brains of hens, brains of deers, &c. And it seemeth to be incident to the brains of those creatures that are fearful.

975. THE ointment that witches use, is reported to be made of the fat of children digged out of their graves; of the juices of smallage, wolf-bane, and cinquefoil, mingled with the meal of fine wheat. But I suppose, that the soporiferous medicines are likest to do it; which are henbane, hemlock, mandrake, moon-shade, tobacco, *opium*, saffron, poplar-leaves, &c.

976. IT is reported by some, that the affections of beasts when they are in strength, do add some virtue unto inanimate things; as that the skin of a sheep devoured by a wolf, moveth itching; that a stone bitten by a dog in anger, being thrown at him, drunk in powder, provoketh choler.

977. IT hath been observed, that the diet of women with child, doth work much upon the infant; as if the mother eat quinces much, and coriander-seed, (the nature of both which is to repress and stay vapours that ascend to the brain) it will make the child ingenious: and on the contrary side, if the mother eat (much) onions, or beans, or such vaporious food; or drink wine, or strong drink immoderately; or fast much; or be given to much musing; (all which send or draw vapours to the head) it endangereth the child to become lunatick, or of imperfect memory: and I make the same judgment of tobacco often taken by the mother.

978. THE writers of natural magick report, that the heart of an ape worn near the heart, comforteth the heart, and increaseth audacity. It is true, that the ape is a merry and bold beast. And that the same heart likewise of an ape, applied to the neck or head, helpeth the wit; and is good for the falling-sickness: the ape also is a witty beast, and hath a dry brain; which may be some cause of attenuation of vapours in the head. Yet it is said to move dreams also. It may be the heart of a man would do more, but that it is more against mens minds to use it; except it be in such as wear the reliques of saints.

979. THE flesh of a hedge-hog dressed and eaten, is said to be a great drier: it is true, that the juice of a hedge-hog must needs be harsh and dry, because it putteth forth so many prickles: for plants also that are full of prickles are generally dry; as briars, thorns, berberries; and therefore the ashes of an hedge-hog are said to be a great desiccative of fistula's.

980. MUMMY hath great force in stanching of blood; which, as it may be ascribed to the mixture of balms that are glutinous; so it may also partake of a secret propriety, in that the blood draweth man's flesh. And it is approved, that the moss which groweth upon the skull of a dead man unburied, will stanch blood potently: and so do the dregs, or powder of blood, sever'd from the water, and dried.

981. IT hath been practised, to make white swallows, by anointing of the eggs with oil. Which effect may be produced, by the stopping of the pores

pores of the shell, and making the juice that putteth forth the feathers afterwards, more penurious. And it may be, the anointing of the eggs will be as effectual, as the anointing of the body; of which *vide* the experiment 93.

982. IT is reported, that the white of an egg, or blood, mingled with salt-water, doth gather the saltness, and maketh the water sweeter. This may be by adhesion; as in the sixth experiment of clarification: it may be also, that blood, and the white of an egg, (which is the matter of a living creature) have some sympathy with salt: for all life hath a sympathy with salt. We see, that salt laid to a cut finger healeth it; so as it seemeth salt draweth blood, as well as blood draweth salt.

983. IT hath been anciently received, that the sea hare hath an antipathy with the lungs, (if it cometh near the body) and erodeth them. Whereof the cause is conceived to be, a quality it hath of heating the breath and spirits; as *cantbarides* have upon the watry parts of the body; as urine and hydropical water. And it is a good rule, that whatsoever hath an operation upon certain kinds of matters, that, in man's body, worketh most upon those parts wherein that kind of matter aboundeth.

984. GENERALLY, that which is dead, or corrupted, or excerned, hath antipathy with the same thing when it is alive, and when it is found; and with those parts which do excern: as a carcase of man is most infectious and odious to man; a carrion of an horse to an horse, &c. purulent matter of wounds, and ulcers, carbuncles, pocks, scabs, leprosy, to found flesh; and the excrement of every species to that creature that excerneth them: but the excrements are less pernicious than the corruptions.

985. IT is a common experience, that dogs know the dog-killer; when, as in times of infection, some petty fellow is sent out to kill the dogs; and that though they have never seen him before, yet they will all come forth, and bark, and fly at him.

986. THE relations touching the force of imagination, and the secret instincts of nature, are so uncertain, as they require a great deal of examination, ere we conclude upon them. I would have it first thoroughly enquired, whether there be any secret passages of sympathy between persons of near blood; as parents, children, brothers, sisters, nurse children, husbands, wives, &c. There be many reports in history, that upon the death of persons of such nearness, men have had an inward feeling of it. I my self remember, that being in *Paris*, and my father dying in *London*, two or three days before my father's death, I had a dream, which I told to divers *English* gentlemen; that my father's house in the country was plaister'd all over with black mortar. There is an opinion abroad, (whether idle or no I cannot say) that loving and kind husbands have a sense of their wives breeding child, by some accident in their own body.

987. NEXT to those that are near in blood, there may be the like passage, and instincts of nature, between great friends and enemies: and sometimes the revealing is unto another person, and not to the party himself. I remember *Philippus Commineus*, (a grave writer) reporteth, that the archbishop of *Vienna*, (a reverend prelate) said (one day) after mass, to king *Lewis* the eleventh of *France*; sir, your mortal enemy is dead; what time duke *Charles* of *Burgundy* was slain at the battle of *Granson* against the *Switzers*. Some trial also would be made, whether pact or agreement do any thing; as if two friends should agree, that such a day in every week, they being in far distant places, should pray one for another; or should put on a ring or tablet, one for

for another's sake ; whether if one of them should break their vow and promise, the other should have any feeling of it in absence.

988. IF there be any force in imaginations and affections of singular persons ; it is probable the force is much more in the joint imaginations and affections of multitudes : as if a victory should be won or lost in remote parts, whether is there not some sense thereof in the people whom it concerneth ; because of the great joy or grief that many men are possess'd with at once ? *Pius Quintus*, at the very time when that memorable victory was won by the *Christians* against the *Turks*, at the naval battle of *Lepanto*, being then hearing of causes in consistory, brake off suddenly, and said to those about him, it is now more time we should give thanks to God, for the great victory he hath granted us against the *Turks* : it is true, that victory had a sympathy with his spirit ; for it was merely his work to conclude that league. It may be that revelation was divine ; but what shall we say then to a number of examples amongst the *Grecians* and *Romans* ? Where the people being in theaters at plays, have had news of victories and overthrows, some few days before any messenger could come.

IT is true, that they may hold in these things, which is the general root of superstition : namely, that men observe when things hit, and not when they miss ; and commit to memory the one, and forget and pass over the other. But touching divination, and the misgiving of minds, we shall speak more when we handle in general the nature of minds, and souls, and spirits.

989. WE have given formerly some rules of imagination ; and touching the fortifying of the same. We have set down also some few instances and directions, of the force of imagination upon beasts, birds, &c. upon plants, and upon inanimate bodies : wherein you must still observe, that your trials be upon subtle and light motions, and not the contrary ; for you will sooner by imagination bind a bird from singing, than from eating or flying : and I leave it to every man, to chuse experiments, which himself thinketh most commodious ; giving now but a few examples of every of the three kinds.

990. USE some imaginant, (observing the rules formerly prescribed) for binding of a bird from singing ; and the like of a dog from barking. Try also the imagination of some, whom you shall accommodate with things to fortify it, in cock-fights, to make one cock more hardy, and the other more cowardly. It would be tried also in flying of hawks ; or in coursing of a deer, or hart, with greyhounds ; or in horse-races ; and the like comparative motions : for you may sooner by imagination quicken or slack a motion, than raise or cease it ; as it is easier to make a dog go slower, than to make him stand still that he may not run.

991. IN plants also you may try the force of imagination upon the lighter sort of motions : as upon the sudden fading, or lively coming up of herbs ; or upon their bending one way or other ; or upon their closing and opening, &c.

992. FOR inanimate things, you may try the force of imagination, upon staying the working of beer when the barm is put in ; or upon the coming of butter or cheese, after the churning, or the rennet be put in.

993. IT is an ancient tradition every where alledged, for example of secret proprieties and influxes, that the *torpedo marina*, if it be touched with a long stick, doth stupify the hand of him that toucheth it. It is one degree of working at distance, to work by the continuance of a fit medium ; as sound will be convey'd to the ear, by striking upon a bow-string, if the horn of the bow be held to the ear.

994. THE writers of natural magick do attribute much to the virtues that come from the parts of living creatures; so as they be taken from them, the creatures remaining still alive: as if the creature still living did infuse some immateriate virtue and vigour into the part sever'd. So much may be true; that any part taken from a living creature newly slain, may be of greater force, than if it were taken from the like creature dying of it self, because it is fuller of spirit.

995. TRIAL would be made of the like parts of individuals in plants and living creatures; as to cut off a stock of a tree; and to lay that which you cut off to putrefy, to see whether it will decay the rest of the stock: or if you should cut off part of the tail, or leg of a dog or a cat, and lay it to putrefy, and so see whether it will fester, or keep from healing, the part which remaineth.

996. IT is received, that it helpeth to continue love, if one wear a ring, or a bracelet of the hair of the party beloved. But that may be by the exciting of the imagination: and perhaps a glove, or other like favour, may as well do it.

997. THE sympathy of individuals, that have been entire, or have touched, is of all others the most incredible: yet according unto our faithful manner of examination of nature, we will make some little mention of it. The taking away of warts, by rubbing them with somewhat that afterwards is put to waste and consume, is a common experiment; and I do apprehend it the rather, because of my own experience. I had from my childhood a wart upon one of my fingers: afterwards when I was about sixteen years old, being then at *Paris*, there grew upon both my hands a number of warts, (at the least an hundred) in a month's space. The *English* ambassador's lady, who was a woman far from superstition, told me one day, she would help me away with my warts: whereupon she got a piece of lard with the skin on, and rubbed the warts all over with the fat side; and amongst the rest, that wart which I had had from my childhood; then she nailed the piece of lard with the fat towards the sun, upon a post of her chamber-window, which was to the south. The success was, that within five weeks space all the warts went quite away: and that wart which I had so long endured, for company. But at the rest I did little marvel, because, they came in a short time, and might go away in a short time again: but the going away of that which had stayed so long, doth yet stick with me. They say the like is done by the rubbing of warts with a green elder-stick, and then burying the stick to rot in muck. It would be tried with corns and wens, and such other excrescences. I would have it also tried with some parts of living creatures, that are nearest the nature of excrescences; as the combs of cocks, the spurs of cocks, the horns of beasts, &c. And I would have it tried both ways; both by rubbing those parts with lard, or elder, as before; and by cutting off some piece of those parts, and laying it to consume: To see whether it will work any effect towards the consumption of that part which was joined with it.

998. IT is constantly received and avouched, that the anointing of the weapon that maketh the wound, will heal the wound it self. In this experiment, upon the relation of men of credit, (though my self, as yet, am not fully inclined to believe it) you shall note the points following: first, the ointment wherewith this is done, is made of divers ingredients; whereof the strangest and hardest to come by, are the moss upon the skull of a dead man unburied; and the fats of a boar, and a bear, killed in the act of generation.

ration. These two last I could easily suspect to be prescribed as a starting hole ; that if the experiment proved not, it might be pretended that the beasts were not killed in the due time ; for as for the moss, it is certain there is great quantity of it in *Ireland*, upon slain bodies, laid on heaps unburied. The other ingredients are, the blood-stone in powder, and some other things, which seem to have a virtue to stanch blood ; as also the moss hath. And the description of the whole ointment is to be found in the chymical dispensatory of *Crollius*. Secondly, the same kind of ointment applied to the hurt it self, worketh not the effect ; but only applied to the weapon. Thirdly, (which I like well) they do not observe the confecting of the ointment under any certain constellation ; which commonly is the excuse of magical medicines when they fail, that they were not made under a fit figure of heaven. Fourthly, it may be applied to the weapon, though the party hurt be at great distance. Fifthly, it seemeth the imagination of the party to be cured, is not needful to concur ; for it may be done without the knowledge of the party wounded : and thus much has been tried, that the ointment (for experiment's sake) hath been wiped off the weapon, without the knowledge of the party hurt, and presently the party hurt has been in great rage of pain, till the weapon was re-anointed. Sixthly, it is affirmed, that if you cannot get the weapon, yet if you put an instrument of iron, or wood, resembling the weapon, into the wound, whereby it bleedeth, the anointing of that instrument will serve and work the effect. This I doubt should be a device to keep this strange form of cure in request and use : because many times you cannot come by the weapon it self. Seventhly, the wound must be at first washed clean with white wine, or the party's own water ; and then bound up close in fine linnen, and no more dressing renewed till it be whole. Eighthly, the sword it self must be wrapped up close, as far as the ointment goeth, that it taketh no wind. Ninthly, the ointment, if you wipe it off from the sword, and keep it, will serve again ; and rather increase in virtue, than diminish. Tenthly, it will cure in far shorter time, than ointments of wounds commonly do. Lastly, it will cure a beast as well as a man ; which I like best of all the rest, because it subjecteth the matter to an easy trial.

Experiment solitary touching secret proprieties.

999. I would have men know, that though I reprehend the easy passing over of the causes of things, by ascribing them to secret and hidden virtues, and proprieties, (for this hath arrested and laid asleep all true enquiry and indications ;) yet I do not understand, but that in the practical part of knowledge, much will be left to experience and probation, whereunto indication cannot so fully reach : and this not only *in specie*, but *in individuo*. So in physick, if you will cure the jaundice, it is not enough to say, that the medicine must not be cooling ; for that will hinder the opening which the disease requireth : that it must not be hot ; for that will exasperate choler : that it must go to the gall ; for there is the obstruction which causeth the disease, &c. But you must receive from experience, that powder of *Chamaepestis*, or the like, drunk in beer, is good for the jaundice. So again a wise physician doth not continue still the same medicine to a patient ; but he will vary, if the first medicine doth not apparently succeed : for of those remedies that are good for the jaundice, stone, agues, &c. that will do good in one body, which will not do good in another ; according to the correspondence the medicine hath to the individual body.

Expe-

Experiment solitary touching the general sympathy of mens spirits.

1000. THE delight which men have in popularity, fame, honour, submission, and subjection of other mens minds, wills, or affections (although these things may be desired for other ends) seemeth to be a thing in it self without contemplation of consequence, grateful and agreeable to the nature of man. This thing (surely) is not without some signification, s if all spirits and souls of men, came forth out of one divine *limbus*; else why men be so much affected with that which others think or say? The best temper of minds desireth good name and true honour: the lighter, popularity and applause: the more depraved, subjection and tyranny; as is seen in great conquerors and troublers of the world: and yet more in arch-hereticks; for the introducing of new doctrines, is likewise an affectation of tyranny over the understandings and beliefs of men.



PHYSIOLOGICAL REMAINS.

Inquisitions touching the compounding of metals.

TO make proof of the incorporation of iron with flint, or other stone. For if it can be incorporated without over-great charge, or other incommodity, the cheapness of the flint or stone, doth make the compound stuff profitable for divers uses. The doubts may be three in number.

FIRST, Whether they will incorporate at all, otherwise than to a body that will not hold well together, but become brittle and uneven?

SECONDLY, Although it should incorporate well, yet whether the stuff will not be so stubborn as it will not work well with a hammer, whereby the charge in working will overthrow the cheapness of the material?

THIRDLY, Whether they will incorporate, except the iron and stone be first calcined into powder? And if not, whether the charge of the calcination will not eat out the cheapness of the material?

THE uses are most probable to be; first for the implements of the kitchen; as spits, ranges, cobirons, pots, &c. then for the wars, as ordnance, port-cullises, grates, chains, &c.

NOTE; the finer works of iron are not so probable to be served with such a stuff; as locks, clocks, small chains, &c. because the stuff is not like to be tough enough.

FOR the better use in comparison of iron, it is like the stuff will be far lighter; for the weight of iron to flint is double and a third part; and, secondly, it is like to rust not so easily, but to be more clean.

THE ways of tryal are two: first, by the iron and stone of themselves, wherein it must be enquired, what are the stones that do easiliest melt. Secondly, with an additament, wherein brimstone is approved to help to the melting of iron or steel. But then it must be considered, whether the charge of the additament will not destroy the profit.

IT must be known also, what proportion of the stone the iron will receive to incorporate well with it, and that with once melting; for if either the proportion be too small, or that it cannot be received but piece-meal by several meltings, the work cannot be of value.

To make proof of the incorporating of iron and brass. For the cheapness of the iron in comparison of the brass, if the uses may be served, doth promise profit. The doubt will be, touching their incorporating; for that it is approved, that iron will not incorporate, neither with brass, nor other metals of it self, by simple fire: so as the enquiry must be upon the calcination, and the additament, and the charge of them.

THE uses will be for such things as are now made of brass, and might be

as

as well served by the compound stuff; wherein the doubts will be chiefly of the toughness, and of the beauty.

FIRST, therefore, if brass ordnance could be made of the compound stuff, in respect of the cheapness of the iron, it would be of great use.

THE vantage which brass ordnance hath over iron, is chiefly, as I suppose, because it will hold the blow, though it be driven far thinner than the iron can be; whereby it saveth both in the quantity of the material, and in the charge and commodity of mounting and carriage, in regard, by reason of the thinness, it beareth much less weight: there may be also somewhat in being not so easily over-heated.

SECONDLY, for the beauty. Those things wherein the beauty or lustre are esteemed, are, andirons, and all manner of images, and statues, and columns, and tombs, and the like. So as the doubt will be double for the beauty; the one whether the colour will please so well, because it will not be so like gold as brass? The other, whether it will polish so well? Wherein for the latter it is probable it will; for steel glosses are more resplendent than the like plates of brass would be; and so is the glittering of a blade. And besides I take it, andiron brass, which they call white brass, hath some mixture of tin to help the lustre. And for the golden colour, it may be by some small mixture of orpiment, such as they use to brass in the yellow alchymy; it will easily recover that which the iron loseth. Of this the eye must be the judge upon proof made.

BUT now for pans, pots, curfews, counters, and the like, the beauty will not be so much respected, so as the compound stuff is like to pass.

FOR the better use of the compound stuff, it will be sweeter and cleaner than brass alone, which yieldeth a smell or soilness; and therefore may be better for the vessels of the kitchen and brewing. It will also be harder than brass, where hardness may be required.

FOR the tryal, the doubts will be two: first, the over-weight of brass towards iron, which will make iron float on the top in the melting. This perhaps will be holpen with the calamar stone, which consenteth so well with brass, and as I take it, is lighter than iron. The other doubt will be, the stiffness and dryness of iron to melt; which must be holpen either by moistening the iron, or opening it. For the first, perhaps some mixture of lead will help. Which is as much more liquid than brass, as iron is less liquid. The opening may be holpen by some mixture of sulphur, so as the tryals would be with brass, iron, calamar stone and sulphur; and then again with the same composition, and an addition of some lead; and in all this the charge must be considered, whether it eat not out the profit of the cheapness of iron?

THERE be two proofs to be made of incorporation of metals for magnificence and delicacy. The one for the eye, and the other for the ear. Statue-metal, and bell-metal, and trumpet-metal, and string-metal; in all these, though the mixture of brass or copper should be dearer than the brass it self, yet the pleasure will advance the price to profit.

FIRST therefore for statue-metal, see *Pliny's* mixtures, which are almost forgotten, and consider the charge.

TRY likewise the mixture of tin in large proportion with copper, and observe the colour and beauty, it being polished. But chiefly let proof be made of the incorporating of copper or brass with glass-metal, for that is cheap, and is like to add a great glory and shining.

FOR bell-metal. First, it is to be known what is the composition which

is now in use. Secondly, it is probable that it is the dryness of the metal that doth help the clearness of the sound, and the moistness that dulleth it: and therefore the mixtures that are probable, are steel, tin, glass-metal.

For string-metal, or trumpet-metal, it is the same reason; save that glass-metal may not be used, because it will make it too brittle; and trial may be made with mixture of silver, it being but a delicacy with iron or brass.

To make proof of the incorporation of silver and tin in equal quantity, or with two parts silver, and one part tin, and to observe whether it be of equal beauty and lustre with pure silver; and also whether it yield no soiling more than silver? And again, whether it will endure the ordinary fire, which belongeth to chafing-dishes, posnets, and such other silver vessels? And if it do not endure the fire, yet whether by some mixture of iron it may not be made more fixt? For if it be in beauty, and all the uses aforesaid equal to silver, it were a thing of singular profit to the state, and to all particular persons, to change silver plate or vessel into the compound stuff, being a kind of silver electre, and to turn the rest into coin. It may be also questioned, whether the compound stuff will receive gilding as well as silver, and with equal lustre? It is to be noted, that the common allay of silver coin is brass, which doth discolour more, and is not so neat as tin.

THE drownings of metals within other metals, in such sort as they can never rise again, is a thing of great profit. For if a quantity of silver can be so buried in gold, as it never will be reduced again, neither by fire, nor parting waters, nor otherways: and also that it serve all uses as well as pure gold, it is in effect all one, as if so much silver were turned into gold; only the weight will discover it: yet that taketh off but half of the profit; for gold is not fully double weight to silver, but gold is twelve times price to silver.

THE burial must be by one of these two ways, either by the smallness of the proportion, as perhaps fifty to one, which will be but six-pence gains in fifty shillings: or it must be holpen by somewhat which may fix the silver, never to be restored or vapoured away, when it is incorporated into such a mass of gold; for the less quantity is ever the harder to sever: and for this purpose iron is the likest, or coppel-stuff, upon which the fire hath no power of consumption.

THE making of gold seemeth a thing scarcely possible; because gold is the heaviest of metals, and to add matter is impossible: and again, to drive metals into a narrower room than their natural extent beareth, is a condensation hardly to be expected. But to make silver seemeth more easy, because both quick-silver and lead are weightier than silver; so as there needeth only fixing, and not condensing. The degree unto this that is already known, is infusing of quick-silver in a parchment, or otherwise in the midst of molten lead when it cooleth; for this stupifieth the quick-silver that it runneth no more. This trial is to be advanced three ways. First, by iterating the melting of the lead, to see whether it will not make the quick-silver harder and harder. Secondly, to put realgar hot into the midst of the quick-silver, whereby it may be condensed, as well from within as without. Thirdly, to try it in the midst of molten iron, or molten steel, which is a body more likely to fix the quicksilver than lead. It may be also tried, by incorporating powder of steel, or copple-dust, by pouncing into the quick-silver, and so to proceed to the stupifying.

UPON glass, four things would be put in proof. The first, means to make the

the glaſs more cryſtalline. The ſecond, to make it more ſtrong for fails, and for fire, though it come not to the degree to be malleable. The third, to make it coloured by tinctures, comparable to or exceeding precious ſtones. The fourth, to make a compound body of glaſs and galletyle; that is, to have the colour milky like a *chalcedon*, being a ſtuff between a porcellane and a glaſs.

FOR the firſt; it is good firſt to know exactly the ſeveral materials whereof the glaſs in uſe is made; window-glaſs, *Normandy* and *Burgundy*, ale-houſe-glaſs, *Engliſh* drinking-glaſs: and then thereupon to conſider what the reaſon is of the coarſeneſs or clearneſs; and from thence to riſe to a conſideration how to make ſome additaments to the coarſer materials; to raiſe them to the whiteness and cryſtalline ſplendour of the fineſt.

FOR the ſecond; we ſee pebbles, and ſome other ſtones, will cut as fine as cryſtal, which if they will melt, may be a mixture for glaſs, and may make it more tough and more cryſtalline. Beſides, we ſee metals will vitrify; and perhaps ſome portion of the glaſs of metal vitrified, mixed in the pot of ordinary glaſs-metal, will make the whole maſs more tough.

FOR the third; it were good to have of coloured window-glaſs, ſuch as is coloured in the pot, and not by colours————

IT is to be known of what ſtuff galletyle is made, and how the colours in it are varied; and thereupon to conſider how to make the mixture of glaſs-metal and them, whereof I have ſeen the example.

ENQUIRE what be the ſtones that do eaſieſt melt. Of them take half a pound, and of iron a pound and half, and an ounce of brimſtone, and ſee whether they will incorporate, being whole, with a ſtrong fire. If not, try the ſame quantities calcined: and if they will incorporate, make a plate of them, and burniſh it as they do iron.

TAKE a pound and a half of braſs, and half a pound of iron; two ounces of the calaminar ſtone, an ounce and a half of brimſtone, an ounce of lead; calcine them, and ſee what body they make; and if they incorporate, make a plate of it burniſhed.

TAKE of copper an ounce and a half, of tin an ounce, and melt them together, and make a plate of them burniſhed.

TAKE of copper an ounce and a half, of tin an ounce, of glaſs-metal half an ounce; ſtir them well in the boiling, and if they incorporate, make a plate of them burniſhed.

TAKE of copper a pound and a half, tin four ounces, braſs two ounces; make a plate of them burniſhed.

TAKE of ſilver two ounces, tin half an ounce; make a little ſay-cup of it, and burniſh it.

To enquire of the materials of every of the kind of glaſſes, coarſer and finer, and of the proportions.

TAKE an equal quantity of glaſs-metal, of ſtone calcined, and bring a pattern.

TAKE an ounce of vitrified metal, and a pound of ordinary glaſs-metal, and ſee whether they will incorporate, and bring a pattern.

BRING examples of all coloured glaſſes, and learn the ingredients whereby they are coloured.

ENQUIRE of the ſubſtance of galletyle.

Articles of questions touching minerals.

The Lord Bacon's questions, with Dr. Meverel's solutions, concerning the compounding, incorporating, or union of metals or minerals; which subject is the first letter of his lordship's alphabet.

Q. WITH what metals gold will incorporate by simple colliquefaction, and with what not? And in what quantity it will incorporate; and what kind of body the compound makes?

A. GOLD with silver, which was the ancient *electrum*: gold with quick-silver: gold with lead: gold with copper: gold with brass: gold with iron: gold with tin.

So likewise of silver: silver with quick-silver: silver with lead: silver with copper: silver with brass: silver with iron: (*Plinius secund. lib. xxxiii. 9. Misquit denario triumvir Antonius ferrum,*) silver with tin.

So likewise of quick-silver: quick-silver with lead: quick-silver with copper: quick-silver with brass: quick-silver with iron: quick-silver with tin.

So of lead: lead with copper: lead with brass: lead with iron: lead with tin. *Plin. xxxiv. 9.*

So of copper: copper with brass: copper with iron: copper with tin.

So of brass: brass with iron: brass with tin.

So of iron: iron with tin.

What be the compound metals that are common and known? And what are the proportions of their mixtures? As,

LATTEN of brass, and the calaminar stone.

PEWTER of tin and lead.

BELL-metal of &c. and the counterfeit plate, which they call alchymy.

THE decompositees of three metals or more, are too long to enquire of, except there be some compositions of them already observed.

IT is also to be observed, whether any two metals which will not mingle of themselves, will mingle with the help of another; and what.

WHAT compounds will be made of metal with stone and other fossils; as latten is made with brass and the calaminar stone; as all the metals incorporate with vitriol; all with iron powdered; all with flint, &c.

SOME few of these would be inquired of, to disclose the nature of the rest.

WHETHER metals or other fossils will incorporate with molten glass, and what body it makes?

THE quantity in the mixture would be well considered; for some small quantity perhaps will incorporate, as in the allays of gold and silver coin.

UPON the compound body, three things are chiefly to be observed; the colour; the fragility or plianthness: the volatility of fixation, compared with the simple bodies.

FOR present use or profit, this is the rule: consider the price of the two simple bodies; consider again the dignity of the one above the other in use; then see if you can make a compound, that will save more in price, than it will lose in dignity of the use.

As for example; consider the price of brass ordnance; consider again the price of iron ordnance, and then consider wherein the brass ordnance doth excel the iron ordnance in use: then if you can make a compound of brass and iron that will be near as good in use, and much cheaper in price, then there is profit both to the private, and the common-wealth. So of gold
and

and filver, the price is double of twelve: the dignity of gold above filver is not much, the splendour is alike, and more pleasing to some eyes, as in cloth of filver, filvered rapiers, &c. The main dignity is, that gold bears the fire, which filver doth not: but that is an excellency in nature, but it is nothing at all in use; for any dignity in use I know none, but that silvering will fully and canker more than gilding; which if it might be corrected with a little mixture of gold, there is profit: and I do somewhat marvel, that the latter ages have lost the ancient *electrum*, which was a mixture of filver with gold: whereof I conceive there may be much use, both in coin, plate, and gilding.

IT is to be noted, that there is in the version of metals impossibility, or at least great difficulty, as in making of gold, filver, copper. On the other side, in the adulterating or counterfeiting of metals, there is deceit and villany. But it should seem there is a middle way, and that is by new compounds, if the ways of incorporating were well known.

WHAT incorporation or imbibition metals will receive from vegetables, without being dissolved in their substance: as when the armourers make their steel more tough and pliant, by asperision of water and juice of herbs; when gold being grown somewhat churlish by recovering, is made more pliant by throwing in shreds of tanned leather, or by leather oiled.

NOTE; that in these and the like shews of imbibition, it were good to try by the weights, whether the weight be increased or no; for if it be not, it is to be doubted that there is no imbibition of substance, but only that the application of that other body, doth dispose and invite the metal to another posture of parts, than of it self it would have taken.

AFTER the incorporation of metals by simple colliquefaction, for the better discovery of the nature, and consents and dissents of metals, it would be likewise tried by incorporating of their dissolutions.

WHAT metals being dissolved in strong waters will incorporate well together, and what not? Which is to be enquired particularly, as it was in colliquefactions.

THERE is to be observed in those dissolutions which will not easily incorporate, what the effects are: as the bullition; the precipitation to the bottom; the ejaculation towards the top; the suspension in the midst; and the like.

NOTE; that the dissents of the menstrual or strong waters, may hinder the incorporation, as well as the dissents of the metals themselves; therefore where the *menstrua* are the same, and yet the incorporation followeth not, you may conclude the dissent is in the metals; but where the *menstrua* are several, not so certain.

Dr. Meverell's answers to the foregoing questions, concerning the compounding, incorporating, or union of metals and minerals.

GOLD will incorporate with filver in any proportion. *Plin. lib. xxxiii. cap. 4. Omni auro inest argentum vario pondere; alibi dena, alibi nona, alibi octava parte—Ubicunque quinta argenti portio invenitur, electrum vocatur.* The body remains fixt, solid, and coloured, according to the proportion of the two metals.

GOLD with quick-silver easily mixeth, but the product is imperfectly fixed; and so are all other metals incorporate with mercury.

GOLD incorporates with lead in any proportion.

GOLD incorporates with copper in any proportion, the common allay.

GOLD

GOLD incorporates with brass in any proportion. And what is said of copper is true of brass, in the union of other metals.

GOLD will not incorporate with iron.

GOLD incorporates with tin, the ancient alloy, *Iſa. i. 25.*

WHAT was said of gold and quick-silver, may be said of quick-silver and the rest of metals.

SILVER with lead in any proportion.

SILVER incorporates with copper. *Pliny* mentions such a mixture; for *triumphales statuæ, lib. xxxiii. 9. miscetur argento, tertia pars aeris Cyprii tenuissimi, quod coronarium vocant, & sulphuris vivi quantum argenti.* The same is true of brass.

SILVER incorporates not with iron. Wherefore I wonder at that which *Pliny* hath, *lib. xxxiii. 9. Miscuit denario triumvir Antonius ferrum.* And what is said of this is true in the rest; for iron incorporateth with none of them.

SILVER mixes with tin.

LEAD incorporates with copper. Such a mixture was the pot-metal whereof *Pliny* speaks, *lib. xxxiv. 9. Ternis aut quaternis libris plumbi argentarii in centenae aeris additis.*

LEAD incorporates with tin. The mixture of these two in equal proportions, is that which was anciently called *plumbum argentarium*, *Plin. xxxiv. 17.*

COPPER incorporates with tin. Of such a mixture were the mirrors of the Romans. *Plin. Atque ut omnia de speculis peragantur hoc loco, optima apud maiores erant Brundisina, stanno & aere mistis, lib. xxxiii. 9.*

Compound metals now in use.

1. FINE tin. The mixture is thus; pure tin a thousand pound, temper fifty pound, glass of tin three pounds.

2. COARSE pewter is made of fine tin and lead. Temper is thus made; the drops of pure tin four pound and a half, copper half a pound.

3. BRASS is made of copper and *calaminaris*.

4. BELL-metal. Copper a thousand pound, tin from three hundred to two hundred pound, brass a hundred and fifty pound.

5. POT-metal, copper and lead.

6. WHITE alchymy is made of pan-brass one pound, and *arsenicum* three ounces.

7. RED alchymy is made of copper and auripigment.

THERE be divers imperfect minerals, which will incorporate with the metals: being indeed metals inwardly, but clothed with earths and stones: as *pyritis, calaminaris, misy, chalcitis, fery, vitriolum.*

METALS incorporate not with glass, except they be brought into the form of glass.

METALS dissolved. The dissolution of gold and silver disagree, so that in their mixture there is great ebullition, darkness, and in the end a precipitation of a black powder.

THE mixture of gold and mercury agree.

GOLD agrees with iron. In a word, the dissolution of mercury and iron agree with all the rest.

SILVER and copper disagree, and so do silver and lead. Silver and tin agree.

Articles of enquiry concerning minerals. The second letter of the cross-row, touching the separation of metals and minerals.

SEPARATION is of three sorts; the first, is the separating of the pure metal from the ore or dross, which we call refining. The second, is the drawing one metal or mineral out of another, which we call extracting. The third, is the separating of any metal into its original, or *materia prima*, or element, or call them what you will; which work we will call principiation.

1. FOR refining, we are to enquire of it according to the several metals; as gold, silver, &c. Incidentally we are to enquire of the first stone, or ore, or spar, or marcasite of metals severally, and what kind of bodies they are, and of the degrees of richness. Also we are to enquire of the means of separating, whether by fire, parting waters, or otherwise. Also for the manner of refining, you are to see how you can multiply the heat, or hasten the opening, and so save the charge in the fining.

THE means of this in three manners; that is to say, in the blast of the fire; in the manner of the furnace, to multiply heat by union and reflexion; and by some additament, or medicines which will help the bodies to open them the sooner.

NOTE the quickning of the blast, and the multiplying of the heat in the furnace, may be the same for all metals; but the additaments must be several, according to the nature of the metals. Note again, that if you think that the multiplying of the additaments in the same proportion, that you multiply the ore, the work will follow, you may be deceived: for quantity in the passive will add more resistance, than the same quantity in the active will add force.

2. FOR extracting, you are to enquire what metals contain others, and likewise what not; as lead, silver; copper, silver, &c.

NOTE, although the charge of extraction should exceed the worth, yet that is not the matter: For at least it will discover nature and possibility, the other may be thought on afterwards.

WE are likewise to enquire what the differences are of those metals which contain more or less other metals, and how that agrees with the poorness or richness of the metals or ore in themselves. As the lead that contains most silver is accounted to be more brittle, and yet otherwise poorer in it self.

3. FOR principiation, I cannot affirm whether there be any such thing or not; and I think the chymists make too much ado about it: but howsoever it be, be it solution or extraction, or a kind of conversion by the fire; it is diligently to be enquired what salts, sulphur, vitriol, mercury, or the like simple bodies are to be found in the several metals, and in what quantity.

Dr. Meverel's answers to the foregoing questions, touching the separations of metals and minerals.

1. FOR the means of separating. After that the ore is washed, or cleansed from the earth, there is nothing simply necessary, save only a wind-furnace well framed, narrow above and at the hearth, in shape oval, sufficiently fed with char-coal and ore, in convenient proportions.

FOR additions in this first separation, I have observed none; the dross the mineral brings being sufficient. The refiners of iron observe, that that iron-stone is hardest to melt, which is fullest of metal, and that easiest which hath most dross. But in lead, and tin, the contrary is noted. Yet in melting of metals, when they have been calcined formerly by fire, or strong-

waters, there is good use of additaments, as of borax, tartar, armoniack, and salt-petre.

2. IN extracting of metals. Note, that lead and tin contain silver. Lead and silver contain gold. Iron contains brass. Silver is best separated from lead by the test. So gold from silver. Yet the best way for that is *aqua regia*.

3. FOR principiation. I can truly and boldly affirm, that there are no such principles as salt, sulphur and mercury, which can be separated from any perfect metals. For every part so separated, may easily be reduced into perfect metal without substitution of that, or those principles which chymists imagine to be wanting. As suppose you take the salt of lead; this salt, or as some name it sulphur, may be turned into perfect lead, by melting it with the like quantity of lead which contains principles only for it self.

I acknowledge that there is quick-silver and brimstone found in the imperfect minerals; but those are nature's remote materials, and not the chymist's principles. As if you dissolve antimony by *aqua regia*, there will be real brimstone swimming upon the water: as appears by the colour of the fire when it is burnt, and by the smell.

Articles of enquiry concerning metals and minerals. The third letter of the cross-row touching the variation of metals into several shapes, bodies, or natures, the particulars whereof follow:

TINCTURE: turning to rust: calcination: sublimation: precipitation: amalgamating, or turning into a soft body: vitrification: opening or dissolving into liquor: sproutings, or branchings, or arborescents: induration and mollification: making tough or brittle: volatility and fixation: transmutation, or version.

FOR tincture: it is to be enquired how metal may be tinged through and through, and with what, and into what colours; as tinging silver yellow, tinging copper white, and tinging red, green, blue; especially with keeping the lustre.

ITEM, tincture of glasses.

ITEM, tincture of marble, flint, or other stone.

FOR turning into rust, two things are chiefly to be enquired; by what corrosives it is done, and into what colours it turns; as lead into white, which they call *ceruss*; iron into yellow, which they call *crocus martis*; quicksilver into vermilion; brass into green, which they call verdigrise.

FOR calcination; how every metal is calcined, and into what kind of body, and what is the exquisitest way of calcination.

FOR sublimation; to enquire the manner of subliming, and what metals endure subliming, and what body the sublimate makes.

FOR precipitation likewise; by what strong water every metal will precipitate, and with what additaments, and in what time, and into what body.

So for amalgama; what metals will endure it, what are the means to do it, and what is the manner of the body.

FOR vitrification likewise; what metals will endure it, what are the means to do it, into what colour it turns; and farther, where the whole metal is turned into glass, and where the metal doth but hang in the glassy parts; also what weight the vitrified body bears, compared with the crude body; also because vitrification is accounted a kind of death of metals, what vitrification will admit of turning back again, and what not.

FOR dissolution into liquor, we are to enquire what is the proper *menstruum* to dissolve any metal, and in the negative, what will touch upon the
one

one, and not upon the other, and what several *menstrua* will dissolve any metal, and which most exactly. *Item*, the process or motion of the dissolution, the manner of rising, boiling, vapouring more violent, or more gentle, causing much heat or less. *Item*, the quantity or charge that the strong water will bear, and then give over. *Item*, the colour into which the liquor will turn. Above all it is to be enquired, whether there be any *menstruum* to dissolve any metal that is not fretting, or corroding, and openeth the body by sympathy, and not by mordacity, or violent penetration.

FOR sprouting or branching, though it be a thing but transitory, and a kind of toy or pleasure, yet there is a more serious use of it; for that it discovereth the delicate motions of spirits, when they put forth and cannot get forth, like unto that which is in vegetables.

FOR induration, or mollification; it is to be enquired what will make metals harder and harder, and what will make them softer and softer. And this enquiry tendeth to two ends: first, for use; as to make iron soft by the fire makes it malleable. Secondly, because induration is a degree towards fixation, and mollification towards volatility; and therefore the enquiry of them will give light towards the other.

FOR tough and brittle, they are much of the same kind, but yet worthy of an enquiry apart, especially to join hardness with toughness, as making glass malleable, &c. and making blades strong to resist and pierce, and yet not easy to break.

FOR volatility and fixation. It is a principal branch to be enquired: the utmost degree of fixation is that whereon no fire will work, nor strong water joined with fire, if there be any such fixation possible. The next is, when fire simply will not work without strong waters. The next is by the test, The next is when it will endure fire not blown, or such a strength of fire. The next is when it will not endure, but yet is malleable. The next is when it is not malleable, but yet is not fluent, but stupified. So of volatility, the utmost degree is when it will fly away without returning. The next is when it will fly up, but with ease return. The next is when it will fly upwards over the helm by a kind of exsufflation without vapouring. The next is when it will melt though not rise. The next is when it will soften though not melt. Of all these diligent enquiry is to be made in several metals, especially of the more extreme degrees.

FOR transmutation or version. If it be real and true, it is the farthest part of art, and would be well distinguished, from extraction, from restitution, and from adulteration. I hear much of turning iron into copper; I hear also of the growth of lead in weight, which cannot be without a conversion of some body into lead: but whatsoever is of this kind, and well expressed, is diligently to be enquired and set down.

Dr. Meverel's answers to the foregoing questions, concerning the variation of metals and minerals.

1. FOR tinctures, there are none that I know, but that rich variety which springs from mixture of metals with metals, or imperfect minerals.

2. THE imperfect metals are subject to rust, all of them except mercury, which is made into vermilion by solution, or calcination. The rest are rusted by any salt, sour, or acid water. Lead into a white body called *cerussa*. Iron into a pale red called *ferrugo*. Copper is turned into green, named *aerugo*, *aes viride*. Tin into white: But this is not in use, neither hath it obtained a name.

THE scriptures mention the rust of gold, but that's in regard of the allay.

3. CALCINATION. All metals may be calcined by strong waters, or by admixtion of salt, sulphur, and mercury. The imperfect metals may be calcined by continuance of simple fire; iron thus calcined is called *crocus martis*.

AND this is their best way. Gold and silver are best calcined by mercury. Their colour is gray. Lead calcined is very red. Copper dusky red.

4. METALS are sublimed by joining them with mercury or salts. As silver with mercury, gold with sal armoniac, mercury with vitriol.

5. PRECIPITATION is, when any metal being dissolved into a strong water, is beaten down into a powder by salt water. The chiefest in this kind is oil of tartar.

6. AMALGAMATION, is the joining, or mixing of mercury with any other of the metals. The manner is this in gold, the rest are answerable: take six parts of mercury, make them hot in a crucible, and pour them to one part of gold made red hot in another crucible, stir these well together that they may incorporate; which done, cast the mass into cold water and wash it. This is called the amalgama of gold.

7. FOR vitrification. All the imperfect metals may be turned by strong fire into glass, except mercury; iron into green; lead into yellow; brass into blue; tin into pale yellow. For gold and silver, I have not known them vitrified, except joined with antimony. These glassy bodies may be reduced into the form of mineral bodies.

8. DISSOLUTION. All metals without exception may be dissolved.

1. IRON may be dissolved by any tart, salt, or vitriolated water; yea, by common water, if it be first calcined with sulphur. It dissolves in *aqua fortis* with great ebullition and heat, into a red liquor, so red as blood.

2. LEAD is fittest dissolved in vinegar, into a pale yellow, making the vinegar very sweet.

3. TIN is best dissolved with distilled salt-water. It retains the colour of the *menstruum*.

4. COPPER dissolves as iron doth, in the same liquor into a blue.

5. SILVER hath its proper *menstruum*, which is *aqua fortis*. The colour is green, with great heat and ebullition.

6. GOLD is dissolved with *aqua regia*, into a yellow liquor, with little heat or ebullition.

7. MERCURY is dissolved with much heat and boiling, into the same liquors which gold and silver are. It alters not the colour of the *menstruum*.

NOTE. Strong waters may be charged with half their weight of fixed metals, and equal of mercury; if the workman be skilful.

9. SPROUTING. This is an accident of dissolution. For if the *menstruum* be overcharged, then within short time the metals will shoot into certain crystals.

10. FOR induration, or mollification, they depend upon the quantity of fixed mercury and sulphur. I have observed little of them, neither of toughness nor bitterness.

11. THE degrees of fixation and volatility I acknowledge, except the two utmost, which never were observed.

12. THE question of transmutation is very doubtful. Wherefore I refer your honour to the fourth tome of *Theatrum chymicum*: and there, to that tract

tract which is entituled *disquisitio Heliana*; where you shall find full satisfaction.

Inquiries concerning metals and minerals. The fourth letter of the cross-row, touching restitution.

FIRST, therefore it is to be inquired in the negative, what bodies will never return, either by their extreme fixings, as in some vitrifications, or by extreme volatility.

IT is also to be inquired of the two means of reduction; and first by the fire, which is but by congregation of homogeneal parts.

THE second is, by drawing them down by some body that hath consent with them. As iron draweth down copper in water; gold draweth quick-silver in vapour; whatsoever is of this kind, is very diligently to be inquired.

ALSO it is to be inquired what time, or age, will reduce without help of fire or body.

ALSO it is to be inquired what gives impediment to union or restitution, which is sometimes called mortification; as when quick-silver is mortified with turpentine, spittle, or butter.

LASTLY, it is to be inquired how the metal restored, differeth in any thing from the metal rare: as whether it become not more churlish, altered in colour, or the like.

Dr. Meverel's answers touching the restitutions of metals and minerals.

REDUCTION is chiefly effected by fire, wherein if they stand and nele, the imperfect metals vapour away, and so do all manner of salts which separated them in *minimas partes* before.

REDUCTION is singularly holpen, by joining store of metal of the same nature with it in the melting.

METALS reduced are somewhat churlish, but not altered in colour.

The lord Verulam's inquisition concerning the versions, transmutations, multiplications, and effections of bodies.

EARTH by fire is turned into brick, which is of the nature of a stone, and serveth for building as stone doth: and the like of tile. *Quaere* the manner.

NAPHTHA, which was the bituminous mortar used in the walls of *Babylon*, grows to an entire and very hard matter like a stone.

IN clay countries, where there is pebble and gravel, you shall find great stones, where you may see the pebbles or gravel, and between them a substance of stone as hard or harder than the pebble it self.

THERE are some springs of water, wherein if you put wood, it will turn into the nature of stone: so as that within the water shall be stone, and that above the water continue wood.

THE slime about the reins and bladder in man's body, turns into stone: and stone is likewise found often in the gall; and sometimes, though rarely, in *vena porta*.

QUAERE what time the substance of earth in quarries, asketh to be turned into stone?

WATER, as it seems, turneth into crystal, as is seen in divers caves, where the crystal hangs in *stillicidiis*.

TRY

PHYSIOLOGICAL REMAINS.

TRY wood, or the stalk of herbs, buried in quick-silver, whether it will not grow hard and stony?

THEY speak of a stone engendred in a toad's head.

THERE was a gentleman, digging in his moat, found an egg turned into stone, the white and the yolk keeping their colour, and the shell glistening like a stone cut with corners.

TRY some things put into the bottom of a well; as wood, or some soft substance: but let it not touch the water, because it may not putrefy.

THEY speak, that the white of an egg, with lying long in the sun, will turn stone.

MUD in water turns into shells of fishes, as in horse muscles, in fresh ponds, old and overgrown. And the substance is a wondrous fine substance, light and shining.

A speech touching the recovering of drowned mineral works, prepared for the parliament (as Mr. Bushel affirmed) by the viscount of St. Albans, then lord high chancellor of England (a).

My lords and gentlemen,

THE king, my royal master, was lately (graciously) pleased to move some discourse to me concerning Mr. Sutton's hospital, and such like worthy foundations of memorable piety: which humbly seconded by myself, drew his majesty into a serious consideration of the mineral treasures of his own territories, and the practical discoveries of them by way of my philosophical theory: which he then so well resented, that, afterwards, upon a mature digestion of my whole design, he commanded me to let your lordships understand, how great an inclination he hath to further so hopeful a work, for the honour of his dominions, as the most probable means to relieve all the poor thereof, without any other stock or benevolence, than that which divine bounty should confer on their own industries and honest labours, in recovering all such drowned mineral works, as have been, or shall be therefore deserted.

AND, my lords, all that is now desired of his majesty and your lordships, is no more than a gracious act of this present parliament to authorize them herein, adding a mercy to a munificence, which is, the persons of such strong and able petty-felons, who, in true penitence for their crimes, shall implore his majesty's mercy and permission to expiate their offences, by their assiduous labours in so innocent and hopeful a work.

FOR, by this unchangeable way (my lords) have I proposed to erect the academical fabrick of this island's Solomon's house, modell'd in my new *Atlantis*. And I can hope (my lords) that my midnight studies, to make our countries flourish and outvie *European* neighbours in mysterious and beneficent arts, have not so ingratelously affected your noble intellects, that you will delay or resist his majesty's desires, and my humble petition in this benevolent, yea, magnificent affair; since your honourable posterities may be enriched thereby, and my ends are only to make the world my heir, and the learned fathers of my Solomon's house, the successive and sworn trustees in the dispensation of this great service, for God's glory, my prince's magnificence, this parliament's honour, our country's general good, and the propagation of my own memory.

(a) See Mr. Bee's extract, p. 18, 19.

AND I may assure your lordships, that all my propofals in order to this great archetype, feemed fo rational and feafible to my royal fovereign our christian *Solomon*, that I thereby prevailed with his majesty to call this honourable parliament, to confirm and impower me in my own way of mining, by an act of the fame, after his majesty's more weighty affairs were confidered in your wifdoms; both which he defires your lordships, and you gentlemen that are chofen as the patriots of your refpective countries, to take speedy care of: which done, I fhall not then doubt the happy iffue of my undertakings in this defign, whereby concealed treasures, which now feem utterly loft to mankind, fhall be confined to fo univerfal a piety, and brought into ufe by the induftry of converted penitents, whose wretched carcafes the impartial laws have, or fhall dedicate, as untimely feasts, to the worms of the earth, in whose womb thofe deserted mineral riches muft ever lie buried as loft abortments, unlefs thofe be made the active midwives to deliver them. For, my lords, I humbly conceive them to be the fitteft of all men to effect this great work, for the ends and caufes which I have before expreffed.

ALL which, my lords, I humbly refer to your grave and folid judgments to conclude of, together with fuch other affiftances to this frame, as your own oraculous wifdom fhall intimate for the magnifying our Creator in his inferutable providence, and admirable works of nature.

Certain experiments made by the lord Bacon about weight in air and water.

A new fovereign of equal weight in the air to the piece in brafs, overweigheth in the water nine grains: in three fovereigns the difference in the water is but twenty four grains.

THE fame fovereign overweigheth an equal weight of lead, four grains in the water, in brafs grains for gold: in three fovereigns about eleven grains.

THE fame fovereign overweigheth an equal weight of ftones in the air, at leaft fixty five grains in the water: the grains being for the weight of gold, in brafs metal.

A glafs filled with water weighing, in *Troy* weights, thirteen ounces and five drams, the glafs and the water together weigheth feverally, *viz.* the water nine ounces and a half, and the glafs four ounces and a dram.

A bladder weighing two ounces seven drams and a half, a pebble laid upon the top of the bladder makes three ounces fix drams and a half, the ftone weigheth seven drams.

THE bladder (as above) blown, and the fame fallen, weigheth equal.

A fponge dry weigheth one ounce, twenty fix grains: the fame fponge being wet, weigheth fourteen ounces, fix drams and three quarters: the water weigheth in feveral eleven ounces, one dram and a half, and the fponge three ounces and a half, and three quarters of a dram. First time.

THE fponge and water together weigh fifteen ounces and seven drams: in feveral, the water weigheth eleven ounces and seven drams, and the fponge three ounces seven drams and a half. Second time.

THREE fovereigns made equal to a weight in filver in the air, differ in the water.

FOR falfe weights, one beam long, the other thick.

THE ftick and thread weigh half a dram, and twenty grains, being laid in the balance.

THE ftick tied to reach within half an inch of the end of the beam, and fo

so much from the tongue, weigheth twenty eight grains ; the difference is twenty two grains.

THE same stick being tied to hang over the end of the beam an inch and a half, weigheth half a dram and twenty four grains, exceeding the weight of the said stick in the balance by four grains.

THE same stick being hanged down beneath the thread, as near the tongue as is possible, weigheth only eight grains.

Two weights of gold being made equal in the air, and weighing severally seven drams ; the one balance being put into the water, and the other hanging in the air, the balance in the water weigheth only five drams and three grains, and abateth of the weight in the air one dram and a half, and twenty seven grains.

THE same trial being made the second time, and more truly and exactly betwixt gold and gold, weighing severally (as above) and making a just and equal weight in the air, the one balance being put into the water the depth of five inches, and the other hanging in the air, the balance in the water weigheth only four drams, and fifty five grains, and abateth of the weight in the air two drams, and five grains.

THE trial being made betwixt lead and lead, weighing severally seven drams in the air, the balance in the water weigheth only four drams, and forty one grains, and abateth of the weight in the air two drams, and nineteen grains ; the balance kept the same depth in the water as abovesaid.

THE trial being made betwixt silver and silver, weighing severally seven drams in the air, the balance in the water weigheth only four drams, and twenty five grains. So it abateth two drams, and thirty five grains ; the same depth in the water observed.

IN iron and iron, weighing severally each balance in the air seven drams, the balance in the water weigheth only four drams, and eighteen grains ; and abateth of the weight in the air two drams, and forty two grains ; the depth observe as above.

IN stone and stone, the same weight of seven drams equally in the air, the balance in the water weigheth only two drams, and twenty two grains ; and abateth of the weight in the air four drams, and thirty eight grains ; the depth as above.

IN brass and brass, the same weight of seven drams in each balance, equal in the air, the balance in the water weigheth only four drams, and twenty two grains ; and abateth in the water two drams, and thirty eight grains ; the depth observed.

THE two balances being weighed in the air and water, the balance in the air over-weigheth the other in the water two drams, and twenty eight grains ; the depth in the water as aforesaid.

IT is a profitable experiment which sheweth the weights of several bodies in comparifon with water. It is of use in lading of ships, and other bottoms, and may help to shew what burthen in the several kinds they will bear.

Certain sudden thoughts of the lord Bacon's, set down by him under the title of experiments for profit.

MUCK of leaves : muck of river, earth, and chalk : muck of earth closed, both for salt-petre and muck : setting of wheat and pease ; mending of crops by steeping of feeds : making pease, cherries, and strawberries come early : strengthening of earth for often returns of radishes, parsnips, turnips, &c. making great roots of onions, radishes, and other esculent roots : sowing of feeds

feeds of trefoil : setting of woad : setting of tobacco, and taking away the rawns : grafting upon boughs of old trees : making of a hasty coppice : planting of osiers in wet grounds : making of candles to last long : building of chimneys, furnaces; and ovens, to give heat with less wood : fixing of log-wood : other means to make yellow and green fixed : conserving of oranges, lemons, citrons, pomegranates, &c. all summer : recovering of pearl, coral, turcoise colour, by a conservatory of snow : sowing of fenel : brewing with hay, haws, trefoil, broom, hips, bramble-berries, woodbines, wild thyme, instead of hops, thistles : multiplying and dressing artichokes.

Certain experiments of the lord Bacon's, about the commixture of liquors only, not solids, without heat or agitation, but only by simple composition and settling.

SPIRIT of wine mingled with common water, although it be much lighter than oil, yet so as if the first fall be broken, by means of a sop, or otherwise, it stayeth above ; and if it be once mingled, it severeth not again, as oil doth. Tried with water coloured with saffron.

SPIRIT of wine mingled with common water, hath a kind of clouding, and motion shewing no ready commixture. Tried with saffron.

A dram of gold dissolved in *aqua regis*, with a dram of copper in *aqua fortis* commixed, gave a green colour, but no visible motion in the parts. Note, that the dissolution of the gold, was twelve parts water, to one part body : and of the copper was six parts water, to one part body.

OIL of almonds commixed with spirit of wine, severeth, and the spirit of wine remaineth on the top, and the oil in the bottom.

GOLD dissolved commixed with spirit of wine, a dram of each, doth commix, and no other apparent alteration.

QUICK-silver dissolved with gold dissolved, a dram of each, doth turn to a mouldy liquor, black, and like smith's water.

NOTE ; the dissolution of the gold was twelve parts water *ut supra*, and one part metal : that of water was two parts, and one part metal.

SPIRIT of wine and quick-silver commixed, a dram of each, at the first shewed a white milky substance at the top, but soon after mingled.

OIL of vitriol commixed with oil of cloves, a dram of each, turneth into a red dark colour ; and a substance thick almost like pitch : and upon the first motion gathereth an extream heat, not to be endured by touch.

DISSOLUTION of gold, and oil of vitriol commixed, a dram of each, gathereth a great heat at the first, and darkneth the gold, and maketh a thick yellow.

SPIRIT of wine, and oil of vitriol, a dram of each, hardly mingle ; the oil of vitriol going to the bottom, and the spirit of wine lying above in a milky substance. It gathereth also a great heat, and a sweetness in the taste.

OIL of vitriol, and dissolution of quick-silver, a dram of each, maketh an extream strife, and casteth up a very gross fume, and after casteth down a white kind of curds, or sands ; and on the top a slimish substance, and gathereth a great heat.

OIL of sulphur, and oil of cloves commixed, a dram of each, turn into a thick and red coloured substance ; but no such heat as appear'd in the commixture with the oil of vitriol.

OIL of *petroleum*, and spirit of wine, a dram of each, intermingle otherwise than by agitation, as wine and water do ; and the *petroleum* remaineth on the top.

OIL of vitriol and *petroleum*, a dram of each, turn into a mouldy substance, and gathereth some warmth ; there residing a black cloud in the bottom, and a monstrous thick oil on the top.

SPIRIT of wine, and red wine vinegar, one ounce of each, at the first fall, one of them remaineth above, but by agitation they mingle.

OIL of vitriol, and oil of almonds, one ounce of each, mingle not ; but the oil of almonds remaineth above.

SPIRIT of wine and vinegar, an ounce of each, commixed, do mingle, without any apparent separation, which might be in respect of the colour.

DISSOLUTION of iron, and oil of vitriol, a dram of each, do first put a milky substance into the bottom, and after incorporate into a mouldy substance.

SPIRIT of wine commixed with milk, a third part spirit of wine, and two parts milk, coagulateth little, but minglcth ; and the spirit swims not above.

MILK and oil of almonds mingled, in equal portions, do hardly incorporate, but the oil cometh above, the milk being poured in last ; and the milk appeareth in some drops or bubbles.

MILK one ounce, oil of vitriol a scruple, doth coagulate ; the milk at the bottom, where the vitriol goeth.

DISSOLUTION of gum tragacanth, and oil of sweet almonds, do not commingle, the oil remaining on the top till they be stirred, and make the mucilage somewhat more liquid.

DISSOLUTION of gum tragacanth one ounce and a half, with half an ounce of spirit of wine, being commixed by agitation, make the mucilage more thick.

THE white of an egg with spirit of wine, doth bake the egg into clots as if it began to poch.

ONE ounce of blood, one ounce of milk, do easily incorporate.

SPIRIT of wine doth curdle the blood.

ONE ounce of whey unclarified, one ounce of oil of vitriol, make no apparent alteration.

ONE ounce of blood, one ounce of oil of almonds, incorporate not, but the oil swims above.

THREE quarters of an ounce of wax being dissolved upon the fire, and one ounce of oil of almonds put together and stirred, do not so incorporate, but that when it is cold, the wax gathereth and swims upon the top of the oil.

ONE ounce of oil of almonds cast into an ounce of sugar seething, sever presently, the sugar shooting towards the bottom.

A catalogue of bodies, attractive and not attractive, together with experimental observations about attraction.

THESE following bodies draw : amber, jet, diamond, sapphire, carbuncle, iris, the gem opale, amethyst, *bristollina*, crystal, clear glass, glass of antimony, divers flowers from mines, sulphur, mastick, hard sealing-wax, the harder rosin, arsenick.

THESE following bodies do not draw : smaragd, *achates*, *corneolus*, pearl, *jaspis*, *chalcedonius*, alabaster, porphyry, coral, marble, touchstone, *haematites*, or blood-stone ; *smiris*, ivory, bones, ebon-tree, cedar, cypress, pitch, softer rosin, camphire, *galbanum*, ammoniack, storax, benjoin, load-stone, *asphaltum* (a).

(a) The drawing of iron excepted.

THESE bodies, gold, silver, brass, iron, draw not, though never so finely polished.

IN winter, if the air be sharp and clear, *sal gemmeum*, rock alum, and *lapis specularis*, will draw.

THESE following bodies are apt to be drawn, if the mass of them be small: chaff, woods, leaves, stones, all metals leaved, and in the mine; earth, water, oil.

SI fiat verforium ex metallo aliquo, more indicis magnetici, & fini alteri apponatur succinum, leniter fricatum, verforium convertit se.

SUCCINUM calefactum ab igne, five tepeat, five ferveat, five inflammetur, non trahit.

BACILLUM ferreum candens, flamma, candela ardens, carbo ignitus, admota festucis aut verforiis, non trahunt.

SUCCINUM in majore mole, si fuerit politum, allicit, licet non fricatum; si in minore, aut impurius, sine frictione non trahit.

CRYSTALLUS, lapis specularis, vitrum, electrica caetera, si urantur, aut torrantur, non trahunt.

PIX: resina mollior: benjoin: asphaltum, camphora: galbanum, ammoniacum: storax: assa: haec coelo calidiore neutiquam prorsus trahunt; at tempore frigidiore obscure & infirme trahunt.

VAPIDUS aer succino, &c. afflatus, vel ab ore, vel ab aere humidior, virtutem trahendi suffocat.

SI charta aut linteum interponatur inter succinum & paleam, non fit motus aut attractio.

SUCCINUM aut electrica calefacta ex radiis solis, non expergefiunt ad trahendum, sicut ex frictione.

SUCCINUM fricatum, & radiis solis expositum diutius vires trahendi retinet, nec tam cito eas deponit ac si in umbra positum esset.

FERVOR ex speculo comburente succino, &c. conciliatus, non juvat ad trahendum.

SULPHUR accensum, & cera dura inflammata, non trahunt.

SUCCINUM cum citissime a frictione, festucae vel verforio apponitur, optime trahit.

VIRTUS electrica viget in retentione ad tempus, non minus quam in attractione prima.

FLAMMA apposito succino intra orbem activitatis non trahitur.

GUTTA aquae admoto succino trahitur in conum. Electrica, si durius affricentur, impeditur attractio.

QUAE aegre alliciunt in claro coelo, in crasso non movent.

AQUA imposita succino virtutem trahendi suffocat, licet ipsam aquam trahat.

SARCA ita succino circumdatum, ut tangat, attractione tollit; sed interpositum ut non tangat, non omnino tollit.

OLEUM succino appositum motum non impedit; nec succinum digito oleo madefacto fricatum, vires trahendi perdit.

FIRMIUS provocant, & diutius retinent succinum, gagates, & hujusmodi, etiam minore cum frictione: adamas, crystallum, vitrum, diutius teri debent, ut manifesto incalescant antequam trahant.

QUAE flammae approximant, licet propinqua distantia, a succino non trahuntur.

FUMUM extincta lucerna succinum, &c. trahit. Fumus ubi exit & crassus est, fortius trahit succinum; cum ascenderit, & rarior fit, debilius. Corpus ab electricis attractum non manifesto alteratur, sed tantum incumbit.

M E D I C A L

R E M A I N S.

Grains of youth.

TAKE of nitre four grains, of ambergrise three grains, of or-
rice-powder two grains, of white poppy-seed the fourth part
of a grain, of saffron half a grain, with water of orange-flowers,
and a little tragacanth; make them into small grains, four in
number. To be taken at four a-clock, or going to bed.

Preserving ointments.

TAKE of deer's-suet one ounce, of myrrh six grains, of saffron five grains,
of bay-salt twelve grains, of *Canary* wine of two years old, a spoonful and
a half. Spread it on the inside of your shirt, and let it dry, and then put
it on.

A purge familiar for opening the liver.

TAKE rhubarb two drams, agarick trochiscat one dram and a half, steep
them in claret wine burnt with mace; take of wormwood one dram, steep
it with the rest, and make a mass of pills, with *syrup. acetos. simplex*. But
drink an opening broth before it, with succory, fenel, and smallage roots,
and a little of an onion.

Wine for the spirits.

TAKE gold perfectly refined three ounces, quench it six or seven times
in good claret wine; add of nitre six grains for two draughts: add of saf-
fron prepared three grains, of ambergrise four grains, pass it through an
hippocras bag, wherein there is a dram of cinnamon gross beaten, or, to avoid
the dimming of the colour, of ginger. Take two spoonfuls of this to a
draught of fresh claret wine.

The preparing of saffron.

TAKE six grains of saffron, steep'd in half parts of wine and rose-water,
and a quarter part vinegar; then dry it in the sun.

Wine against adverse melancholy, preserving the senses and the reason.

TAKE the roots of bugloss well scraped and cleansed from their inner pith,
and cut them into small slices; steep them in wine of gold extinguished *ut*
supra, and add of nitre three grains, and drink it *ut supra*, mixed with fresh
wine: the roots must not continue steeped above a quarter of an hour; and
they must be changed thrice.

Breakfast

Breakfast preservative against the gout and rheums.

To take once in the month at least, and for two days together, one grain of *castorei* in my ordinary broth.

The preparation of garlick.

TAKE garlick four ounces, boil it upon a soft fire in claret wine, for half an hour. Take it out, and steep it in vinegar; whereto add two drams of cloves, then take it forth, and keep it in a glass for use.

The artificial preparation of damask roses for smell.

TAKE roses, pull their leaves, then dry them in a clear day in the hot sun; then their smell will be as gone. Then cram them into an earthen bottle, very dry and sweet, and stop it very close; they will remain in smell and colour both fresher, than those that are otherwise dried. Note, the first drying, and close keeping upon it, preventeth all putrefaction, and the second spirit cometh forth, made of the remaining moisture not dissipated.

A restorative drink.

TAKE of *Indian* maiz half a pound, grind it not too small, but to the fineness of ordinary meal, and then bolt and searce it, that all the husky part may be taken away. Take of *eryngium* roots three ounces, of dates as much, of *enula* two drams, of mace three drams, and brew them with ten shilling beer to the quantity of four gallons: and this do, either by decocting them in a pottle of wort, to be after mingled with the beer, being new tapped, or otherwise infuse it in the new beer in a bag. Use this familiarly at meals.

Against the waste of the body by heat.

TAKE sweet pomegranates, and strain them lightly, not pressing the kernel, into a glass; where put some little of the peel of a citron, and two or three cloves, and three grains of amber-grise, and a pretty deal of fine sugar. It is to be drunk every morning whilst pomegranates last.

Mesbusalem water. Against all asperity and torrefaction of inward parts; and all adustion of the blood, and generally against the dryness of age.

TAKE crevices very new, *q. s.* boil them well in claret wine; of them take only the shells, and rub them very clean, especially on the inside, that they may be thoroughly cleansed from the meat. Then wash them three or four times in fresh claret wine, heated: still changing the wine, till all the fish-taste be quite taken away. But in the wine wherein they are washed, steep some tops of green rosemary; then dry the pure shell thoroughly, and bring them to an exquisite powder. Of this powder take three drams. Take also pearl, and steep them in vinegar twelve hours, and dry off the vinegar; of this powder also three drams. Then put the shell powder and pearl powder together, and add to them of ginger one scruple, and of white poppy seed half a scruple, and steep them in spirit of wine (wherein six grains of saffron have been dissolved) seven hours. Then upon a gentle heat, vapour away all the spirit of wine, and dry the powder against the sun without fire. Add to it of nitre one dram, of amber-grise one scruple and a half; and so keep this powder for use in a clean glass.
Then

MEDICAL REMAINS.

Then take a pottle of milk, and slice in it of fresh cucumbers, the inner pith only (the rind being pared off) four ounces, and draw forth a water by distillation. Take of claret wine a pint, and quench gold in it four times.

Of the wine, and of the water of milk, take of each three ounces, of the powder one scruple, and drink it in the morning ; stir up the powder when you drink, and walk upon it.

A catalogue of astringents, openers, and cordials, instrumental to health.

ASTRINGENTS.

RED rose, black-berry, myrtle, plantane, flower of pomegranate, mint, aloes well washed, myrobalanes, sloes, *agrestia fraga*, mastich, myrrh, saffron, leaves of rosemary, rhubarb received by infusion, cloves, service-berries, *cornea*, wormwood, bole armeniack, sealed earth, cinquefoil, tincture of steel, *sanguis draconis*, coral, amber, quinces, spikenard, galls, alume, blood-stone, mummy, *amomum*, galangal, cypress, ivy, *psyllum*, houseleek, fallow, mullein, vine, oak-leaves, *lignum aloes*, red sanders, mulberry, medlars, flowers of peach trees, pomegranates, pears, palmule, pith of kernels, purslain, *acacia*, *laudanum*, *tragacanth*, *thus olibani*, comfrey, shepherd's-purse, *polygonium*.

Astringents (both hot and cold) which corroborate the parts, and which confirm and refresh such of them as are loose or languishing.

ROSEMARY, mint, especially with vinegar, cloves, cinamon, cardamom, lign-aloes, rose, myrtle, red sanders, *cotonea*, red wine, chalybeat wine, five-finger grass, plantane, apples of cypress, berberries, *fraga*, service-berries, cornels, ribes, four pears, rambesia.

Astringents styptic, which by their styptic virtue may stay fluxes.

SLOES, *acacia*, rind of pomegranates infused, at least three hours, the styptic virtue not coming forth in lesser time. Alume, galls, juice of fallow, syrup of unripe quinces, *balaustia*, the whites of eggs boiled hard in vinegar.

Astringents, which by their cold and earthy nature, may stay the motion of the humours tending to a flux.

SEALED earth, *sanguis draconis*, coral, pearls, the shell of the fish *dactylus*.

Astringents, which by the thickness of their substance, stuff as it were the thin humours, and thereby stay fluxes.

RICE, beans, millet, cauls, dry cheese, fresh goats milk.

Astringents, which by virtue of their glutinous substance, restrain a flux, and strengthen the looser parts.

KARABE (a), mastich, *spodium*, hartshorn, frankincense, dried bulls pistle, gum *tragacanth*.

Astringents purgative, which having by their purgative, or expulsive power, thrust out the humours, leave behind them astringitive virtue.

RHUBARB, especially that which is toasted against the fire; myrobalanes, tartar, tamarinds, (an Indian fruit like green damascenes.)

(a) Perhaps he meant the fruit of Karobe.

Astrin-

Astringents which do very much suck and dry up the humours, and thereby stay fluxes.

RUST of iron, *crocus martis*, ashes of spices.

Astringents, which by their nature do dull the spirits, and lay asleep the expulsive virtue, and take away the acrimony of all humours.

LAUDANUM, mithridate, *diascordium*, *diacodium*.

Astringents, which by cherishing the strength of the parts, do comfort and confirm their retentive power.

A stomacher of scarlet cloth : whelps, or young healthy boys, applied to the stomach : hippocratic wines, so they be made of austere materials.

OPENERS.

SUCCORY, endive, betony, liverwort, *petroselinum*, smallage, *asparagus*, roots of grafs, dodder, tamarisk, *juncus odoratus*, *lacca*, *cupparus*, wormwood, *chamaepitys*, *fumaria*, scurvy-grafs, eringo, nettle, *ireos*, elder, hyffop, *aristolochia*, gentian, *costus*, fenel-root, maiden-hair, harts-tongue, daffodilly, asarum, farfaparilla, saffrafas, acorns, *abretonum*, aloes, agaric, rhubarb infused, onions, garlick, bother, *squilla*, fow-bread, *Indian* nard, *Celtic* nard, bark of laurel tree, bitter almonds, holy thistle, camomile, gun-powder, fows (*millepedes*) ammoniac, man's urine, rue, park leaves (*vitex*) centaury, lupines, *chamaedrys*, *costum*, *ammios*, bistort, camphire, *daucus* seed, *Indian* balsam, *scordium*, sweet cane, galingal, agrimony.

CORDIALS.

FLOWERS of basil royal, *flores caryophyllati*, flowers of buglofs and borage, rind of citron, orange flowers, rosemary, and its flowers, saffron, musk, amber, *folium*, (*i. e. nardi folium*) balm-gentle, pimpernel, gems, gold, generous wines, fragrant apples, rose, *rosa moschata*, cloves, lign-aloes, mace, cinamon, nutmeg, cardamom, galingal, vinegar, kermes berry, *herba moschata*, betony, white sanders, camphire, flowers of heliotrope, penny-royal, *scordium*, *opium* corrected, white pepper, *nasturtium*, white and red bean, *castum dulce*, *daetylus*, pine, fig, egg shell, *vinum malvaticum*, ginger, kidneys, oysters, crevices, (or river crabs) seed of nettle, oil of sweet almonds, *sesaminum oleum*, *asparagus*, bulbous roots, onions, garlick, *eruca*, *daucus* seed, eringo, *siler montanus*, the smell of musk, *cynethi odor*, caraway seed, flower of puls, aniseed, pellitory, anointing of the testicles with oil of elder, in which pellitory hath been boil'd, cloves with goats milk, *olibanum*.

An extract by the lord Bacon, for his own use, out of the book of the prolongation of life, together with some new advices in order to health.

1. ONCE in the week, or at least in the fortnight, to take the water of mithridate distilled, with three parts to one, or strawberry water to allay it; and some grains of nitre and saffron, in the morning between sleeps.

2. To continue my broth with nitre; but to interchange it every other two days, with the juice of pomegranates expressed, with a little cloves, and rind of citron.

3. To

3. To order the taking of the maceration (*a*), as followeth.
To add to the maceration fix grains of *cremor tartari*, and as much *enula*.
To add to the oxymel some infusion of fenel roots in the vinegar, and four grains of angelica seed, and juice of lemons, a third part to the vinegar.
To take it not so immediately before supper; and to have the broth specially made with barley, rosemary, thyme, and cresses.
SOMETIMES to add to the maceration three grains of tartar, and two of *enula*, to cut the more heavy and viscous humours; lest rhubarb work only upon the lightest.
To take sometimes the oxymel before it, and sometimes the *Spanish* honey simple.
4. To take once in the month at least, and for two days together, a grain and a half of castor in my broth, and breakfast.
5. A cooling clyster to be used once a month, after the working of the maceration is settled.
TAKE of barley water, in which the roots of bugloss are boiled, three ounces, with two drams of red sanders, and two ounces of raisins of the sun, and one ounce of dactyles, and an ounce and a half of fat caricks; let it be strained, and add to it an ounce and a half of syrup of violets: let a clyster be made. Let this be taken (with veal) in the aforefaid decoction.
6. To take every morning the fume of lign-aloes, rosemary and bays dried, which I use; but once in a week to add a little tobacco, without otherwise taking it in a pipe.
7. To appoint every day an hour, *ad affectus intentionales & sanos. Qu. de particulari.*
8. To remember masticatories for the mouth.
9. AND orange-flower water to be smelt to, or snuffed up.
10. IN the third hour, after the sun is risen, to take in air from some high and open place, with a ventilation of *rosae moschatae*, and fresh violets; and to stir the earth, with infusion of wine and mint.
11. To use ale with a little *enula campana*, *carduus*, germander, sage, angelica seed, cresses of a middle age, to beget a robust heat.
12. MITHRIDATE thrice a year.
13. A bit of bread dipt in *vino odorato*, with syrup of dry roses, and a little amber, at going to bed.
14. NEVER to keep the body in the same posture above half an hour at a time.
15. FOUR precepts. To break off custom. To shake off spirits ill disposed. To meditate on youth. To do nothing against a man's genius.
16. SYRUP of quinces for the mouth of the stomach. Enquire concerning other things useful in that kind.
17. To use once during supper time, wine in which gold is quenched.
18. To use anointing in the morning lightly with oil of almonds, with salt and saffron, and a gentle rubbing.
19. ALE of the second infusion of the vine of oak.
20. METHUSALEM water, of pearls and shells, of crabs, and a little chalk.
21. ALE of raisins, dactyles, potatoes, pistachios, honey, tragacanth, mastic.
22. WINE with swines flesh, or harts flesh.
23. To drink the first cup at supper hot, and half an hour before supper something hot and aromatis'd.

(*a*) *Viz.* Of rhubarb infused into a draught of white-wine and beer, mingled together, for the space of half an hour, once in six or seven days. See the lord Bacon's life by Dr. Rawley, towards the end.

24. CHALYBEATS, four times a year.
25. *Pilulae ex tribus*, once in two months, but after the mass has been macerated in oil of almonds.
26. HEROIC desires.
27. BATHING of the feet once in a month, with lye *ex sale nigro*, camomile, sweet marjoram, fenel, sage, and a little *aqua vitae*.
28. To provide always an apt breakfast.
29. To beat the flesh before roasting of it.
30. MACERATIONS in pickles.
31. AGITATION of beer by ropes, or in wheel-barrows.
32. THAT diet is good which makes lean, and then renews. Consider of the ways to effect it.

Medical receipts of the lord Bacon.

His lordship's usual receipt for the gout, to which he refers Nat. Hist. Cent. I. N. 60. p. 16.

1. *The poultis.*

TAKE of manchet about three ounces, the crumb only thin cut; let it be boiled in milk till it grow to a pulp. Add in the end a dram and a half of the powder of red roses; of saffron ten grains; of oil of roses an ounce; let it be spread upon a linen cloth, and applied lukewarm, and continued for three hours space.

2. *The bath or fomentation.*

TAKE of sage leaves half a handful; of the root of hemlock sliced six drams; of briony roots half an ounce; of the leaves of red roses two pugils; let them be boiled in a pottle of water, wherein steel hath been quenched, till the liquor come to a quart. After the straining, put in half a handful of bay salt. Let it be used with scarlet cloth, or scarlet wool, dipped in the liquor hot, and so renewed seven times; all in the space of a quarter of an hour, or little more.

3. *The plaister.*

TAKE *Emplastrum diacalciteos*, as much as is sufficient for the part you mean to cover. Let it be dissolved with oil of roses, in such a consistence as will stick; and spread upon a piece of holland, and applied.

His lordship's broth and fomentation for the stone.

The broth.

TAKE one dram of *eryngium* roots, cleansed and sliced; and boil them together with a chicken. In the end, add of elder flowers, and marigold flowers together, one pugil, of angelica seed half a dram, of raisins of the sun stoned fifteen, of rosemary, thyme, mace, together, a little.

IN six ounces of this broth, or thereabouts, let there be dissolved of white *cremor tartari* three grains.

EVERY third or fourth day, take a small toast of manchet, dipped in oil of sweet almonds new drawn, and sprinkled with a little loaf sugar. You may make the broth for two days, and take the one half every day. If you find the stone to stir, forbear the toast for a course or two. The intention of

this broth is, not to void, but to undermine the quarry of the stones in the kidneys.

The fomentation.

TAKE of leaves of violets, mallows, pellitory of the wall, together, one handful; of flowers of camomile and melilot, together one pugil; the root of marsh-mallows one ounce; of anis and fenel-seeds together, one ounce and a half; of flax-seed two drams. Make a decoction in spring water.

The second receipt, shewing the way of making a certain ointment; which his lordship called, unguentum fragrans sine Romanum; the fragrant or Roman unguent.

TAKE of the fat of a deer half a pound; of oil of sweet almonds two ounces: let them be set upon a very gentle fire, and stirr'd with a stick of juniper till they are melted. Add of root of flower-de-luce powdered, damask roses powdered together, one dram; of myrrh dissolved in rose-water half a dram; of cloves half a scruple; of civet four grains; of musk six grains; of oil of mace expressed one drop; as much of rose water as sufficeth to keep the unguent from being too thick. Let all these be put together in a glass, and set upon the embers for the space of an hour, and stirred with a stick of juniper.

NOTE; that in the confection of this ointment, there was not used above a quarter of a pound, and a tenth part of a quarter of deer's suet: and that all the ingredients, except the oil of almonds, were doubled when the ointment was half made, because the fat things seemed to be too predominant.

The third receipt. A manus Christi for the stomach.

TAKE of the best pearls very finely pulveriz'd one dram; of sal nitre one scruple; of tartar two scruples; of ginger and galingal together, one ounce and a half; of *calamus*, root of *enula campana*, nutmeg, together, one scruple and a half; of amber sixteen grains; of the best musk ten grains; with rose water and the finest sugar, let there be made a *manus Christi*.

The fourth receipt. A secret for the stomach.

TAKE *lignum aloes* in gross shavings, steep them in sack, or alicant, changed twice, half an hour at a time, till the bitterness be drawn forth. Then take the shavings forth, and dry them in the shade, and beat them to an excellent powder. Of that powder, with the syrup of citrons, make a small pill, to be taken before supper.

NEW ATLANTIS.

A WORK Unfinished.

TO THE
READER.

THIS fable my lord devised, to the end that he might exhibit therein, a model or description of a college, instituted for the interpreting of nature, and the producing of great and marvellous works, for the benefit of men; under the name of *Solomon's house*, or the college of the six days works. And even so far his lordship hath proceeded, as to finish that part. Certainly the model is more vast and high, than can possibly be imitated in all things; notwithstanding most things therein are within men's power to effect. His lordship thought also in this present fable, to have composed a frame of laws, or of the best state or mould of a common-wealth; but foreseeing it would be a long work, his desire of collecting the natural history diverted him, which he preferred many degrees before it.

THIS work of the new *Atlantis* (as much as concerneth the *English* edition) his lordship designed for this place; in regard it hath so near affinity (in one part of it) with the preceding natural history.

W. RAWLEY.

VOL. III.

G g 2

NEW

N E W ATLANTIS.

WE failed from *Peru* (where we had continued by the space of one whole year) for *China* and *Japan*, by the south sea, taking with us victuals for twelve months; and had good winds from the east, though soft and weak, for five months space and more. But then the wind came about, and settled in the west for many days, so as we could make little or no way, and were sometimes in purpose to turn back. But then again there arose strong and great winds from the south, with a point east, which carried us up (for all that we could do) towards the north: by which time our victuals failed us, though we had made good spare of them. So that finding our selves in the midst of the greatest wilderness of waters in the world, without victual, we gave our selves for lost men, and prepared for death. Yet we did lift up our hearts and voices to God above, who sheweth his wonders in the deep; beseeching him of his mercy, that as in the beginning he discovered the face of the deep, and brought forth dry land; so he would now discover land to us, that we might not perish. And it came to pass, that the next day about evening, we saw within a kenning before us, towards the north, as it were thick clouds, which did put us in some hope of land; knowing how that part of the south sea was utterly unknown; and might have islands or continents, that hitherto were not come to light. Wherefore we bent our course thither, where we saw the appearance of land all that night; and in the dawning of the next day, we might plainly discern that it was a land, flat to our sight, and full of bosage, which made it shew the more dark. And after an hour and a half's sailing, we enter'd into a good haven, being the port of a fair city; not great indeed, but well built, and that gave a pleasant view from the sea: and we thinking every minute long till we were on land, came close to the shore, and offered to land. But straightways we saw divers of the people with bastons in their hands, (as it were) forbidding us to land; yet without any cries or fierceness, but only as warning us off, by signs that they made. Whereupon being not a little discomforted, we were advising with our selves what we should do. During which time there made forth to us a small boat, with about eight persons in it, whereof one of them had in his hand a tipstaff of a yellow cane, tipped at both ends with blue, who made aboard our ship, without any shew of distrust at all. And when he saw one of our number present himself somewhat afore the rest, he drew forth a little scrole of parchment (somewhat yellower than our parchment, and shining like the leaves of writing tables, but otherwise soft and flexible) and delivered it to our foremost man. In which scrole were written in ancient *Hebrew*, and in ancient *Greek*, and in good *Latin* of the school, and in *Spanish*, these words; Land ye not, none of you, and provide to be gone, from this coast, within sixteen days, except you have farther time given you: mean while, if you want fresh water, or victual,

viſtual, or help for your ſick, or that your ſhip needeth repair, write down your wants, and you ſhall have that which belongeth to mercy. This ſcrole was ſigned with a ſtamp of cherubims wings, not ſpread, but hanging downwards, and by them a croſs. This being delivered, the officer returned, and left only a ſervant with us to receive our answer. Consulting hereupon amongſt our ſelves, we were much perplexed. The denial of landing, and haſty warning us away, troubled us much; on the other ſide, to find that the people had languages, and were ſo full of humanity, did comfort us not a little. And above all, the ſign of the croſs to that instrument was to us a great rejoicing, and as it were a certain preſage of good. Our answer was in the *Spaniſh* tongue; That for our ſhip it was well; for we had rather met with calms and contrary winds, than any tempeſts. For our ſick they were many, and in very ill caſe; ſo that if they were not permitted to land, they ran in danger of their lives. Our other wants we ſet down in particular; adding, that we had ſome little ſtore of merchandize, which if it pleaſed them to deal for, it might ſupply our wants, without being chargeable unto them. We offered ſome reward in piſtolets unto the ſervant, and a piece of crimſon velvet to be preſented to the officer: but the ſervant took them not, nor would ſcarce look upon them; and ſo left us, and went back in another little boat which was ſent for him.

ABOUT three hours after we had diſpatched our answer, there came towards us a perſon (as it ſeemed) of place. He had on him a gown with wide ſleeves, of a kind of water chamblet, of an excellent azure colour, far more gloſſy than ours; his under apparel was green, and ſo was his hat, being in the form of a turban, daintily made, and not ſo huge as the *Turkiſh* turbans; and the locks of his hair came down below the brims of it. A reverend man was he to behold. He came in a boat, gilt in ſome part of it, with four perſons more only in that boat; and was followed by another boat, wherein were ſome twenty. When he was come within a flight ſhot of our ſhip, ſigns were made to us, that we ſhould ſend forth ſome to meet him upon the water, which we preſently did in our ſhip-boat, ſending the principal man amongſt us ſave one, and four of our number with him. When we were come within fix yards of their boat, they called to us to ſtay, and not to approach farther, which we did. And thereupon the man, whom I before deſcribed, ſtood up, and with a loud voice in *Spaniſh*, asked, are ye Chriſtians? We answered, we were; fearing the leſs, becauſe of the croſs we had ſeen in the ſubſcription. At which answer the ſaid perſon liſt up his right hand towards heaven, and drew it ſoftly to his mouth, (which is the geſture they uſe when they thank God) and then ſaid: If ye will ſwear (all of you) by the merits of the Saviour, that ye are no pirates; nor have ſhed blood lawfully nor unlawfully within forty days paſt; you may have licence to come on land. We ſaid, we were all ready to take that oath. Whereupon one of thoſe that were with him, being (as it ſeemed) a notary, made an entry of this act. Which done, another of the attendants of the great perſon, which was with him in the ſame boat, after his lord had ſpoken a little to him, ſaid aloud; My lord would have you know, that it is not of pride, or greatneſs, that he cometh not aboard your ſhip; but for that, in your answer, you declare, that you have many ſick amongſt you, he was warned by the conſervator of health of the city, that he ſhould keep a diſtance. We bowed our ſelves towards him, and answered, we were his humble ſervants; and accounted for great honour, and ſingular humanity towards us, that which was already done; but hoped well, that
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the nature of the sickness of our men was not infectious. So he returned; and a while after came the notary to us aboard our ship; holding in his hand a fruit of that countrey, like an orange, but of colour between orange-tawny and scarlet, which cast a most excellent odour. He used it (as it seemeth) for a preservative against infection. He gave us our oath; by the name of *Jesus*, and his merits: and after told us, that the next day by six of the clock in the morning we should be sent to, and brought to the strangers house, (so he called it,) where we should be accommodated of things, both for our whole, and for our sick. So he left us; and when we offered him some pistolets, he smiling, said; he must not be twice paid for one labour: meaning (as I take it) that he had a salary sufficient of the state for his service. For (as I after learned) they call an officer that taketh rewards, twice paid.

THE next morning early, there came to us the same officer that came to us at first with his cane, and told us, he came to conduct us to the strangers house; and that he had prevented the hour, because we might have the whole day before us, for our business. For (said he) if you will follow my advice, there shall first go with me some few of you, and see the place, and how it may be made convenient for you; and then you may send for your sick, and the rest of your number, which ye will bring on land. We thanked him, and said, that this care, which he took of desolate strangers, God would reward. And so six of us went on land with him: and when we were on land, he went before us, and turned to us, and said; he was but our servant, and our guide. He led us through three fair streets; and all the way we went, there were gathered some people on both sides, standing in a row; but in so civil a fashion, as if it had been, not to wonder at us, but to welcome us; and divers of them, as we passed by them, put their arms a little abroad; which is their gesture, when they bid any welcome. The strangers house is a fair and spacious house, built of brick, of somewhat a bluer colour than our brick; and with handsome windows, some of glass, some of a kind of cambrick oiled. He brought us first into a fair parlour above stairs, and then asked us, what number of persons we were? And how many sick? We answered, we were in all (sick and whole) one and fifty persons, whereof our sick were seventeen. He desired us to have patience a little, and to stay till he came back to us, which was about an hour after; and then he led us to see the chambers, which were provided for us, being in number nineteen: They having cast it (as it seemeth) that four of those chambers, which were better than the rest, might receive four of the principal men of our company, and lodge them alone by themselves; and the other fifteen chambers were to lodge us, two and two together. The chambers were handsome and chearful chambers, and furnished civilly. Then he led us to a long gallery, like a dorture, where he shewed us all along the one side (for the other side was but wall and window) seventeen cells, very neat ones, having partitions of cedar wood. Which gallery and cells, being in all forty, (many more than we needed,) were instituted as an infirmary for sick persons. And he told us withal, that as any of our sick waxed well, he might be removed from his cell to a chamber: for which purpose there were set forth ten spare chambers, besides the number we spake of before. This done, he brought us back to the parlour, and lifting up his cane a little, (as they do when they give any charge or command,) said to us, ye are to know that the custom of the land requireth, that after this day and to-morrow, (which we give you for removing your people from your ship,) you are to keep within doors for

three days. But let it not trouble you, nor do not think your selves restrained, but rather left to your rest and ease. You shall want nothing, and there are six of our people appointed to attend you, for any business you may have abroad. We gave him thanks, with all affection and respect, and said; God surely is manifested in this land. We offered him twenty pistolets; but he smiled, and only said; what? twice paid! And so he left us. Soon after our dinner was served in; which was right good viands, both for bread and meat: better than any collegiate diet, that I have known in *Europe*. We had also drink of three sorts, all wholesome and good; wine of the grape; a drink of grain, such as is with us our ale, but more clear: and a kind of cyder made of a fruit of that countrey; a wonderful pleasing and refreshing drink. Besides, there were brought in to us great store of those scarlet oranges for our sick; which (they said) were an assured remedy for sickness taken at sea. There was given us also, a box of small grey or whitish pills, which they wished our sick should take, one of the pills every night before sleep; which (they said) would hasten their recovery. The next day, after that our trouble of carriage, and removing of our men, and goods out of our ship, was somewhat settled and quiet, I thought good to call our company together; and when they were assembled, said unto them; my dear friends, let us know our selves, and how it standeth with us. We are men cast on land, as *Jonas* was, out of the whale's belly, when we were as buried in the deep: and now we are on land, we are but between death and life; for we are beyond both the old world and the new; and whether ever we shall see *Europe*, God only knoweth. It is a kind of miracle hath brought us hither: and it must be little less that shall bring us hence. Therefore in regard of our deliverance past, and our danger present and to come, let us look up to God, and every man reform his own ways. Besides we are come here amongst a christian people, full of piety and humanity: let us not bring that confusion of face upon our selves, as to shew our vices, or unworthiness before them. Yet there is more: for they have by commandment, (though in form of courtesy) cloyster'd us within these walls for three days: who knoweth, whether it be not to take some taste of our manners and conditions? And if they find them bad, to banish us straightways; if good, to give us farther time. For these men, that they have given us for attendance, may withal have an eye upon us. Therefore for God's love, and as we love the weale of our souls and bodies, let us so behave our selves, as we may be at peace with God, and may find grace in the eyes of this people. Our company with one voice thanked me for my good admonition, and promised me to live soberly and civilly, and without giving any the least occasion of offence. So we spent our three days joyfully, and without care, in expectation of what would be done with us, when they were expired. During which time, we had every hour joy of the amendment of our sick; who thought themselves cast into some divine pool of healing; they mended so kindly, and so fast.

THE morrow after our three days were past, there came to us a new man that we had not seen before, cloathed in blue as the former was, save that his turban was white, with a small red cross on the top. He had also a tip-pet of fine linen. At his coming in he did bend to us a little, and put his arms abroad. We of our parts saluted him in a very lowly and submissive manner; as looking that from him we should receive sentence of life or death. He desired to speak with some few of us: whereupon six of us only stayed, and the rest avoided the room. He said; I am by office governour

of this house of strangers, and by vocation I am a Christian priest; and therefore am come to you, to offer you my service, both as strangers, and chiefly as Christians. Some things I may tell you, which I think you will not be unwilling to hear. The state hath given you licence to stay on land for the space of six weeks: and let it not trouble you if your occasions ask farther time, for the law in this point is not precise; and I do not doubt but my self shall be able to obtain for you such farther time as may be convenient. Ye shall also understand, that the strangers house is at this time rich, and much beforehand; for it hath laid up revenue these thirty seven years; for so long it is since any stranger arrived in this part: and therefore take ye no care; the state will defray you all the time you stay; neither shall you stay one day the less for that. As for any merchandize you have brought, ye shall be well used, and have your return either in merchandize, or in gold and silver: for to us it is all one. And if you have any other request to make, hide it not. For ye shall find, we will not make your countenance to fall by the answer ye shall receive. Only this I must tell you, that none of you must go above a *karan*, (that is with them a mile and an half) from the walls of the city without special leave. We answered, after we had looked a while upon one another, admiring this gracious and parent-like usage; that we could not tell what to say: for we wanted words to express our thanks; and his noble free offers left us nothing to ask. It seemed to us, that we had before us a picture of our salvation in heaven: for we that were a while since in the jaws of death, were now brought into a place, where we found nothing but consolations. For the commandment laid upon us, we would not fail to obey it, though it was impossible but our hearts should be inflamed to tread farther upon this happy and holy ground. We added; that our tongues should first cleave to the roofs of our mouths, ere we should forget, either his reverend person, or this whole nation, in our prayers. We also most humbly besought him to accept of us as his true servants, by as just a right as ever men on earth were bounden, laying and presenting, both our persons, and all we had at his feet. He said; he was a priest, and looked for a priest's reward; which was our brotherly love, and the good of our souls and bodies. So he went from us, not without tears of tenderness in his eyes; and left us also confused with joy and kindness, saying amongst our selves, that we were come into a land of angels, which did appear to us daily, and prevent us with comforts which we thought not of, much less expected.

THE next day about ten of the clock, the governour came to us again, and after salutations said familiarly; that he was come to visit us; and called for a chair, and sat him down: and we being some ten of us (the rest were of the meaner sort, or else gone abroad) sat down with him. And when we were set, he began thus: We of this island of *Bensalem* (for so they call it in their language) have this; that by means of our solitary situation, and of the laws of secrecy which we have for our travellers, and our rare admission of strangers; we know well most part of the habitable world, and are our selves unknown. Therefore because he that knoweth least is fittest to ask questions, it is more reason for the entertainment of the time, that ye ask me questions, than that I ask you. We answered; that we humbly thanked him, that he would give us leave so to do: and that we conceived by the taste we had already, that there was no worldly thing on earth more worthy to be known, than the state of that happy land. But above all (we said) since that we were met from the several ends of the world,

world, and hoped assuredly that we should meet one day in the kingdom of heaven (for that we were both parts Christians:) we desired to know (in respect that land was so remote, and so divided by vast and unknown seas, from the land where our Saviour walked on earth) who was the Apostle of that nation, and how it was converted to the faith? It appeared in his face that he took great contentment in this our question: he said, ye knit my heart to you, by asking this question in the first place; for it sheweth that you first seek the kingdom of heaven; and I shall gladly and briefly satisfy your demand.

ABOUT twenty years after the ascension of our Saviour, it came to pass, that there was seen by the people of *Renfusa*, (a city upon the eastern coast of our island) within night, (the night was cloudy and calm) as it might be some miles in the sea, a great pillar of light; not sharp; but in form of a column, or cylinder, rising from the sea, a great way up towards heaven; and on the top of it was seen a large cross of light, more bright and resplendent than the body of the pillar. Upon which so strange a spectacle, the people of the city gathered apace together upon the sands to wonder; and so after put themselves into a number of small boats, to go nearer to this marvellous light. But when the boats were come within (about) sixty yards of the pillar, they found themselves all bound, and could go no farther, yet so as they might move to go about, but might not approach nearer: so as the boats stood all as in a theater, beholding this light as an heavenly sign. It so fell out, that there was in one of the boats, one of the wise men of the society of *Solomon's* house; which house or college, (my good brethren) is the very eye of this kingdom; who having a while attentively and devoutly viewed and contemplated this pillar and cross, fell down upon his face; and then raising himself upon his knees, and lifting up his hands to heaven, made his prayers in this manner:

LORD God of heaven and earth; thou hast vouchsafed of thy grace, to those of our order, to know thy works of creation, and the secrets of them; and to discern (as far as appertaineth to the generations of men) between divine miracles, works of nature, works of art, and impostures and illusions of all sorts. I do here acknowledge and testify before this people, that the thing we now see before our eyes, is thy finger, and a true miracle: And forasmuch as we learn in our books, that thou never workest miracles, but to a divine and excellent end, (for the laws of nature are thine own laws, and thou exceedest them not but upon great cause) we most humbly beseech thee to prosper this great sign, and to give us the interpretation and use of it in mercy; which thou dost in some part secretly promise, by sending it unto us.

WHEN he had made his prayer, he presently found the boat he was in moveable and unbound; whereas all the rest remained still fast; and taking that for an assurance of leave to approach, he caused the boat to be softly, and with silence rowed towards the pillar. But ere he came near it, the pillar and cross of light brake up, and cast it self abroad, as it were into a firmament of many stars; which also vanished soon after, and there was nothing left to be seen, but a small ark or chest of cedar, dry, and not wet at all with water, though it swam. And in the fore-end of it which was toward him, grew a small green branch of palm; and when the wise man had taken it with all reverence into his boat, it opened of it self, and there were found in it a book and a letter; both written in fine parchment, and wrapped in bindons of linen. The book contained all the canonical books

of the old and new Testament, according as you have them; (for we know well what the churches with you receive;) and the *Apocalypse* it self; and some other books of the new Testament, which were not at that time written, were nevertheless in the book: And for the letter, it was in these words:

I *Bartholomew*, a servant of the Highest, and Apostle of *Jesus Christ*, was warned by an angel that appeared to me in a vision of glory, that I should commit this ark to the floods of the sea. Therefore I do testify and declare, unto that people where God shall ordain this ark to come to land, that in the same day is come unto them salvation, and peace, and good-will, from the Father, and from the Lord *Jesus*.

THERE was also in both these writings, as well the book, as the letter, wrought a great miracle, conform to that of the Apostles in the original gift of tongues. For there being at that time in this land, *Hebrews*, *Persians*, and *Indians*, besides the natives, every one read upon the book and letter, as if they had been written in his own language. And thus was this land saved from infidelity, (as the remain of the old world was from water) by an ark, through the apostolical and miraculous evangelism of S. *Bartholomew*. And here he paused, and a messenger came, and called him forth from us. So this was all that passed in that conference.

THE next day the same governour came again to us immediately after dinner, and excused himself, saying; that the day before he was called from us somewhat abruptly, but now he would make us amends, and spend time with us, if we held his company and conference agreeable: we answered; that we held it so agreeable and pleasing to us, as we both forgot dangers past, and fears to come, for the time we heard him speak; and that we thought an hour spent with him, was worth years of our former life. He bowed himself a little to us, and after we were set again, he said; well, the questions are on your part. One of our number said, after a little pause; that there was a matter we were no less desirous to know, than fearful to ask, lest we might presume too far. But encouraged by his rare humanity towards us, (that could scarce think our selves strangers, being his vowed and professed servants) we would take the hardiness to propound it: humbly beseeching him, if he thought it not fit to be answered, that he would pardon it, though he rejected it. We said; we well observed those his words, which he formerly spake, that this happy island where we now stood, was known to few, and yet knew most of the nations of the world, which we found to be true, considering they had the languages of *Europe*, and knew much of our state and business; and yet we in *Europe*, (notwithstanding all the remote discoveries and navigations of this last age) never heard any of the least inkling or glimpse of this island. This we found wonderful strange; for that all nations have interknowledge one of another, either by voyage into foreign parts, or by strangers that come to them: and though the traveller into a foreign country, doth commonly know more by the eye, than he that stayeth at home can by relation of the traveller; yet both ways suffice to make a mutual knowledge, in some degree, on both parts. But for this island, we never heard tell of any ship of theirs, that had been seen to arrive upon any shore of *Europe*; no, nor of either the *East* or *West Indies*, nor yet of any ship of any other part of the world, that had made return from them. And yet the marvel rested not in this. For the situation of it, (as his lordship said) in the secret conclave of such a vast sea might cause it. But then, that they should have

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knowledge of the languages, books, affairs, of those that lie such a distance from them, it was a thing we could not tell what to make of; for that it seemed to us a condition and propriety of divine powers and beings, to be hidden and unseen to others, and yet to have others open, and as in a light to them. At this speech the governour gave a gracious smile, and said; that we did well to ask pardon for this question we now asked; for that it imported, as if we thought this land a land of magicians; that sent forth spirits of the air into all parts, to bring them news and intelligence of other countries. It was answered by us all, in all possible humbleness, but yet with a countenance taking knowledge, that we knew that he spake it but merrily. That we were apt enough to think there was something supernatural in this island, but yet rather as angelical than magical. But to let his lordship know truly, what it was that made us tender and doubtful to ask this question, it was not any such conceit, but because we remembred, he had given a touch in his former speech, that this land had laws of secrecy touching strangers. To this he said; you remember it aright; and therefore in that I shall say to you, I must reserve some particulars, which it is not lawful for me to reveal; but there will be enough left to give you satisfaction.

You shall understand. (that which perhaps you will scarce think credible) that about three thousand years ago, or somewhat more, the navigation of the world (especially for remote voyages) was greater than at this day. Do not think with your selves, that I know not how much it is increased with you within these threescore years: I know it well; and yet I say greater then than now: whether it was, that the example of the ark, that saved the remnant of men from the universal deluge, gave men confidence to adventure upon the waters, or what it was, but such is the truth. The *Phoenicians*, and especially the *Tyrians*, had great fleets. So had the *Carthaginians* their colony, which is yet farther west. Toward the east, the shipping of *Ægypt*, and of *Palæstine*, was likewise great. *China* also, and the great *Atlantis*, (that you call *America*) which have now but junks and canoes, abounded then in tall ships. This island (as appeareth by faithful registers of those times) had then fifteen hundred strong ships, of great content. Of all this, there is with you sparing memory, or none; but we have large knowledge thereof.

AT that time, this land was known and frequented by the ships and vessels of all the nations beforenamed. And (as it cometh to pass) they had many times men of other countries, that were no sailors, that came with them; as *Persians*, *Chaldaeans*, *Arabians*; so as almost all nations of might and fame resorted hither; of whom we have some stirps and little tribes with us at this day. And for our own ships, they went sundry voyages, as well to your streights, which you call the pillars of *Hercules*, as to other parts in the *Atlantick* and *Mediterranean* seas; as to *Peguin*, (which is the same with *Cambalaine*) and *Quinzy*, upon the oriental seas, as far as to the borders of the east *Tartary*.

AT the same time, and an age after, or more, the inhabitants of the great *Atlantis* did flourish. For though the narration and description which is made by a great man with you, that the descendents of *Neptune* planted there; and of the magnificent temple, palace, city and hill; and the manifold streams of goodly navigable rivers, which (as so many chains) environed the same site and temple; and the several degrees of ascent, whereby men did climb up to the same, as if it had been a *scala coeli*; be all poetical and

fabulous: yet so much is true, that the said countrey of *Atlantis*, as well that of *Peru* then called *Coya*, as that of *Mexico* then named *Tyrambel*, were mighty and proud kingdoms, in arms, shipping, and riches: so mighty, as at one time (or at least within the space of ten years) they both made two great expeditions; they of *Tyrambel*, through the *Atlantick* to the *Mediterranean Sea*; and they of *Coya*, through the *South Sea* upon this our island: and for the former of these, which was into *Europe*, the same author amongst you, (as it seemeth) had some relation from the *Ægyptian* priest, whom he citeth. For assuredly, such a thing there was. But whether it were the ancient *Athenians* that had the glory of the repulse, and resistance of those forces, I can say nothing: But certain it is, there never came back either ship, or man, from that voyage. Neither had the other voyage of those of *Coya* upon us, had better fortune, if they had not met with enemies of greater clemency. For the king of this island, (by name *Attabin*,) a wise man, and a great warrior; knowing well both his own strength, and that of his enemies; handled the matter so, as he cut off their land forces from their ships, and entailed both their navy, and their camp, with a greater power than theirs, both by sea and land; and compelled them to render themselves without striking stroke: and after they were at his mercy, contenting himself only with their oath, that they should no more bear arms against him, dismissed them all in safety. But the divine revenge overtook not long after those proud enterprizes. For within less than the space of one hundred years, the great *Atlantis* was utterly lost and destroyed: not by a great earthquake, as your man saith, (for that whole tract is little subject to earthquakes;) but by a particular deluge, or inundation: those countries having, at this day, far greater rivers, and far higher mountains, to pour down waters, than any part of the old world. But it is true, that the same inundation was not deep; not past forty foot, in most places, from the ground: so that, although it destroyed man and beast generally, yet some few wild inhabitants of the woods escaped. Birds also were saved by flying to the high trees and woods. For as for men, although they had buildings in many places, higher than the depth of the water; yet that inundation, though it were shallow, had a long continuance; whereby they of the vale, that were not drowned, perished for want of food, and other things necessary. So as marvel you not at the thin population of *America*, nor at the rudeness and ignorance of the people; for you must account your inhabitants of *America* as a young people; younger a thousand years, at the least, than the rest of the world: for that there was so much time between the universal flood, and their particular inundation. For the poor remnant of human seed, which remained in their mountains, peopled their countrey again slowly, by little and little; and being simple and a savage people, (not like *Noah* and his sons, which was the chief family of the earth) they were not able to leave letters, arts, and civility to their posterity; and having likewise in their mountainous habitations been used, (in respect of the extreme cold of those regions,) to cloath themselves with the skins of tygers, bears, and great hairy goats, that they have in those parts; when after they came down into the valley, and found the intolerable heats which are there, and knew no means of lighter apparel, they were forced to begin the custom of going naked, which continueth at this day. Only they take great pride and delight in the feathers of birds; and this also they took from those their ancestors of the mountains, who were invited unto it, by the infinite flights of birds, that came up to the high grounds, while the waters stood below. So
you

you see, by this main accident of time, we lost our traffick with the *Americans*, with whom, of all others, in regard they lay nearest to us, we had most commerce. As for the other parts of the world, it is most manifest, that in the ages following, (whether it were in respect of wars, or by a natural revolution of time,) navigation did every where greatly decay; and especially far voyages, (the rather by the use of gallies, and such vessels as could hardly brook the ocean) were altogether left and omitted. So then, that part of entercourse which could be from other nations to fail to us, you see how it hath long since ceased; except it were by some rare accident, as this of yours. But now of the cessation of that other part of entercourse, which might be by our sailing to other nations, I must yield you some other cause. For I cannot say, (if I shall say truly) but our shipping, for number, strength, mariners, pilots, and all things that appertain to navigation, is as great as ever: and therefore why we should sit at home, I shall now give you an account by it self; and it will draw nearer, to give you satisfaction, to your principal question.

THERE reigned in this island, about nineteen hundred years ago, a king, whose memory of all others we most adore; not superstitiously, but as a divine instrument, though a mortal man; his name was *Solomona*: and we esteem him as the law-giver of our nation. This king had a large heart, inscrutable for good, and was wholly bent to make his kingdom and people happy. He therefore taking into consideration, how sufficient and substantive this land was, to maintain itself without any aid (at all) of the foreigner, being five thousand six hundred mile in circuit, and of rare fertility of soil in the greatest part thereof; and finding also the shipping of this country might be plentifully set on work, both by fishing, and by transportations from port to port, and likewise by sailing unto some small islands that are not far from us, and are under the crown and laws of this state; and recalling into his memory, the happy and flourishing estate wherein this land then was; so as it might be a thousand ways altered to the worse, but scarce any one way to the better; though nothing wanted to his noble and heroical intentions, but only (as far as human foresight might reach) to give perpetuity to that, which was in his time so happily established. Therefore amongst his other fundamental laws of this kingdom, he did ordain the interdicts and prohibitions, which we have touching entrance of strangers; which at that time (though it was after the calamity of *America*) was frequent; doubting novelties, and commixture of manners. It is true, the like law, against the admission of strangers without licence, is an ancient law in the kingdom of *China*, and yet continued in use: But there it is a poor thing; and hath made them a curious, ignorant, fearful, foolish nation. But our law-giver made his law of another temper. For first, he hath preserved all points of humanity, in taking order, and making provision for the relief of strangers distressed, whereof you have tasted. At which speech (as reason was) we all rose up, and bowed ourselves. He went on. That king also still desiring to join humanity and policy together; and thinking it against humanity, to detain strangers here against their wills; and against policy that they should return, and discover their knowledge of this estate, he took this course: he did ordain, that of the strangers that should be permitted to land, as many (at all times) might depart as would; but as many as would stay, should have very good conditions, and means to live, from the state. Wherein he saw so far, that now in so many ages since the prohibition, we have memory, not of one ship that ever returned, and but

of thirteen persons only, at several times, that chose to return in our bottoms. What those few that returned, may have reported abroad, I know not: But you must think, whatsoever they have said, could be taken where they came but for a dream. Now for our travelling from hence into parts abroad, our law-giver thought fit altogether to restrain it. So is it not in *China*. For the *Chineses* sail where they will, or can; which sheweth, that their law of keeping out strangers, is a law of pusillanimity and fear. But this restraint of ours hath one only exception, which is admirable; preserving the good which cometh by communicating with strangers, and avoiding the hurt; and I will now open it to you. And here I shall seem a little to digress, but you will by and by find it pertinent. Ye shall understand, (my dear friends,) that amongst the excellent acts of that king, one above all hath the preheminance. It was the erection, and institution of an order, or society, which we call *Solomon's house*; the noblest foundation (as we think) that ever was upon the earth; and the lanthorn of this kingdom. It is dedicated to the study of the works and creatures of God. Some think it beareth the founder's name a little corrupted, as if it should be *Solomona's house*. But the records write it, as it is spoken. So as I take it to be denominate of the king of the *Hebrews*, which is famous with you, and no stranger to us; for we have some parts of his works, which with you are lost; namely, that natural history which he wrote of all plants, from the cedar of *Libanus*, to the moss that groweth out of the wall; and of all things that have life and motion. This maketh me think, that our king finding himself to symbolize in many things with that king of the *Hebrews* (which lived many years before him) honoured him with the title of this foundation. And I am the rather induced to be of this opinion, for that I find in ancient records, this order or society is sometimes called *Solomon's house*, and sometimes the college of the six days works; whereby I am satisfied, that our excellent king had learned from the *Hebrews*, that God had created the world, and all that therein is, within six days; and therefore he instituting that house for the finding out of the true nature of all things, (whereby God might have the more glory in the workmanship of them, and men the more fruit in the use of them,) did give it also that second name. But now to come to our present purpose. When the king had forbidden, to all his people, navigation into any part, that was not under his crown, he made nevertheless this ordinance; that every twelve years there should be set forth, out of this kingdom, two ships appointed to several voyages; that in either of these ships there should be a mission of three of the fellows, or brethren of *Solomon's house*; whose errand was only to give us knowledge of the affairs and state of those countries to which they were designed; and especially of the sciences, arts, manufactures, and inventions of all the world; and withal to bring unto us, books, instruments, and patterns, in every kind: that the ships, after they had landed the brethren, should return; and that the brethren should stay abroad till the new mission. The ships are not otherwise fraught, than with store of victuals, and good quantity of treasure to remain with the brethren, for the buying of such things, and rewarding of such persons, as they should think fit. Now for me to tell you how the vulgar sort of mariners are contained from being discovered at land; and how they that must be put on shore for any time, colour themselves under the names of other nations; and to what places these voyages have been designed; and what places of rendezvous are appointed for the new missions; and the like circumstances of the practick; I may not do it: neither is it much to your desire.

desire. But thus you see we maintain a trade, not for gold, silver, or jewels; nor for silks; nor for spices; nor any other commodity of matter; but only for God's first creature, which was light: to have light (I say) of the growth of all parts of the world. And when he had said this, he was silent; and so were we all. For indeed we were all astonished to hear so strange things so probably told. And he perceiving that we were willing to say somewhat, but had it not ready, in great courtesy took us off, and descended to ask us questions of our voyage and fortunes, and in the end concluded, that we might do well to think with our selves, what time of stay we would demand of the state; and bade us not to scant our selves; for he would procure such time as we desired. Whereupon we all rose up and presented our selves to kiss the skirt of his tippet, but he would not suffer us; and so took his leave. But when it came once amongst our people, that the state used to offer conditions to strangers that would stay, we had work enough to get any of our men to look to our ship; and to keep them from going presently to the governour to crave conditions. But with much ado we refrained them, till we might agree what course to take.

WE took our selves now for free men, seeing there was no danger of our utter perdition; and lived most joyfully, going abroad, and seeing what was to be seen in the city and places adjacent, within our tedder; and obtaining acquaintance with many of the city, not of the meanest quality; at whose hands we found such humanity, and such a freedom and desire to take strangers as it were into their bosom, as was enough to make us forget all that was dear to us in our own countries: and continually we met with many things, right worthy of observation and relation; as indeed, if there be a mirror in the world worthy to hold mens eyes, it is that country. One day there were two of our company bidden to a feast of the family, as they call it. A most natural, pious, and reverend custom it is, shewing that nation to be compounded of all goodness. This is the manner of it. It is granted to any man, that shall live to see thirty persons descended of his body alive together, and all above three years old, to make this feast, which is done at the cost of the state. The father of the family, whom they call the *Tirfan*, two days before the feast, taketh to him three of such friends as he liketh to chuse; and is assisted also by the governour of the city, or place, where the feast is celebrated; and all the persons of the family of both sexes are summoned to attend. These two days the *Tirfan* sitteth in consultation, concerning the good estate of the family. There, if there be any discord or suits between any of the family, they are compounded and appeased. There, if any of the family be distressed or decayed, order is taken for their relief, and competent means to live. There, if any be subject to vice, or take ill courses, they are reprov'd and censured. So likewise direction is given touching marriages, and the courses of life which any of them should take, with divers other the like orders and advices. The governour assisteth, to the end to put in execution, by his publick authority, the decrees and orders of the *Tirfan*, if they should be disobeyed; though that seldom needeth; such reverence and obedience they give to the order of nature. The *Tirfan* doth also then, ever chuse one man from amongst his sons, to live in the house with him: who is called ever after, the son of the vine. The reason will hereafter appear. On the feast-day, the father, or *Tirfan*, cometh forth after divine service into a large room where the feast is celebrated; which room hath an half

pace

pace at the upper end. Against the wall, in the middle of the half pace, is a chair placed for him, with a table and carpet before it. Over the chair is a state made round or oval, and it is of ivy; an ivy somewhat whiter than ours, like the leaf of a silver asp, but more shining; for it is green all winter. And the state is curiously wrought with silver and filk of divers colours, broiding or binding in the ivy; and is ever of the work of some of the daughters of the family; and veiled over at the top with a fine net of filk and silver. But the substance of it is true ivy; whereof, after it is taken down, the friends of the family are desirous to have some leaf or sprig to keep. The *Tirfan* cometh forth with all his generation or lineage, the males before him, and the females following him; and if there be a mother, from whose body the whole lineage is descended, there is a traverse placed in a loft above on the right hand of the chair, with a privy door, and a carved window of glass, leaded with gold and blue; where she sitteth, but is not seen. When the *Tirfan* is come forth, he sitteth down in the chair; and all the lineage place themselves against the wall, both at his back, and upon the return of the half pace, in order of their years, without difference of sex, and stand upon their feet. When he is set, the room being always full of company, but well kept, and without disorder; after some pause there cometh in from the lower end of the room a taratan, (which is as much as an herald) and on either side of him two young lads; whereof one carrieth a scroll of their shining yellow parchment; and the other a cluster of grapes of gold, with a long foot or stalk. The herald and children are cloathed with mantles of sea-water green sattin; but the herald's mantle is streamed with gold, and hath a train. Then the herald with three courtesies, or rather inclinations, cometh up as far as the half pace; and there first taketh into his hand the scroll. This scroll is the king's charter, containing gift of revenue, and many privileges, exemptions, and points of honour, granted to the father of the family; and it is ever stiled and directed, to such an one, our well-beloved friend and creditor: which is a title proper only to this case. For they say, the king is debtor to no man, but for propagation of his subjects: the seal set to the king's charter, is the king's image, imbossed or moulded in gold; and though such charters be expedited of course, and as of right, yet they are varied by discretion, according to the number and dignity of the family. This charter the herald readeth aloud; and while it is read, the father or *Tirfan* standeth up, supported by two of his sons, such as he chuseth. Then the herald mounteth the half pace, and delivereth the charter into his hand: and with that there is an acclamation by all that are present, in their language, which is thus much; happy are the people of *Bensalem*. Then the herald taketh into his hand from the other child, the cluster of grapes, which is of gold; both the stalk and the grapes. But the grapes are daintily enamelled; and if the males of the family be the greater number, the grapes are enamelled purple, with a little sun set on the top; if the females, then they are enamelled into a greenish yellow, with a crescent on the top. The grapes are in number as many as there are descendants of the family. This golden cluster the herald delivereth also to the *Tirfan*; who presently delivereth it over to that son, that he had formerly chosen to be in the house with him: who beareth it before his father as an ensign of honour, when he goeth in publick ever after; and is thereupon called the son of the vine. After this ceremony ended, the father or *Tirfan* retireth; and after some time cometh forth again to dinner, where he

fitteth alone under the state as before; and none of his descendents sit with him, of what degree or dignity soever, except he happen to be of *Solomon's* house. He is served only by his own children, such as are male; who perform unto him all service of the table upon the knee; and the women only stand about him, leaning against the wall. The room below his hall pace, hath tables on the sides for the guests that are bidden; who are served with great and comely order; and towards the end of dinner (which in the greatest feasts with them, lasteth never above an hour and a half) there is an hymn sung, varied according to the invention of him that composeth it, (for they have excellent poetry;) but the subject of it is (always) the praises of *Adam*, and *Noah*, and *Abraham*; whereof the former two peopled the world, and the last was the father of the faithful: concluding ever with a thanksgiving for the nativity of our Saviour, in whose birth the births of all are only blessed. Dinner being done, the *Tirisan* retireth again; and having withdrawn himself alone into a place, where he maketh some private prayers, he cometh forth the third time, to give the blessing; with all his descendents, who stand about him as at the first. Then he calleth them forth by one and by one, by name, as he pleaseth, though seldom the order of age be inverted. The person that is called, (the table being before removed) kneeleth down before the chair, and the father layeth his hand upon his head, or her head, and giveth the blessing in these words: Son of *Bensalem*, (or daughter of *Bensalem*) thy father saith it; the man by whom thou hast breath and life speaketh the word; the blessing of the everlasting Father, the prince of peace, and the holy dove be upon thee, and make the days of thy pilgrimage good and many. This he saith to every of them; and that done, if there be any of his sons of eminent merit and virtue, (so they be not above two) he calleth for them again; and saith, laying his arm over their shoulders, they standing; Sons, it is well you are born, give God the praise, and persevere to the end. And withal delivereth to either of them a jewel, made in the figure of an ear of wheat, which they ever after wear in the front of their turban, or hat. This done, they fall to musick and dances, and other recreations, after their manner, for the rest of the day. This is the full order of that feast.

By that time six or seven days were spent, I was fallen into straight acquaintance with a merchant of that city, whose name was *Joabin*. He was a Jew, and circumcised: for they have some few stirps of Jews yet remaining among them, whom they leave to their own religion: Which they may the better do, because they are of a far differing disposition from the Jews in other parts. For whereas they hate the name of *Christ*, and have a secret inbred rancour against the people amongst whom they live; these (contrariwise) give unto our Saviour many high attributes, and love the nation of *Bensalem* extremely. Surely this man of whom I speak, would ever acknowledge that *Christ* was born of a virgin; and that he was more than a man; and he would tell how God made him ruler of the seraphims, which guard his throne; and they call him also the milken way, and the *Eliab* of the *Messias*; and many other high names; which though they be inferiour to his divine Majesty, yet they are far from the language of other Jews. And for the country of *Bensalem*, this man would make no end of commending it: Being desirous by tradition among the Jews there, to have it believed, that the people thereof were of the generations of *Abraham*, by another son, whom they call *Nachoran*; and that *Moses* by a secret cabala, ordained the laws of *Bensalem* which they now use; and that when the

Messias should come, and sit in his throne at *Hierusalem*, the king of *Bensalem* should sit at his feet, whereas other kings should keep a great distance. But yet setting aside these Jewish dreams, the man was a wise man, and learned, and of great policy, and excellently seen in the laws and customs of that nation. Amongst other discourses, one day I told him I was much affected with the relation I had from some of the company, of their custom in holding the feast of the family; for that (methought) I had never heard of a solemnity, wherein nature did so much preside. And because propagation of families proceedeth from the nuptial copulation, I desired to know of him, what laws and customs they had concerning marriage; and whether they kept marriage well; and whether they were tied to one wife? For that where population is so much affected, and such as with them it seemed to be, there is commonly permission of plurality of wives. To this he said; you have reason for to commend that excellent institution of the feast of the family; and indeed we have experience, that those families that are partakers of the blessings of that feast, do flourish and prosper ever after in an extraordinary manner. But hear me now, and I will tell you what I know. You shall understand, that there is not under the heavens so chaste a nation as this of *Bensalem*; nor so free from all pollution or foulness. It is the virgin of the world. I remember I have read in one of your *European* books, of an holy hermit amongst you, that desired to see the spirit of fornication; and there appeared to him a little foul ugly *Aethiope*: but if he had desired to see the spirit of chastity of *Bensalem*, it would have appeared to him in the likeness of a fair beautiful cherubim. For there is nothing amongst mortal men more fair and admirable, than the chaste minds of this people. Know therefore that with them there are no stews, no dissolute houses, no curtesans, nor any thing of that kind. Nay, they wonder (with detestation) at you in *Europe*, which permit such things. They say, ye have put marriage out of office: for marriage is ordained a remedy for unlawful concupiscence; and natural concupiscence seemeth as a spur to marriage. But when men have at hand a remedy more agreeable to their corrupt will, marriage is almost expelled. And therefore there are with you seen infinite men that marry not, but chuse rather a libertine and impure single life, than to be yoked in marriage; and many that do marry, marry late, when the prime and strength of their years is past. And when they do marry, what is marriage to them but a very bargain; wherein is sought alliance, or portion, or reputation, with some desire (almost indifferent) of issue; and not the faithful nuptial union of man and wife, that was first instituted. Neither is it possible, that those that have cast away so basely so much of their strength, should greatly esteem children, (being of the same matter) as chaste men do. So likewise during marriage is the case much amended, as it ought to be if those things were tolerated only for necessity; no, but they remain still as a very affront to marriage. The haunting of those dissolute places, or resort to curtesans, are no more punished in married men than in batchelors. And the depraved custom of change, and the delight in meretricious imbracements, (where sin is turned into art) maketh marriage a dull thing, and a kind of imposition or tax. They hear you defend these things, as done to avoid greater evils; as advoutries, deflouring of virgins, unnatural lust, and the like. But they say, this is a preposterous wisdom; and they call it *Lot's* offer, who to save his guests from abusing, offered his daughters: nay, they say farther, that there

there is little gained in this; for that the same vices and appetites do still remain and abound; unlawful lust being like a furnace, that if you stop the flames altogether it will quench; but if you give it any vent, it will rage; as for masculine love, they have no touch of it; and yet there are not so faithful and inviolate friendships in the world again as are there; and to speak generally, (as I said before) I have not read of any such chastity in any people as theirs. And their usual saying is, that whosoever is unchaste cannot reverence himself: and they say, that the reverence of a man's self, is, next religion, the chiefest bridle of all vices. And when he had said this, the good Jew paused a little; whereupon I far more willing to hear him speak on, than to speak my self; yet thinking it decent, that upon his pause of speech I should not be altogether silent, said only this; that I would say to him, as the widow of *Sarepta* said to *Elias*; that he was come to bring to memory our sins; and that I confess the righteousness of *Benfalem*, was greater than the righteousness of *Europe*. At which speech he bowed his head, and went on in this manner: they have also many wise and excellent laws touching marriage. They allow no polygamy. They have ordained that none do inter-marry, or contract, until a month be past from their first interview. Marriage without consent of parents they do not make void, but they mulct it in the inheritors: for the children of such marriages are not admitted to inherit above a third part of their parents inheritance. I have read in a book of one of your men, of a feigned commonwealth, where the married couple are permitted, before they contract, to see one another naked. This they dislike; for they think it a scorn to give a refusal after so familiar knowledge: but because of many hidden defects in men and womens bodies, they have a more civil way: for they have near every town a couple of pools, (which they call *Adam* and *Eve's* pools) where it is permitted to one of the friends of the man, and another of the friends of the woman, to see them severally bathe naked.

AND as we were thus in conference, there came one that seemed to be a messenger, in a rich huke, that spake with the Jew: whereupon he turned to me and said; you will pardon me, for I am commanded away in haste. The next morning he came to me again joyful, as it seemed, and said; there is word come to the governour of the city, that one of the fathers of *Solomon's* house will be here this day seven-night: we have seen none of them this dozen years. His coming is in state; but the cause of his coming is secret. I will provide you, and your fellows, of a good standing to see his entry. I thanked him, and told him, I was most glad of the news. The day being come, he made his entry. He was a man of middle stature and age, comely of person, and had an aspect as if he pitied men. He was clothed in a robe of fine black cloath, with wide sleeves and a cape. His under garment was of excellent white linen down to the foot, girt with a girdle of the same; and a findon or tippet of the same about his neck. He had gloves that were curious, and set with stone; and shoes of peach-coloured velvet. His neck was bare to the shoulders. His hat was like a helmet, or *Spanish Montera*; and his locks curled below it decently: they were of colour brown. His beard was cut round, and of the same colour with his hair somewhat lighter. He was carried in a rich chariot without wheels litter-wise, with two horses at either end, richly trapped in blue velvet embroidered; and two footmen on each side in the like attire. The chariot was all of cedar, gilt and adorned

with crystal; save that the fore-end had pannels of sapphires, set in borders of gold, and the hinder-end the like of emeralds of the *Peru* colour. There was also a sun of gold, radiant upon the top, in the midst; and on the top before a small cherub of gold, with wings displayed. The chariot was covered with cloth of gold tissued upon blue. He had before him fifty attendants, young men all, in white fatten loose coats to the mid-leg, and stockings of white filk; and shoes of blue velvet; and hats of blue velvet; with fine plumes of diverse colours, set round like hat-bands. Next before the chariot went two men bare-headed, in linen garments down to the foot, girt, and shoes of blue velvet, who carried the one a crozier, the other a pastoral staff, like a sheep-hook; neither of them of metal, but the crozier of balm wood, the pastoral staff of cedar. Horsemen he had none, neither before nor behind his chariot: as it seemeth, to avoid all tumult and trouble. Behind his chariot went all the officers and principals of the companies of the city. He sat alone, upon cushions of a kind of excellent plush, blue; and under his foot curious carpets of filk of divers colours, like the *Persian*, but far finer. He held up his bare hand as he went, as blessing the people, but in silence. The street was wonderfully well kept; so that there was never any army had their men stand in better battle-array, than the people stood. The windows likewise were not crouded, but every one stood in them as if they had been placed. When the shew was past, the Jew said to me; I shall not be able to attend you as I would, in regard of some charge the city hath laid upon me, for the entertaining of this great person. Three days after the Jew came to me again, and said: Ye are happy men; for the father of *Solomon's* house taketh knowledge of your being here, and commanded me to tell you, that he will admit all your company to his presence, and have private conference with one of you that ye shall chuse: and for this hath appointed the next day after to-morrow. And because he meaneth to give you his blessing, he hath appointed it in the forenoon. We came at our day and hour, and I was chosen by my fellows for the private access. We found him in a fair chamber richly hanged, and carpeted under foot, without any degrees to the state; he was set upon a low throne richly adorned, and a rich cloth of state over his head, of blue fatten embroidered. He was alone, save that he had two pages of honour, on either hand one, finely attired in white. His under garments were the like that we saw him wear in the chariot; but instead of his gown, he had on him a mantle with a cape, of the same fine black, fastned about him. When we came in, as we were taught, we bowed low at our first entrance; and when we were come near his chair, he stood up, holding forth his hand ungloved, and in posture of blessing; and we every one of us stooped down, and kissed the hem of his tippet. That done, the rest departed, and I remained. Then he warned the pages forth of the room, and caused me to sit down beside him, and spake to me thus in the *Spanish* tongue.

God blefs thee, my son; I will give thee the greatest jewel I have. For I will impart unto thee, for the love of God and men, a relation of the true state of *Solomon's* house. Son, to make you know the true state of *Solomon's* house, I will keep this order. First, I will set forth unto you the end of our foundation. Secondly, the preparations and instruments we have for our works. Thirdly, the several employments and functions whereto our fellows are assigned. And fourthly, the ordinances and rites which we observe.

THE

THE end of our foundation is the knowledge of causes, and secret motions of things; and the enlarging of the bounds of humane empire, to the effecting of all things possible.

THE preparations and instruments are these. We have large and deep caves of several depths: the deepest are sunk six hundred fathom; and some of them are digged and made under great hills and mountains: so that if you reckon together the depth of the hill, and the depth of the cave, they are (some of them) above three miles deep. For we find that the depth of an hill, and the depth of a cave from the flat, is the same thing; both remote alike from the sun and heavens beams, and from the open air. These caves we call the lower region. And we use them for all coagulations, indurations, refrigerations, and conservations, of bodies. We use them likewise for the imitation of natural mines: and the producing also of new artificial metals, by compositions and materials which we use and lay there for many years. We use them also sometimes (which may seem strange) for curing of some diseases, and for prolongation of life, in some hermits that chuse to live there, well accommodated of all things necessary, and indeed live very long; by whom also we learn many things.

WE have burials in several earths, where we put divers cements, as the *Chinenses* do their porcellane. But we have them in greater variety, and some of them more fine. We also have great variety of composts, and soils, for the making of the earth fruitful.

WE have high towers; the highest about half a mile in height; and some of them likewise set upon high mountains: so that the vantage of the hill with the tower, is in the highest of them three miles at least. And these places we call the upper region; accounting the air between the high places and the low, as a middle region. We use these towers, according to their several heights and situations, for insolation, refrigeration, conservation, and for the view of divers meteors; as winds, rain, snow, hail, and some of the fiery meteors also. And upon them, in some places, are dwellings of hermits, whom we visit sometimes, and instruct what to observe.

WE have great lakes both salt and fresh, whereof we have use for the fish and fowl. We use them also for burials of some natural bodies: for we find a difference in things buried in earth, or in air below the earth; and things buried in water. We have also pools, of which some do strain fresh water out of salt; and others by art do turn fresh water into salt. We have also some rocks in the midst of the sea; and some bays upon the shore for some works, wherein is required the air and vapour of the sea. We have likewise violent streams and cataracts, which serve us for many motions: and likewise engines for multiplying and enforcing of winds, to set also on going divers motions.

WE have also a number of artificial wells and fountains, made in imitation of the natural sources and baths; as tinted upon vitriol, sulphur, steel, brass, lead, nitre, and other minerals. And again, we have little wells for infusions of many things, where the waters take the virtue quicker and better, than in vessels or basins. And amongst them we have a water, which we call water of paradise, being, by that we do to it, made very sovereign for health, and prolongation of life.

WE have also great and spacious houses, where we imitate and demonstrate meteors; as snow, hail, rain, some artificial rains of bodies, and not of water, thunders, lightnings; also generations of bodies in air; as frogs, flies, and divers others.

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WE have also certain chambers, which we call chambers of health, where we qualify the air as we think good and proper for the cure of divers diseases, and preservation of health.

WE have also fair and large baths, of several mixtures, for the cure of diseases, and the restoring of man's body from arefaction: and others, for the confirming of it in strength of sinews, vital parts, and the very juice and substance of the body.

WE have also large and various orchards and gardens, wherein we do not so much respect beauty, as variety of ground and soil, proper for divers trees and herbs: and some very spacious, where trees and berries are set, whereof we make divers kinds of drinks, besides the vineyards. In these we practise likewise all conclusions of grafting and inoculating, as well of wild trees as fruit trees, which produceth many effects. And we make (by art) in the same orchards and gardens, trees and flowers, to come earlier or later than their seasons; and to come up and bear more speedily, than by their natural course they do. We make them also by art greater much than their nature; and their fruit greater, and sweeter, and of differing taste, smell, colour, and figure, from their nature. And many of them we so order, as that they become of medicinal use.

WE have also means to make divers plants rise by mixtures of earths without seeds; and likewise to make divers new plants, differing from the vulgar; and to make one tree or plant turn into another.

WE have also parks and enclosures of all sorts of beasts and birds, which we use not only for view or rareness, but likewise for dissections and trials; that thereby may take light, what may be wrought upon the body of man. Wherein we find many strange effects; as continuing life in them, though divers parts, which you account vital, be perished, and taken forth; resuscitating of some that seem dead in appearance; and the like. We try also all poisons, and other medicines upon them, as well of chirurgery as physick. By art likewise, we make them greater or taller, than their kind is; and contrariwise dwarf them, and stay their growth: we make them more fruitful and bearing than their kind is; and contrariwise barren, and not generative. Also we make them differ in colour, shape, activity, many ways. We find means to make commixtures and copulations of divers kinds, which have produced many new kinds, and them not barren, as the general opinion is. We make a number of kinds of serpents, worms, flies, fishes, of putrefaction; whereof some are advanced (in effect) to be perfect creatures, like beasts, or birds; and have sexes, and do propagate. Neither do we this by chance, but we know before-hand, of what matter and commixture, what kind of those creatures, will arise.

WE have also particular pools, where we make trials upon fishes, as we have said before of beasts and birds.

WE have also places for breed and generation of those kinds of worms, and flies, which are of special use; such as are with you your silk-worms and bees.

I will not hold you long with recounting of our brew-houses, bake-houses and kitchens, where are made divers drinks, breads and meats, rare, and of special effects. Wines we have of grapes; and drinks of other juice, of fruits, of grains, and roots; and of mixtures with honey, sugar, manna, and fruits dried and decocted. Also of the tears or wounding of trees, and of the pulp of canes. And these drinks are of several ages, some to the age or last of forty years. We have drinks also brewed with several herbs,
and

and roots, and spices; yea, with several fleshes, and white-meats; whereof some of the drinks are such as they are in effect meat and drink both: so that divers, especially in age, do desire to live with them, with little or no meat, or bread. And above all, we strive to have drinks of extreme thin parts; to insinuate into the body, and yet without all biting, sharpness, or fretting; inso-much as some of them put upon the back of your hand, will, with a little stay, pass through to the palm, and yet taste mild to the mouth. We have also waters which we ripen in that fashion, as they become nourishing; so that they are indeed excellent drink; and many will use no other. Breads we have of several grains, roots, and kernels; yea, and some of flesh, and fish, dried; with divers kinds of leavings and seasonings: so that some do extremely move appetites; some do nourish so, as divers do live of them, without any other meat; who live very long. So for meats, we have some of them so beaten, and made tender, and mortified, yet without all corrupting, as a weak heat of the stomach will turn them into good *chylus*, as well as a strong heat would meat otherwise prepared. We have some meats also; and breads, and drinks, which taken by men, enable them to fast long after; and some other, that used make the very flesh of mens bodies sensibly more hard and tough; and their strength far greater, than otherwise it would be.

WE have dispensatories, or shops of medicines; wherein you may easily think, if we have such variety of plants and living creatures, more than you have in *Europe*, (for we know what you have,) the simples, drugs, and ingredients of medicines, must likewise be in so much the greater variety. We have them likewise of divers ages, and long fermentations. And for their preparations, we have not only all manner of exquisite distillations and separations, and especially by gentle heats and percolations through divers strainers, yea, and substances; but also exact forms of composition, whereby they incorporate almost as they were natural simples.

WE have also divers mechanical arts, which you have not; and stuffs made by them; as papers, linen, silks, tissues; dainty works of feathers of wonderful lustre; excellent dyes, and many others: and shops likewise as well for such as are not brought into vulgar use amongst us, as for those that are. For you must know, that of the things before recited, many of them are grown into use throughout the kingdom; but yet, if they did flow from our invention, we have of them also for patterns and principals.

WE have also furnaces of great diversities, and that keep great diversity of heats; fierce and quick; strong and constant; soft and mild; blown, quiet, dry, moist; and the like. But above all, we have heats in imitation of the sun's and heavenly bodies heat, that pass divers inequalities, and (as it were) orbs, progresses and returns, whereby we produce admirable effects. Besides, we have heats of dung, and of bellies and maws of living creatures, and of their bloods and bodies; and of hays and herbs laid up moist; of lime unquenched; and such like. Instruments also which generate heat only by motion. And farther, places for strong insulations: and again, places under the earth, which by nature, or art, yield heat. These divers heats we use, as the nature of the operation, which we intend, requireth.

WE have also perspective houses, where we make demonstrations of all lights and radiations; and of all colours; and out of things uncoloured and transparent, we can represent unto you all several colours: not in rain-bows, (as it is in gems and prisms,) but of themselves single. We represent also all multiplications of light, which we carry to great distance; and make so sharp,

sharp, as to discern small points and lines: also all colorations of light: all delusions and deceits of the sight, in figures, magnitudes, motions, colours: all demonstrations of shadows. We find also divers means yet unknown to you, of producing of light, originally, from divers bodies. We procure means of seeing objects afar off; as in the heaven, and remote places; and represent things near as far off; and things afar off as near; making feigned distances. We have also helps for the sight, far above spectacles and glasses in use. We have also glasses and means, to see small and minute bodies, perfectly and distinctly; as the shapes and colours of small flies and worms, grains, and flaws in gems, which cannot otherwise be seen; observations in urine and blood, not otherwise to be seen. We make artificial rain-bows, halo's, and circles about light. We represent also all manner of reflexions, refractions, and multiplications of visual beams of objects.

WE have also precious stones of all kinds, many of them of great beauty, and to you unknown; crystals likewise; and glasses of divers kinds; and amongst them some of metals vitrified, and other materials, besides those of which you make glass. Also a number of fossils, and imperfect minerals, which you have not. Likewise load-stones of prodigious virtue; and other rare stones, both natural and artificial.

WE have also sound-houses, where we practise and demonstrate all sounds, and their generation. We have harmonies which you have not, of quarter-sounds, and lesser slides of sounds. Divers instruments of musick likewise to you unknown, some sweeter than any you have; together with bells and rings that are dainty and sweet. We represent small sounds as great and deep; likewise great sounds, extenuate and sharp; we make divers tremblings and warblings of sounds, which in their original are entire. We represent and imitate all articulate sounds and letters, and the voices and notes of beasts and birds. We have certain helps, which set to the ear do further the hearing greatly. We have also divers strange and artificial echoes, reflecting the voice many times, and as it were tossing it: and some that give back the voice louder than it came, some shriller, and some deeper; yea, some rendering the voice, differing in the letters or articulate sound, from that they receive. We have also means to convey sounds in trunks and pipes, in strange lines and distances.

WE have also perfume-houses, wherewith we join also practices of taste. We multiply smells, which may seem strange. We imitate smells, making all smells to breathe out of other mixtures than those that give them. We make divers imitations of taste likewise, so that they will deceive any man's taste. And in this house we contain also a confiture house; where we make all sweet-meats, dry and moist; and divers pleasant wines, milks, broths, and sallads, far in greater variety than you have.

WE have also engine-houses, where are prepared engines and instruments for all sorts of motions. There we imitate and practise to make swifter motions than any you have, either out of your muskets, or any engine that you have; and to make them, and multiply them more easily, and with small force, by wheels, and other means: and to make them stronger and more violent than yours are; exceeding your greatest cannons and basilisks. We represent also ordnance and instruments of war, and engines of all kinds: and likewise new mixtures and compositions of gun-powder, wild-fires burning in water, and unquenchable. Also fire-works of all variety both for pleasure and use. We imitate also flights of birds; we have some degrees of flying in the air; we have ships and boats for go-
ing

ing under water, and brooking of seas ; also swimming-girdles and supporters. We have divers curious clocks, and other like motions of return, and some perpetual motions : we imitate also motions of living creatures, by images of men, beasts, birds, fishes, and serpents ; we have also a great number of other various motions, strange for equality, fineness, and subtilty.

WE have also a mathematical house, where are represented all instruments, as well of geometry as astronomy, exquisitely made.

WE have also houses of deceits of the senses ; where we represent all manner of feats of juggling, false apparitions, impostures, and illusions ; and their fallacies. And surely you will easily believe, that we that have so many things truly natural, which induce admiration, could in a world of particulars deceive the senses, if we would disguise those things, and labour to make them seem more miraculous. But we do hate all impostures and lyes : inasmuch as we have severely forbidden it to all our fellows, under pain of ignominy and fines, that they do not shew any natural work or thing, adorned or swelling ; but only pure as it is, and without all affectation of strangeness.

THESE are (my son) the riches of *Solomon's* house.

FOR the several employments and offices of our fellows ; we have twelve that sail into foreign countries, under the names of other nations, (for our own we conceal ;) who bring us the books, and abstracts, and patterns of experiments of all other parts. These we call merchants of light.

WE have three that collect the experiments which are in all books ; these we call depredators.

WE have three that collect the experiments of all mechanical arts ; and also of liberal sciences ; and also of practices which are not brought into arts. These we call mystery men.

WE have three that try new experiments. Such as themselves think good. These we call pioneers or miners.

WE have three that draw the experiments of the former four into titles, and tables, to give the better light for the drawing of observations and axioms out of them. These we call compilers.

WE have three that bend themselves, looking into the experiments of their fellows, and cast about how to draw out of them things of use and practice for man's life and knowledge, as well for works, as for plain demonstration of causes, means of natural divinations, and the easy and clear discovery of the virtues and parts of bodies. These we call dowry-men or benefactors.

THEN after divers meetings and consults of our whole number, to consider of the former labours and collections, we have three that take care, out of them, to direct new experiments, of a higher light, more penetrating into nature than the former. These we call lamps.

WE have three others that do execute the experiments so directed, and report them. These we call inoculators.

LASTLY, we have three that raise the former discoveries by experiments, into greater observations, axioms, and aphorisms. These we call interpreters of nature.

WE have also, as you must think, novices and apprentices, that the succession of the former employed men do not fail ; besides a great number of servants and attendants, men and women. And this we do also : we

have consultations, which of the inventions and experiences which we have discovered, shall be published, and which not: and take all an oath of secrecy, for the concealing of those which we think fit to keep secret: though some of those we do reveal sometimes to the state, and some not.

FOR our ordinances and rites: we have two very long and fair galleries: in one of these we place patterns and samples of all manner of the more rare and excellent inventions: in the other we place the statues of all principal inventors. There we have the statue of your *Columbus*, that discovered the *West-Indies*: also the inventor of ships: your monk that was the inventor of ordnance, and of gun-powder: the inventor of musick: the inventor of letters: the inventor of printing: the inventor of observations of astronomy: the inventor of works in metal: the inventor of glass: the inventor of silk of the worm: the inventor of wine: the inventor of corn and bread: the inventor of sugars: and all these by more certain tradition than you have. Then have we divers inventors of our own of excellent works; which since you have not seen, it were too long to make descriptions of them; and besides, in the right understanding of those descriptions, you might easily err. For upon every invention of value, we erect a statue to the inventor, and give him a liberal and honourable reward. These statues are, some of brass; some of marble and touchstone; some of cedar, and other special woods gilt and adorned; some of iron; some of silver; some of gold.

WE have certain hymns and services which we say daily, of laud and thanks to god for his marvellous works: and forms of prayers, imploring his aid and blessing for the illumination of our labours; and the turning of them into good and holy uses.

LASTLY, we have circuits or visits of divers principal cities of the kingdom; where, as it cometh to pass, we do publish such new profitable inventions as we do think good. And we do also declare natural divinations of diseases, plagues, swarms of hurtful creatures, scarcity, tempests, earthquakes, great inundations, comets, temperature of the year, and divers other things; and we give counsel thereupon what the people shall do for the prevention and remedy of them.

AND when he had said this, he stood up: and I, as I had been taught, kneeled down; and he laid his right hand upon my head, and said; God bless thee, my son, and God bless this relation which I have made. I give thee leave to publish it for the good of other nations; for we here are in God's bosom, a land unknown. And so he left me; having assigned a value of about two thousand ducats, for a bounty to me and my fellows. For they give great largesses where they come upon all occasions.

The rest was not perfected.

Magnalia

*Magnalia naturae, praecipue quoad usus
humanos.*

THE prolongation of life : the restitution of youth in some degree : the retardation of age : the curing of diseases counted incurable : the mitigation of pain : more easy and less loathsome purgings : the increasing of strength and activity : the increasing of ability to suffer torture or pain : the altering of complexions : and fatness and leanness : the altering of statures : the altering of features : the increasing and exalting of the intellectual parts : versions of bodies into other bodies : making of new species : transplanting of one species into another : instruments of destruction, as of war and poison : exhilaration of the spirits, and putting them in good disposition : force of the imagination, either upon another body, or upon the body it self : acceleration of time in maturations : acceleration of time in clarifications : acceleration of putrefaction : acceleration of decoction : acceleration of germination : making rich composts for the earth : impressions of the air, and raising of tempests : great alteration ; as in induration, emollition, &c. turning crude and watry substances into oily and unctuous substances : drawing of new foods out of substances not now in use : making new threads for apparel ; and new stuffs, such as are paper, glass, &c. natural divinations : deceptions of the senses : greater pleasures of the senses : artificial minerals and cements.



A
COLLECTION
OF
APOPHTHEGMS
NEW and OLD.

His lordship's preface.

JULIUS *Caesar* did write a collection of apophthegms, as appears in an epistle of *Cicero* ; so did *Macrobius* a consular man. I need say no more for the worth of a writing of that nature. It is pity *Caesar's* book is lost : for I imagine they were collected with judgment and choice ; whereas that of *Plutarch* and *Stobaeus*, and much more the modern ones, draw much of the dregs. Certainly they are of excellent use. They are *mucrones verborum*, pointed speeches. *The words of the wise are as goads*, saith *Solomon*. *Cicero* prettily calleth them *salinas*, salt-pits, that you may extract salt out of, and sprinkle it where you will. They serve to be interlaced in continued speech. They serve to be recited upon occasion of themselves. They serve if you take out the kernel of them, and make them your own. I have for my recreation amongst more serious studies, collected some few of them (a) : therein fanning the old, not omitting any, because they are vulgar, (for many vulgar ones are excellent good ;) nor for the meanness of the person, but because they are dull and flat ; and adding many new, that otherwise would have died.

(a) This collection his lordship made out of his memory, without turning any book.

A
COLLECTION
OF
APOPTHEGMS
NEW and OLD.

1. **Q**UEEN *Elizabeth*, the morrow of her coronation, (it being the custom to release prisoners, at the inauguration of a prince,) went to the chapel; and in the great chamber, one of her courtiers, who was well known to her, either out of his own motion, or by the instigation of a wiser man, presented her with a petition; and before a great number of courtiers, besought her with a loud voice, that now this good time, there might be four or five principal prisoners more released: those were the four evangelists and the apostle *St. Paul*, who had been long shut up in an unknown tongue, as it were in prison; so as they could not converse with the common people. The Queen answered very gravely, that it was best first to enquire of them, whether they would be released or no.

2. QUEEN *Ann Bullen*, at the time when she was led to be beheaded in the *Tower*, called one of the king's privy chamber to her, and said unto him, commend me to the king, and tell him, that he hath been ever constant in his course of advancing me; from a private gentlewoman he made me a marchioness; and from a marchioness a queen; and now, that he hath left no higher degree of earthly honour, he intends to crown my innocence with the glory of martyrdom.

3. HIS majesty *James* the first, king of *Great Britain*, having made unto his parliament an excellent and large declaration, concluded thus; I have now given you a clear mirrour of my mind; use it therefore like a mirrour, and take heed how you let it fall, or how you foil it with your breath.

4. A great officer in *France* was in danger to have lost his place; but his wife, by her suit and means making, made his peace; whereupon a pleasant fellow said, that he had been crush'd, but that he saved himself upon his horns.

5. HIS majesty said to his parliament at another time, finding there were some causeless jealousies sown amongst them; that the king and his people, (whereof the parliament is the representative body,) were as husband and wife; and therefore, that of all other things, jealousy was between them most pernicious.

6. HIS

6. HIS majesty, when he thought his council might note in him some variety in businesſes, though indeed he remained conſtant, would ſay, that the ſun many times ſhineth watery ; but it is not the ſun which cauſeth it, but ſome cloud riſing betwixt us and the ſun : and when that is ſcattered, the ſun is as it was, and comes to his former brightneſs.

7. HIS majesty, in his answer to the book of the cardinal of *Évreeux*, (who had in a grave argument of divinity, ſprinkled many witty ornaments of poeſy and humanity,) ſaith ; that theſe flowers were like blue, and yellow, and red flowers in the corn, which make a pleaſant ſhew to thoſe that look on, but they hurt the corn.

8. SIR *Edward Coke* being vehement againſt the two provincial counſels of *Wales*, and the north, ſaid to the king ; there was nothing there but a kind of confuſion and hotch-potch of juſtice : one while they were a ſtar-chamber ; another while a king's-bench ; another, a common-pleas : another, a com-miſſion of oyer and terminer. His majesty answered ; why, ſir *Edward Coke*, they be like houſes in progreſs, where I have not, nor can have, ſuch diſtinct rooms of ſtate, as I have here at *Whitehall*, or at *Hampton-court*.

9. THE commiſſioners of the treaſury moved the King for the relief of his eſtate, to diſafforeſt ſome foreſts of his, explaining themſelves of ſuch foreſts as lay out of the way, not near any of the king's houſes, nor in the courſe of his progreſs ; whereof he ſhould never have uſe nor pleaſure. Why, (ſaith the king,) do you think that *Solomon* had uſe and pleaſure of all his three hundred concubines ?

10. HIS majesty, when the committees of both houſes of parliament preſented unto him the inſtrument of union of *England* and *Scotland*, was merry with them ; and amongſt other pleaſant ſpeeches, ſhewed unto them the laird of *Lawreſton* a *Scotchman*, who was the tall-eſt and greateſt man that was to be ſeen, and ſaid ; well, now we are all one, yet none of you will ſay, but here is one *Scotchman* greater than any *Engliſhman*, which was an ambiguous ſpeech ; but it was thought he meant it of himſelf.

11. HIS majesty would ſay to the lords of his council when they ſate upon any great matter, and came from council in to him, well, you have ſet, but what have you hatched ?

12. WHEN the arch-duke did raiſe his ſiege from the *Grave*, the then ſecretary came to queen *Elizabeth*. The queen (having firſt intelligence thereof,) ſaid to the ſecretary, wote you what ? The arch-duke is riſen from the grave. He answered ; what, without the trumpet of the arch-angel ? The queen replied, yes ; without the ſound of trumpet.

13. QUEEN *Elizabeth* was importuned much by my lord of *Effex*, to ſupply divers great offices that had been long void : the queen answered nothing to the matter ; but roſe up on the ſudden, and ſaid ; I am ſure my office will not be long void. And yet at that time there was much ſpeech of troubles, and diviſions about the crown, to be after her deceaſe : but they all vaniſhed ; and king *James* came in, in a profound peace.

14. THE council did make remonſtrance unto queen *Elizabeth*, of the continual conſpiracies againſt her life ; and namely, that a man was lately taken, who ſtood ready in a very dangerous and ſuſpicious manner to do the deed : and they ſhewed her the weapon, wherewith he thought to have acted it. And therefore they adviſed her, that ſhe ſhould go leſs abroad to take the air, weakly attended, as ſhe uſed. But the queen answered ; that ſhe had rather be dead, than put in cuſtody.

15. THE lady *Paget*, that was very private with queen *Elizabeth*, declared herself much against the match with monsieur. After monsieur's death, the queen took extreme grief, (at least as she made shew) and kept in within her bed-chamber, and one ante-chamber for three weeks space, in token of mourning: at last she came forth into the privy-chamber, and admitted her ladies to have access unto her; and amongst the rest, my lady *Paget* presented herself, and came to her with a smiling countenance. The queen bent her brows, and seemed to be highly displeased, and said to her; madam, you are not ignorant of my extreme grief, and do you come to me with a countenance of joy? My lady *Paget* answered; alas, if it please your majesty, it is impossible for me to be absent from you three weeks, but that when I see you, I must look cheerfully. No, no, (said the queen, not forgetting her former averfeness to the match) you have some other conceit in it, tell me plainly. My lady answered, I must obey you; it is this. I was thinking how happy your majesty was, you married not monsieur; for seeing you take such thought for his death, being but your friend; if he had been your husband, sure it would have cost you your life.

16. HENRY the fourth of *France* his queen was young with child; count *Soissons*, that had his expectation upon the crown, when it was twice or thrice thought that the queen was with child before, said to some of his friends, that it was but with a pillow. This had some ways come to the king's ear; who kept it till such time as the queen waxed great: then he called the count of *Soissons* to him, and said, laying his hand upon the queen's belly; come cousin, is this a pillow? The count of *Soissons* answered; yes, sir, it is a pillow for all *France* to sleep upon.

17. KING *Henry* the fourth of *France* was so punctual of his word, after it was once passed, that they called him the king of the faith.

18. THE said king *Henry* the fourth was moved by his parliament to a war against the protestants: he answered, yes, I mean it; I will make every one of you captains; you shall have companies assigned you. The parliament observing whereunto his speech tended; gave over, and deserted his motion.

19. QUEEN *Elizabeth* was wont to say, upon the commission of sales, that the commissioners used her like strawberry-wives, that layed two or three great strawberries at the mouth of their pot, and all the rest were little ones; so they made her two or three good prizes of the first particulars, but fell straightways.

20. QUEEN *Elizabeth* used to say of her instructions to great officers, that they were like to garments, strait at the first putting on, but did by and by wear loose enough.

21. A great officer at court, when my lord of *Effex* was first in trouble; and that he, and those that dealt for him, would talk much of my lord's friends, and of his enemies, answer'd to one of them; I will tell you, I know but one friend and one enemy my lord hath; and that one friend is the queen, and that one enemy is himself.

22. THE book of deposing king *Richard* the second, and the coming in of *Henry* the fourth, supposed to be written by doctor *Hayward*, who was committed to the *Tower* for it, had much incensed queen *Elizabeth*; and she asked Mr. *Bacon*, being then of her council learned, whether there were any treason contained in it? Who intending to do him a pleasure, and to take off the queen's bitterness with a merry conceit, answered; no, madam, for treason I cannot deliver opinion that there is any, but very much felony: the queen

queen apprehending it gladly, asked, how? and wherein? Mr. *Bacon* answered, because he had stolen many of his sentences and conceits out of *Cornelius Tacitus*.

23. QUEEN *Elizabeth* being to resolve upon a great officer, and being by some, that canvassed for others, put in some doubt of that person, whom she meant to advance, called for Mr. *Bacon*; and told him, she was like one with a lanthorn seeking a man, and seemed unsatisfied in the choice she had of a man for that place. Mr. *Bacon* answered her, that he had heard that in old time, there was usually painted on the church walls the day of doom, and God sitting in judgment, and saint *Michael* by him, with a pair of balances; and the soul, and the good deeds in the one balance; and the faults, and the evil deeds in the other: and the soul's balance went up far too light. Then was our lady painted with a great pair of beads, who cast them into the light balance, and brought down the scale: so he said; place and authority, which were in her majesty's hands to give, were like our lady's beads, which though men, through any imperfections, were too light before, yet when they were cast in, made weight competent.

24. QUEEN *Elizabeth* was dilatory enough in suits, of her own nature; and the lord treasurer *Burleigh* being a wise man, and willing therein to feed her humour, would say to her; madam, you do well to let suitors stay; for I shall tell you, *bis dat, qui cito dat*; if you grant them speedily, they will come again the sooner.

25. SIR *Nicolas Bacon*, who was keeper of the great seal of *England*, when queen *Elizabeth*, in her progress, came to his house at *Gorbambury*, and said to him; my lord, what a little house have you gotten? answered her; madam, my house is well, but it is you that have made me too great for my house.

26. THERE was a conference in parliament, between the lords house, and the house of commons, about a bill of accountants, which came down from the lords to the commons; which bill prayed, that the lands of accountants, whereof they were seized when they entered upon their office, might be liable to their arrears to the queen. But the commons desired, that the bill might not look back to accountants that were already, but extend only to accountants hereafter. But the lord treasurer said; why, I pray you, if you had lost your purse by the way, would you look forwards, or would you look back? The queen hath lost her purse.

27. THE lord keeper, Sir *Nicolas Bacon*, was asked his opinion by my lord of *Leicester*, concerning two persons whom the queen seemed to think well of: by my troth, my lord, (said he) the one is a grave counsellor; the other is a proper young man; and so he will be as long as he lives.

28. MY lord of *Leicester*, favourite to queen *Elizabeth*, was making a large chace about *Cornbury* park; meaning to enclose it with posts and rails; and one day was casting up his charge what it would come to. Mr. *Goldingham*, a free spoken man, stood by, and said to my lord; methinks your lordship goeth not the cheapest way to work. Why, *Goldingham*, said my lord? Marry, my lord, said *Goldingham*, count you but upon the posts, for the country will find you railing.

29. THE lord-keeper, Sir *Nicholas Bacon*, was asked his opinion by queen *Elizabeth*, of one of these monopoly licences? And he answered, madam, will you have me speak the truth? *Licentia omnes deteriores sumus*: we are all the worse for licences.

30. MY

30. MY lord of *Effex*, at the succour of *Roan*, made twenty four knights, which at that time was a great number. Divers of those gentlemen were of weak and small means; which when queen *Elizabeth* heard, she said; my lord might have done well to have built his alms-house, before he made his knights.

31. THE deputies of the reformed religion, after the massacre which was at *Paris* upon Saint *Bartholomew's* day, treated with the king and queen-mother, and some other of the council, for a peace. Both sides were agreed upon the articles. The question was, upon the security for the performance. After some particulars propounded and rejected, the queen-mother said, why, is not the word of a king sufficient security? One of the deputies answered; no, by Saint *Bartholomew*, madam.

32. THERE was a *French* gentleman, speaking with an *English*, of the law *Salique*; that women were excluded from inheriting the crown of *France*. The *English* said; yes, but that was meant of the women themselves, not of such males as claimed by women. The *French* gentleman said, where do you find that gloss? The *English* answered, I'll tell you, Sir, look on the backside of the record of the law *Salique*, and there you shall find it indorsed: implying, there was no such thing as the law *Salique*, but that it is a mere fiction.

33. A friar of *France*, being in an earnest dispute about the law *Salique*, would needs prove it by scripture; citing that verse of the gospel; *lilia agri non laborant, neque nent*; the lilies of the field do neither labour nor spin: applying it thus; that the flower-de-luces of *France* cannot descend, neither to the distaff, nor to the spade; that is, not to a woman, nor to a peasant.

34. WHEN peace was renewed with the *French* in *England*, divers of the great counsellors were presented from the *French* with jewels: the lord *Henry Howard*, being then earl of *Northampton*, and a counsellor, was omitted. Whereupon the king said to him, my lord, how happens it that you have not a jewel as well as the rest? My lord answered, according to the fable in *Æsop*; *non sum gallus, itaque non reperi gemmam*.

35. THE same earl of *Northampton*, then lord privy seal, was ask'd by king *James* openly at the table, where commonly he entertained the king with discourse; the king ask'd him upon the sudden; my lord, have you not a desire to see *Rome*? My lord privy seal answered; yes indeed, Sir. The king said, and why? My lord answered; because if it please your majesty, it was the seat of the greatest monarchy, and the seminary of the bravest men of the world, whilst it was heathen: and then, secondly, because afterwards it was the see of so many holy bishops in the primitive church, most of them martyrs. The king would not give it over, but said; and for nothing else? My lord answered; yes, if it please your majesty, for two things more: the one to see him, who they say hath so great a power to forgive other men their sins, to confess his own sins upon his knees before a chaplain or priest: and the other to hear antichrist say his creed.

36. SIR *Nicolas Bacon* being appointed a judge for the northern circuit, and having brought his trials that came before him to such a pass, as the passing of sentence on malefactors, he was by one of the malefactors mightily importuned for to save his life; which when nothing that he had said did avail, he at length desired his mercy on the account of kindred. Prithee, said my lord judge, how came that in? Why, if it please you, my lord, your name is *Bacon*, and mine is *Hog*, and in all ages *Hog* and *Bacon* have been

so near kindred, that they are not to be separated. Ay, but replied judge *Bacon*, you and I cannot be kindred, except you be hanged; for *Hog* is not *Bacon* until it be well hanged.

37. Two scholars and a countrey man travelling upon the road, one night lodged all in one inn, and supped together, where the scholars thought to have put a trick upon the countrey man, which was thus; the scholars appointed for supper two pigeons, and a fat capon, which being ready, was brought up, and they having set down, the one scholar took up one pigeon, the other scholar took the other pigeon, thinking thereby that the countrey man should have fate still, until that they were ready for the carving of the capon; which he perceiving, took the capon and laid it on his trencher, and thus said, daintily contrived, every man a bird.

38. JACK *Roberts* was desired by his taylor, when the reckoning grew somewhat high, to have a bill of his hand. *Roberts* said, I am content, but you must let no man know it. When the taylor brought in the bill, he tore it as in choler, and said to him, you use me not well, you promised me that no man should know it, and here you have put in, Be it known unto all men by these presents.

39. SIR *Walter Rawleigh* was wont to say of the ladies of queen *Elizabeth's* privy chamber, and bed chamber, that they were like witches, they could do hurt, but they could do no good.

40. THERE was a minister deprived for inconformity, who said to some of his friends, that if they deprived him, it should cost an hundred men's lives. The party understood it, as if being a turbulent fellow, he would have moved sedition, and complained of him; whereupon being convented and opposed upon that speech, he said his meaning was, that if he lost his benefice, he would practise physick, and then he thought he should kill an hundred men in time.

41. SECRETARY *Bourn's* son kept a gentleman's wife in *Shropshire*, who lived from her husband with him; when he was weary of her, he caused her husband to be dealt with to take her home, and offered him five hundred pounds for reparation; the gentleman went to Sir *H. Sidney*, to take his advice upon this offer, telling him, that his wife promised now a new life; and to tell him truth, five hundred pounds would come well with him; and besides that sometimes he wanted a woman in his bed. By my troth, said Sir *Henry Sidney*, take her home, and take the money; then whereas other cuckolds wear their horns plain, you may wear yours gilt.

42. WHEN *Rabelais*, the great jester of *France*, lay on his death-bed, and they gave him the extreame unction, a familiar friend of his came to him afterwards, and asked him how he did? *Rabelais* answered, even going my journey, they have greased my boots already.

43. MR. *Bromley* folicitor, giving in evidence for a deed, which was impeached to be fraudulent, was urged by the counsel on the other side with this presumption, that in two former suits when title was made, that deed was passed over in silence, and some other conveyance stood upon: Mr. justice *Catiline* taking in with that side, asked the folicitor, I pray thee, Mr. folicitor, let me ask you a familiar question; I have two geldings in my stable; I have divers times business of importance, and still I send forth one of my geldings, and not the other; would you not think I set him aside for a jade? No, my lord, said *Bromley*, I would think you spared him for your own saddle.

44. THALES, as he looked upon the stars, fell into the water; whereupon
it

it was after said, that if he had looked into the water he might have seen the stars, but looking up to the stars he could not see the water.

45. A man and his wife in bed together, she towards the morning pretended her self to be ill at ease, desiring to lie on her husband's side, so the good man to please her came over her, making some short stay in his passage over, where she had not long lain, but desired to lie in her old place again; quoth he, how can it be effected? She answered, come over me again. I had rather, said he, go a mile and a half about.

46. A thief being arraigned at the bar for stealing a mare, in his pleading urged many things in his own behalf, and at last nothing availing, he told the bench, the mare rather stole him, than he the mare; which in brief he thus related; that passing over several grounds about his lawful occasions, he was pursued close by a fierce mastiff dog, and so was forced to save himself by leaping over a hedge, which being of an agile body he effected; and in leaping, a mare standing on the other side of the hedge, leaped upon her back, who running furiously away with him, he could not by any means stop her, until he came to the next town, in which town the owner of the mare lived, and there was he taken, and here arraigned.

47. MASTER *Mason* of *Trinity* college, sent his pupil to another of the fellows, to borrow a book of him, who told him, I am loth to lend my books out of my chamber, but if it please thy tutor to come and read upon it in my chamber, he shall as long as he will. It was winter, and some days after the same fellow sent to Mr. *Mason* to borrow his bellows; but Mr. *Mason* said to his pupil, I am loth to lend my bellows out of my chamber, but if thy tutor would come and blow the fire in my chamber, he shall as long as he will.

48. A notorious rogue being brought to the bar, and knowing his case to be desperate, instead of pleading, he took to himself the liberty of jesting, and thus said, I charge you in the king's name, to seize and take away that man (meaning the judge) in the red gown, for I go in danger of my life because of him.

49. IN *Flanders*, by accident, a *Flemish* tiler fell from the top of a house upon a *Spaniard*, and killed him, though he escaped himself: the next of the blood prosecuted his death with great violence, and when he was offered pecuniary recompence, nothing would serve him but *lex talionis*; whereupon the judge said to him, that if he did urge that sentence, it must be, that he should go up to the top of the house, and then fall down upon the tiler.

50. A rough-hewn seaman, being brought before a wise just-ice for some misdemeanour, was by him sent away to prison, and being somewhat refractory after he heard his doom, inso-much as he would not stir a foot from the place where he stood, saying, it was better to stand where he was, than go to a worse place: The justice thereupon to shew the strength of his learning, took him by the shoulder, and said, thou shalt go *nogus vogus*, instead of *nolens volens*.

51. FRANCIS the first of *France*, used for his pleasure sometimes to go disguised: so walking one day in the company of the cardinal of *Bourbon* near *Paris*, he met with a peasant with a new pair of shoes upon his arm: so he called unto him, and said; by our lady, these be good shoes, what did they cost thee? The peasant said, guess; the king said, I think some five sols. Saith the peasant, you have lyed, but a *carlois*. What, villain, said the

cardinal of *Bourbon*, thou art dead, it is the king. The peasant replied; the devil take him of you and me, that knew so much.

52. THERE was a young man in *Rome*, that was very like *Augustus Caesar*; *Augustus* took knowledge of him, and sent for the man, and asked him, was your mother never at *Rome*? He answered; no, sir, but my father was.

53. A physician advised his patient that had sore eyes, that he should abstain from wine; but the patient said, I think rather, sir, from wine and water; for I have often marked it in blue eyes, and I have seen water come forth, but never wine.

54. A debauch'd seaman being brought before a justice of the peace upon the account of swearing, was by the justice commanded to depose his fine in that behalf provided, which was two shillings; he thereupon plucking out of his pocket a half crown, asked the justice what was the rate he was to pay for cursing; the justice told him, six-pence: quoth he then, a pox take you all for a company of knaves and fools, and there's half a crown for you, I will never stand changing of money.

55. AUGUSTUS *Caesar* was invited to supper by one of his old friends, that had conversed with him in his less fortunes, and had but ordinary entertainment; whereupon at his going away, he said, I did not know that you and I were so familiar.

56. AGATHOCLES, after he had taken *Syracusae*, the men whereof, during the siege, had in a bravery spoken of him all the villainy that might be, sold the *Syracusans* for slaves, and said; now if you use such words of me, I will tell your masters of you.

57. DIONYSIUS the elder, when he saw his son in many things very inordinate, said to him, did you ever know me do such things? His son answered, no, but you had not a tyrant to your father; the father replied, no, nor you, if you take these courses, will have a tyrant to your son.

58. CALLISTHENES the philosopher, that followed *Alexander's* court, and hated the king, being asked by one, how one should become the famousst man in the world, answered, by taking away him that is.

59. AGESILAUS, when one told him there was one did excellently counterfeit a nightingale, and would have had him heard him, said; why, I have heard the nightingale herself.

60. A great nobleman, upon the complaint of a servant of his, laid a citizen by the heels, thinking to bend him to his servant's desire; but the fellow being stubborn, the servant came to his lord, and told him, your lordship I know hath gone as far as well you may, but it works not; for yonder fellow is more perverse than before. Said my lord, let's forget him a while, and then he will remember himself.

61. ONE came to a cardinal in *Rome*, and told him, that he had brought his lordship a dainty white palfrey, but he fell lame by the way. Saith the cardinal to him, I'll tell thee what thou shalt do; go to such a cardinal, and such a cardinal, naming him half a dozen cardinals, and tell them as much; and so whereas by thy horse, if he had been sound, thou couldest have pleased but one, with thy lame horse thou mayest please half a dozen.

62. A witty rogue coming into a lace-shop, said, he had occasion for some lace; choice whereof being shewed him, he at last pitch'd upon one pattern, and asked them, how much they would have for so much as would reach from ear to ear, for so much he had occasion for. They told him for so much: so some few words passing between them, he at last agreed, and told down his

money

money for it, and began to measure on his own head, thus saying; one ear is here, and the other is nailed to the pillory in *Bristol*, and I fear you have not so much of this lace by you at present as will perfect my bargain: therefore this piece of lace shall suffice at present in part of payment, and provide the rest with all expedition.

63. IPHICRATES the *Athenian*, in a treaty that he had with the *Lacedaemonians* for peace, in which question was about security for observing the same, said; the *Athenians* would not accept of any security, except the *Lacedaemonians* did yield up unto them those things, whereby it might be manifest, that they could not hurt them if they would.

64. EURIPIDES would say of persons that were beautiful, and yet in some years, in fairest bodies not only the spring is pleasant, but also the autumn.

65. THERE was a captain sent to an exploit by his general with forces that were not likely to achieve the enterprize; the captain said to him, sir, appoint but half so many: why, saith the general? The captain answered; because it is better fewer die than more.

66. THERE was a harbinger who had lodged a gentleman in a very ill room, who expostulated with him somewhat rudely; but the harbinger carelessly said; you will take pleasure in it when you are out of it.

67. THERE is a *Spanish* adage, love without end hath no end; meaning, that if it were begun not upon particular ends it would last.

68. A woman being suspected by her husband for dishonesty, and being by him at last press'd very hard about it, made him quick answer, with many protestations, that she knew no more of what he said, than the man in the moon. Now the captain of the ship called the moon, was the very man she so much loved,

69. DEMOSTHENES when he fled from the battle, and that it was reproached to him, said, that he that flies might fight again.

70. GONSALVO would say, the honour of a soldier ought to be of a strong web; meaning, that it should not be so fine and curious, that every little disgrace should catch and stick in it.

71. AN apprentice of *London* being brought before the chamberlain by his master for the sin of incontinency, even with his own mistress, the chamberlain thereupon gave him many Christian exhortations; and at last he mentioned and press'd the chastity of *Joseph*, when his mistress tempted him with the like crime of incontinency. Ay, sir, said the apprentice; but if *Joseph's* mistress had been as handsome as mine is, he could not have forborn.

72. BIAS gave in precept, love as if you should hereafter hate; and hate as if you should hereafter love.

73. CINEAS was an excellent orator and statesman, and principal friend and counsellor to *Pyrrhus*; and falling in inward talk with him, and discerning the king's endless ambition; *Pyrrhus* opened himself unto him, that he intended first a war upon *Italy*, and hoped to achieve it: *Cineas* asked him, sir, what will you do then? Then, saith he, we will attempt *Sicily*. *Cineas* said, well, sir, what then? Said *Pyrrhus*, if the gods favour us, we may conquer *Africa* and *Carthage*. What then, sir, saith *Cineas*? Nay then, saith *Pyrrhus*, we may take our rest, and sacrifice and feast every day, and make merry with our friends. Alas, sir, said *Cineas*, may we not do so now without all this ado?

74. LAMIA

74. LAMIA the courtezan had all power with *Demetrius* king of *Macedon*, and by her instigations he did many unjust and cruel acts; whereupon *Lysimachus* said, that it was the first time that ever he knew a whore play in a tragedy.

75. ONE of the *Romans* said to his friend, what think you of one who was taken in the act and manner of adultery? The other answered, marry, I think he was slow at dispatch.

76. EPAMINONDAS, when his great friend and colleague in war was suitor to him to pardon an offender, denied him; afterwards, when a concubine of his made the same suit, he granted it to her: which when *Pelopidas* seemed to take unkindly, he said; such suits are to be granted to whores, but not to personages of worth.

77. THALES being asked when a man should marry, said; young men not yet, old men not at all.

78. A company of scholars going together to catch conies, carried one scholar with them, which had not much more wit than he was born with; and to him they gave in charge, that if he saw any, he should be silent, for fear of scaring of them. But he no sooner espied a company of rabbits before the rest, but he cryed aloud, *ecce multi cuniculi*, which in *English* signifies, behold many conies; which he had no sooner said, but the conies ran to their burrows: and he being checked by them for it, answered, who the devil would have thought that the rabbits understood *Latin*?

79. A *Welchman* being at a sessions-house, and seeing the prisoners hold up hands at the bar, related to some of his acquaintance there, that the judges were good fortune-tellers; for if they did but look upon their hand, they could certainly tell whether they should live or die.

80. SOLON compared the people unto the sea, and orators and counsellors to the winds; for that the sea would be calm and quiet, if the winds did not trouble it.

81. SOCRATES was pronounced by the oracle of *Delphos*, to be the wisest man of *Greece*, which he would put from himself ironically, saying, there would be nothing in him to verify the oracle except this, that he was not wise and knew it; and others were not wise, and knew it not.

82. SOCRATES, when there was shewed him the book of *Heraclitus* the obscure, and was asked his opinion of it, answered; those things which I understood were excellent, I imagine so were those I understood not; but they require a diver of *Delos*.

83. BION asked an envious man that was very sad, what harm had befallen unto him, or what good had befallen unto another man.

84. STILPO the philosopher, when the people flocked about him, and that one said to him, the people come wondering about you, as if it were to see some strange beast; no, saith he, it is to see a man which *Diogenes* sought with his lanthorn at noon-day.

85. A man being very jealous of his wife, infomuch that which way soever she went, he would be prying at her heels; and she being so grieved thereat, in plain terms told him, that if he did not for the future leave off his proceedings in that nature, she would graft such a pair of horns upon his head, that should hinder him from coming out of any door in the house.

86. A citizen of *London* passing the streets very hastily, came at last where some stop was made by carts; and some gentlemen talking together, who knew him, where being in some passion that he could not suddenly pass;
one

one of them in this wife spoke unto him; that others had passed by, and there was room enough, only they could not tell whether their horns were so wide as his.

87. A tinker passing *Cheapside* with his usual tone, have you any work for a tinker? An apprentice standing at a door opposite to a pillory there set up, called the tinker, with an intent to put a jest upon him, and told him, that he should do very well if he would stop those two holes in the pillory; to which the tinker answered, that if he would but put in his head and ears a while in that pillory, he would bestow both brads and nails upon him to hold him in, and give him his labour into the bargain.

88. A young maid having married an old man, was observed on the day of marriage to be somewhat moody, as if she had eaten a dish of chums, which one of her bridemen observing, bid her be cheary; and told her moreover, that an old horse would hold out as long, and as well as a young one, in travel. To which she answered, stroking down her belly with her hand; but not in this road, sir.

89. THERE was in *Oxford* a cowardly fellow that was a very good archer; he was abused grossly by another, and moaned himself to sir *Walter Rawleigh*, then a scholar, and ask'd his advice, what he should do to repair the wrong had been offered him; *Rawleigh* answered, why challenge him at a match of shooting.

90. WHITEHEAD, a grave divine, was much esteemed by queen *Elizabeth*, but not preferred, because he was against the government of bishops, he was of a blunt stoical nature; he came one day to the queen, and the queen happened to say to him, I like thee the better, *Whitehead*, because thou livest unmarried. He answered, in troth, madam, I like you the worse for the same cause.

91. DOCTOR *Laud* said, that some hypocrites, and seeming mortified men, that held down their heads like bulrushes, were like the little images that they place in the very bowing of the vaults of churches, that look as if they held up the church, but are but puppets.

92. A nobleman of this nation, famously known for his mad tricks, on a time having taken physick, which he perceiving that it began well to work, called up his man to go for a chirurgeon presently, and to bring his instruments with him. The chirurgeon comes in all speed; to whom my lord related, that he found himself much addicted to women, and therefore it was his will, that the cause of it might be taken away, and therefore commanded him forthwith to prepare his instruments ready for to geld him: so the chirurgeon forthwith prepares accordingly, and my lord told him that he would not see it done, and therefore that he should do his work the back way: so both parties being contented, my lord makes ready, and holds up his a—; and when he perceives the chirurgeon very near him, he lets fly full in his face; which made the chirurgeon step back, but coming presently on again; hold, hold, faith my lord, I will better consider of it, for I see the retentive faculty is very weak at the approach of such keen instruments.

93. THERE was a curst page that his master whipt naked, and when he had been whipt, would not put on his cloaths; and when his master bad him, take them you, for they are the hangman's fees.

94. THERE was a lady of the west countrey, that gave great entertainment at her house to most of the gallant gentlemen thereabouts, and amongst others, sir *Walter Rawleigh* was one. This lady, though otherwise a stately dame, was a notable good housewife; and in the morning be-
times,

times, she called to one of her maids that look'd to the swine, and asked, are the pigs served? Sir *Walter Rawleigh's* chamber was fast by the lady's, so as he heard her; a little before dinner, the lady came down in great state into the great chamber, which was full of gentlemen; and as soon as sir *Walter Rawleigh* set eye upon her; Madam, faith he, are the pigs served? The lady answered; You know best whether you have had your breakfast.

95. THERE were fishermen drawing the river at *Chelsey*: Mr. *Bacon* came thither by chance in the afternoon, and offered to buy their draught: they were willing. He asked them what they would take? They asked, thirty shillings. Mr. *Bacon* offered them ten. They refused it. Why then, faith Mr. *Bacon*, I will be only a looker on. They drew and caught nothing. Saith Mr. *Bacon*, Are not you mad fellows now, that might have had an angel in your purse, to have made merry withal, and to have warmed you thoroughly, and now you must go home with nothing. Ay but, faith the fishermen, we had hope then to make a better gain of it. Saith Mr. *Bacon*, well my master, then I'll tell you, hope is a good breakfast, but it is a bad supper.

96. A lady walking with Mr. *Bacon* in *Gray's-Inn* walks, asked him, whose that piece of ground lying next under the walls was? He answered, theirs. Then she asked him, if those fields beyond the walks were theirs too? He answered, yes, madam, those are ours, as you are ours, to look on, and no more.

97. His lordship, when he was newly made lord keeper, was in *Gray's-Inn* walks with sir *Walter Rawleigh*; one came and told him, that the earl of *Exeter* was above. He continued upon occasion still walking a good while. At last when he came up, my lord of *Exeter* met him, and said; My lord, I have made a great venture, to come up so high stairs, being a gouty man. His lordship answered; Pardon me, my lord, I have made the greatest venture of all; for I have ventured upon your patience.

98. WHEN sir *Francis Bacon* was made the king's attorney, sir *Edward Coke* was put up from being lord chief justice of the common pleas, to be lord chief justice of the king's bench; which is a place of greater honour, but of less profit; and withal was made privy counsellor. After a few days, the lord *Coke* meeting with the king's attorney, said unto him; Mr. attorney, this is all your doing: It is you that have made this stir. Mr. attorney answered: Ah, my lord! your lordship all this while hath grown in breadth; you must needs now grow in height, or else you would be a monster.

99. ONE day queen *Elizabeth* told Mr. *Bacon*, that my lord of *Effex*, after great protestation of penitence and affection, fell in the end, but upon the suit of renewing his farm of sweet wines. He answered; I read that in nature, there be two kinds of motions or appetites in sympathy; the one as of iron, to the adamant for perfection; the other as of the vine, to the stake for sustentation; that her majesty was the one, and his suit the other.

100. MR. *Bacon*, after he had been vehement in parliament against depopulation and inclosures; and that soon after the queen told him, that she had referred the hearing of Mr. *Mills's* cause, to certain counsellors and judges; and asked him how he liked of it? Answered; Oh madam! my mind is known; I am against all inclosures, and especially against inclosed justice.

101. WHEN *sir Nicolas Bacon* the lord keeper lived, every room in *Gorbambury* was served with a pipe of water from the ponds, distant about a mile off. In the life-time of *Mr. Antony Bacon*, the water ceased. After whose death, his lordship coming to the inheritance, could not recover the water without infinite charge: when he was lord chancellor, he built *Verulam* house, close by the pond-yard, for a place of privacy, when he was called upon, to dispatch any urgent business. And being asked, why he built that house there; his lordship answered; that since he could not carry the water to his house, he would carry his house to the water.

102. WHEN my lord president of the council came first to be lord treasurer, he complained to my lord chancellor of the troublesome of the place, for that the exchequer was so empty. The lord chancellor answered; my lord, be of good cheer, for now you shall see the bottom of your business at the first.

103. WHEN his lordship was newly advanced to the great seal, *Gondomar* came to visit him. My lord said; that he was to thank God and the king for that honour; but yet, so he might be rid of the burden, he could very willingly forbear the honour: and that he formerly had a desire, and the same continued with him still, to lead a private life. *Gondomar* answered; that he would tell him a tale, of an old rat that would needs leave the world: and acquainted the young rats, that he would retire into his hole; and spend his days solitarily; and would enjoy no more comfort; and commanded them upon his high displeasure, not to offer to come in unto him. They forbore two or three days; at last, one that was more hardy than the rest, incited some of his fellows to go in with him, and he would venture to see how his father did: for he might be dead. They went in, and found the old rat sitting in the midst of a rich *Parmesan* cheese. So he applied the fable after his witty manner.

104. *RABELAIS* tells a tale of one that was very fortunate in compounding differences. His son undertook the said course, but could never compound any. Whereupon he came to his father, and asked him; what art he had to reconcile differences? He answered; he had no other but this; to watch when the two parties were much wearied, and their hearts were too great to seek reconciliation at one another's hands; then to be a means betwixt them, and upon no other terms. After which the son went home; and prospered in the same undertakings.

105. *ALONSO Cartilio* was informed by his steward of the greatness of his expence, being such as he could not hold out therewith. The bishop asked him, wherein it chiefly arose? His steward told him, in the multitude of his servants. The bishop bad him to make him a note of those that were necessary, and those that might be spared. Which he did. And the bishop taking occasion to read it before most of his servants, said to his steward; well, let these remain, because I have need of them; and these other also because they have need of me.

106. *MR. Marbury* the preacher would say, that God was fain to do with wicked men, as men do with frisking jades in a pasture, that cannot take them up, till they get them at a gate. So wicked men will not be taken up till the hour of death.

107. *POPE Sixtus* the fifth, who was a very poor man's son, and his father's house ill thatched, so that the sun came in, in many places, would sport with his ignobility, and say; that he was, *nato di casa illustre*, son of an illustrious house.

108. WHEN the king of *Spain* conquered *Portugal*, he gave special charge to his lieutenant, that the soldiers should not spoil, lest he should alienate the hearts of the people: the army also suffered much scarcity of victual. Whereupon the *Spanish* soldiers would afterwards say; that they had won the king and kingdom on earth, as the kingdom of heaven used to be won; by fasting and abstaining from that which is another man's.

109. THEY feigned a tale of *Sixtus quintus*, whom they called five ace; that after his death he went to hell, and the porter of hell said to him; you have some reason to offer your self to this place, because you were a wicked man; but yet, because you were a pope, I have order not to receive you: you have a place of your own, purgatory, you may go thither. So he went away, and sought about a great while for purgatory, and could find no such place. Upon that he took heart, and went to heaven and knocked; and St. *Peter* asked, who was there? He said, *Sixtus* pope. Whereunto St. *Peter* said, why do you knock? you have the keys. *Sixtus* answered, it is true, but it is so long since they were given, as I doubt the wards of the lock be altered.

110. CHARLES king of *Sweden*, a great enemy of the Jesuits, when he took any of their colleges, he would hang the old Jesuits, and put the young to his mines, saying; that since they wrought so hard above ground, he would try how they could work under ground.

111. IN chancery, at one time when the counsel of the parties set forth the boundaries of the land in question, by the plot; and the counsel of one part said, we lie on this side, my lord; and the counsel of the other part said, and we lie on this side: the lord chancellor *Hatton* stood up and said; if you lye on both sides, whom will you have me to believe?

112. SIR *Edward Coke* was wont to say, when a great man came to dinner to him, and gave him no knowledge of his coming; sir, since you sent me no word of your coming, you must dine with me; but if I had known of it in due time, I would have dined with you.

113. POPE *Julius* the third, when he was made pope, gave his hat unto a youth, a favourite of his, with great scandal. Whereupon at one time a cardinal that might be free with him, said modestly to him; what did your holiness see in that young man, to make him cardinal? *Julius* answered, what did you see in me to make me pope?

114. THE same *Julius*, upon like occasion of speech, why he should bear so great affection to the same young man, would say; that he found by astrology, that it was the youth's destiny to be a great prelate; which was impossible except himself were pope. And therefore that he did raise him, as the driver on of his own fortune.

115. SIR *Thomas More* had only daughters at the first, and his wife did ever pray for a boy. At last she had a boy, which being come to man's estate, proved but simple. Sir *Thomas* said to his wife, thou prayedst so long for a boy, that he will be a boy as long as he lives.

116. SIR *Fulk Grevil*, afterwards lord *Brook*, in parliament, when the house of commons in a great business, stood much upon precedents, said unto them; why do you stand so much upon precedents? The times hereafter will be good or bad. If good, precedents will do no harm; if bad, power will make a way where it finds none.

117. SIR *Thomas More*, on the day that he was beheaded, had a barber sent to him, because his hair was long; which was thought, would make him
more.

more commiserated with the people. The barber came to him, and asked him, whether he would be pleased to be trim'd? In good faith, honest fellow, (saith fir *Thomas*) the king and I have a suit for my head; and till the title be cleared, I will do no cost upon it.

118. STEPHEN *Gardiner* bishop of *Winchester*, a great champion of the popish religion, was wont to say of the protestants who ground upon the scripture; that they were like posts, that bring truth in their letters, and lyes in their mouths.

119. THE former Sir *Thomas More* had sent him by a suitor in chancery, two silver flagons. When they were presented by the gentleman's servant, he said to one of his men, have him to the cellar, and let him have of my best wine: and turning to the servant, said; tell thy master, if he like it, let him not spare it.

120. MICHAEL *Angelo* the famous painter, painting in the pope's chapel the portraiture of hell and damned souls, made one of the damned souls so like a cardinal that was his enemy, as every body at first sight knew it. Whereupon the cardinal complained to pope *Clement*, humbly praying it might be defaced. The pope said to him; why, you know very well, I have power to deliver a soul out of purgatory, but not out of hell.

121. THERE was an agent here for the *Dutch*, called *Carroon*; and when he used to move the queen for farther succours, and more men, my lord *Henry Howard* would say; that he agreed well with the name of *Charon*, ferryman of hell; for he came still for more men, to increase *regnum umbrarum*.

122. THEY were wont to call referring to the masters in chancery, committing. My lord keeper *Egerton*, when he was master of the rolls, was wont to ask what the cause had done that it should be committed.

123. THEY feigned a tale, principally against doctors reports in the chancery; that fir *Nicolas Bacon*, when he came to heaven gate, was opposed, touching an unjust decree which had been made in the chancery. Sir *Nicolas* desired to see the order, whereupon the decree was drawn up; and finding it to begin *veneris*, &c. why (saith he) I was then sitting in the star-chamber; this concerns the master of the rolls, let him answer it. Soon after came the master of the rolls, *Cordal*; who died indeed a small time after fir *Nicolas Bacon*; and he was likewise stayed upon it: and looking into the order, he found, that upon the reading of a certificate of Dr. *Gibson*, it was ordered, that his report should be decreed. And so he put it upon Dr. *Gibson*, and there it stuck.

124. SIR *Nicolas Bacon*, when a certain nimble-witted counsellor at the bar, who was forward to speak, did interrupt him often, said unto him; there's a great difference betwixt you and me: a pain to me to speak, and a pain to you to hold your peace.

125. THE same fir *Nicolas Bacon*, upon bills exhibited to discover where lands lay, upon proof, that they had a certain quantity of land, but could not set it forth, was wont to say; and if you cannot find your land in the countrey, how will you have me find it in the chancery?

126. MR. *Howland*, in conference with a young student, arguing a case, happened to say, I would ask you but this question. The student presently interrupted him, to give him an answer. Whereunto Mr. *Howland* gravely said; nay, though I ask you a question, yet I did not mean you should answer me, I mean to answer my self.

127. POPE *Adrian* the sixth was talking with the duke of *Sesà*, that *Pasquil* gave great scandal, and that he would have him thrown into the river : but *Sesà* answered ; do it not, holy father, for then he will turn frog ; and whereas now he chants but by day, he will then chant both by day and by night.

128. THERE was a gentleman in *Italy* that wrote to a great friend of his, whom the pope had newly advanced to be cardinal ; that he was very glad of his advancement, for the cardinal's own sake ; but he was sorry that himself had lost a good friend.

129. THERE was a king of *Hungary* took a bishop in battel, and kept him prisoner : whereupon the Pope writ a monitory to him, for that he had broken the privilege of holy church, and taken his son. The king sent an embassage to him, and sent withal the armour wherein the bishop was taken, and this only in writing ; *Vide num hæc sit vestis filii tui* : Know now whether this be thy son's coat.

130. SIR *Amyas Pawlet*, when he saw too much haste made in any matter, was wont to say ; stay a while, that we may make an end the sooner.

131. A master of the requests to queen *Elizabeth* had divers times moved for audience, and been put off. At last he came to the queen in a progress, and had on a new pair of boots. The queen, who loved not the smell of new leather, said to him ; fye sloven, thy new boots stink. Madam, said he, it is not my new boots that stink ; but it is the stale bills that I have kept so long.

132. AT an act of the commencement, the answerer gave for his question, that an aristocracy was better than a monarchy. The replyer, who was a dissolute man, did tax him that being a private bred man, he would give a question of state. The answerer said, that the replyer did much wrong the privilege of scholars, who would be much streightned if they should give questions of nothing, but such things wherein they are practised : and added, we have heard your self dispute of virtue, which no man will say you put much in practice.

133. QUEEN *Isabella* of *Spain* used to say, whosoever hath a good presence, and a good fashion, carries continual letters of recommendation.

134. ALONSO of *Aragon* was wont to say in commendation of age, that age appeared to be best in four things : old wood best to burn ; old wine to drink ; old friends to trust ; and old authors to read.

135. IT was said of *Augustus*, and afterward the like was said of *Septimius Severus* : both which did infinite mischief in their beginnings, and infinite good toward their ends ; that they should either have never been born or never died.

136. CONSTANTINE the Great, in a kind of envy, himself being a great builder, as *Trajan* likewise was, would call *Trajan parietaria*, wall-flower, because his name was upon so many walls.

137. ALONSO of *Aragon* was wont to say of himself, that he was a great necromancer, for that he used to ask counsel of the dead ; meaning of books.

138. ETHELWOLD, bishop of *Winchester*, in a famine, sold all the rich vessels and ornaments of the church, to relieve the poor with bread ; and said, there was no reason that the dead temples of God should be sumptuously furnished, and the living temples suffer penury.

139. MANY men, especially such as affect gravity, have a manner after other mens speech to shake their heads. A great officer of this kind would

say, it was as men shake a bottle, to see if there were any wit in their heads or no?

140. AFTER a great fight, there came to the camp of *Consalvo* the great captain, a gentleman, proudly horfed and armed: *Diego de Mendoza*, asked the great captain, who's this? Who answered; it is saint *Ermin*, who never appears but after the storm.

141. THERE was one that died greatly in debt; when it was reported in some company, where divers of his creditors casually were, that he was dead: one began to say; well, if he be gone, then he hath carried five hundred ducates of mine with him into the other world: and another said, and two hundred of mine: and a third spake of great fums of his. Whereupon one that was amongst them said; I perceive now, that though a man cannot carry any of his own with him into the next world, yet he may carry away that which is another man's.

142. FRANCIS *Carvajal*, that was the great captain of the rebels of *Perru*, had often given the chace to *Diego Centeno*, a principal commander of the emperor's party: he was afterwards taken by the emperor's lieutenant *Gasca*, and committed to the custody of *Diego Centeno*, who used him with all possible courtesy; infomuch as *Carvajal* asked him; I pray, sir, who are you that use me with this courtesy? *Centeno* said; do not you know *Diego Centeno*? *Carvajal* answered; truly, sir, I have been so used to see your back, as I knew not your face.

143. THERE was a merchant died that was very far in debt, his goods and household-stuff were set forth to sale. A stranger would needs buy a pillow there, saying; this pillow sure is good to sleep upon, since he could sleep that owed so many debts.

144. A lover met his lady in a close chair, she thinking to have gone unknown, he came and spake to her: she asked him, how did you know me? He said, because my wounds bleed afresh; alluding to the common tradition, that the wounds of a body slain, will bleed afresh upon the approach of the murtherer.

145. A gentleman brought musick to his lady's window. She hated him, and had warned him often away: and when he would not desist, she threw stones at him: whereupon a gentleman said unto him that was in his company; what greater honour can you have to your musick, than that stones come about you, as they did to *Orpheus*?

146. CORANUS the *Spaniard*, at a table at dinner, fell into an extolling his own father, saying; if he could have wish'd of God, he could not have chosen amongst men a better father. Sir *Henry Savil* said, what, not *Abraham*? Now *Coranus* was doubted to descend of a race of *Jews*.

147. BRESQUET, jester to *Francis* the first of *France*, did keep a calendar of fools, wherewith he did use to make the king sport; telling him ever the reason, why he put any one into his calendar. When *Charles* the fifth emperor, upon confidence of the noble nature of *Francis* passed through *France*, for the appeasing of the rebellion of *Gaunt*, *Bresquet* put him into his calendar. The king asked him the cause. He answered; because you having suffered at the hands of *Charles* the greatest bitterness that ever prince did from another, nevertheless he would trust his person into your hands. Why, *Bresquet*, said the king, what wilt thou say, if thou see'st him pass back in as great safety, as if he marched through the midst of *Spain*? saith *Bresquet*; why then I will put him out, and put in you.

148. ARCH-

148. ARCHBISHOP *Grindall* was wont to say ; that the physicians here in *England* were not good at the cure of particular diseases ; but had only the power of the church to bind and loose.

149. COSMUS duke of *Florence* was wont to say of perfidious friends, that we read, that we ought to forgive our enemies ; but we do not read that we ought our friends.

150. A papist being opposed by a protestant, that they had no scripture for images, answered, yes ; for you read, that the people laid their sick in the streets, that the shadow of saint *Peter* might come upon them ; and that a shadow was an image, and the obscurest of all images.

151. SIR *Edward Dyer*, a grave and wise gentleman, did much believe in *Kelley* the alchymist ; that he did indeed the work, and did make gold, in-
somuch that he went into *Germany*, where *Kelley* then was, to inform himself fully thereof. After his return, he dined with my lord of *Canterbury* ; where, at that time, was at the table Dr. *Brown* the physician. They fell in talk of *Kelley*. Sir *Edward Dyer* turning to the archbishop, said ; I do assure your grace, that that I shall tell you is truth ; I am an eye-witness thereof ; and if I had not seen it, I should not have believed it. I saw Mr. *Kelley*, put of the base metal into the crucible ; and after it was set a little upon the fire, and a very small quantity of the medicine put in, and stirred with a stick of wood, it came forth in great proportion, perfect gold ; to the touch, to the hammer, and to the test. My lord archbishop said ; you had need take heed what you say, Sir *Edward Dyer*, for here is an infidel at the board. Sir *Edward Dyer* said again pleasantly ; I should have looked for an infidel sooner in any place than at your grace's table. What say you Dr. *Brown*, said the archbishop ? Dr. *Brown* answered, after his blunt and huddling manner ; the gentleman hath spoken enough for me. Why, faith the archbishop, what hath he said ? Marry, faith Dr. *Brown*, he said, he would not have believed it, except he had seen it ; and no more will I.

152. DOCTOR *Johnson* said, that in sickness there were three things that were material ; the physician, the disease, and the patient : and if any two of these joined, then they get the victory ; for, *Ne Hercules quidem contra duos*. If the physician and the patient join, then down goes the disease ; for then the patient recovers ; if the physician and the disease join ; that is a strong disease ; and the physician mistaking the cure, then down goes the patient ; if the patient and the disease join, then down goes the physician, for he is discredited.

153. MR. *Bettenham* said ; that virtuous men were like some herbs, and spices that give not out their sweet smell, till they be broken or crushed.

154. THERE was a painter became a physician ; whereupon one said to him ; you have done well ; for before the faults of your work were seen, but now they are unseen.

155. THERE was a gentleman that came to the tilt all in orange-tawny, and ran very ill. The next day he came again all in green, and ran worse. There was one of the lookers on asked another ; what is the reason that this gentleman changeth his colours ? The other answered, sure, because it may be reported, that the gentleman in the green ran worse than the gentleman in the orange-tawny.

156. ZELIM was the first of the *Ottomans* that did shave his beard, whereas his predecessors wore it long. One of his bashaws asked him, why he altered the custom of his predecessors ? He answered, because you bashaws may not lead me by the beard, as you did them.

157. ÆNEAS

157. AENEAS *Sylvius*, that was pope *Pius secundus*, was wont to say ; that the former popes did wisely to set the lawyers a work to debate, whether the donation of *Constantine the Great* to *Sylvester*, of *St. Peter's* patrimony, were good or valid in law or no ? the better to skip over the matter in fact, whether there was ever any such thing at all or no.

158. THE lord bishop *Andrews*, was asked at the first coming over of the archbishop of *Spalato*, whether he were a protestant or no ? He answered ; truly I know not ; but I think he is a detestant ; that was, of most of the opinions of *Rome*.

159. IT was said amongst some of the grave prelates of the council of *Trent*, in which the school divines bare the sway ; that the school-men were like the astronomers, who to save the *phaenomena*, framed to their conceit eccentricks, and epicycles, and a wonderful engine of orbs ; though no such things were : so they to save the practice of the church, had devised a great number of strange positions.

160. AENEAS *Sylvius* would say ; that the Christian faith and law, though it had not been confirmed by miracles, yet was worthy to be received for the honesty thereof.

161. MR. *Bacon* would say, that it was in his business, as it is frequently in the ways : that the next way is commonly the foulest ; and that if a man will go the fairest way, he must go somewhat about.

162. MR. *Bettenham*, reader of *Grays-Inn*, used to say, that riches were like muck ; when it lay upon a heap, it gave but a stench and ill odour ; but when it was spread upon the ground, then it was cause of much fruit.

163. CICERO married his daughter to *Dolabella*, that held *Caesar's* party : *Pompey* had married *Julia*, that was *Caesar's* daughter. After, when *Caesar* and *Pompey* took arms one against the other ; and *Pompey* had passed the seas, and *Caesar* possessed *Italy* ; *Cicero* stayed somewhat long in *Italy* ; but at last failed over to join with *Pompey* : who when he came to him, *Pompey* said, you are welcome, but where left you your son-in-law ? *Cicero* answered, with your father-in-law.

164. VESPASIAN, and *Titus* his eldest son, were both absent from *Rome*, when the empire was cast upon *Vespasian* ; *Domitian* his younger son was at *Rome*, who took upon him the affairs ; and being of a turbulent spirit, made many changes ; and displaced divers officers and governours of provinces, sending them successors. So when *Vespasian* returned to *Rome*, and *Domitian* came into his presence, *Vespasian* said to him ; son, I looked when you would have sent me a successor.

165. NERO loved a beautiful youth, whom he used viciously, and called him wife : There was a senator at *Rome* that said secretly to his friend, it was pity *Nero's* father had not such a wife.

166. GALBA succeeded *Nero*, and his age being despised, there was much licence and confusion in *Rome* during his empire ; whereupon a senator said in full senate ; it were better to live where nothing is lawful, than where all things are lawful.

167. AUGUSTUS *Caesar* did write to *Livia*, who was over-sensible of some ill words that had been spoken of them both : let it not trouble thee, my *Livia*, if any man speak ill of us ; for we have enough that no man can do ill unto us.

168. CHILON said, that kings friends, and favourites, were like casting counters ; that sometimes stood for one, sometimes for ten, sometimes for an hundred.

169. THE-

169. THEODOSIUS, when he was pressed by a suitor, and denied him; the suitor said, why, sir, you promised it. He answered; I said it, but I did not promise it, if it be unjust.

170. THE *Romans*, when they spake to the people, were wont to style them *ye Romans*: when commanders in war spake to their army, they styled them *my soldiers*. There was a mutiny in *Caesar's* army, and somewhat the soldiers would have had, yet they would not declare themselves in it, but only demanded a mission or discharge; though with no intention it should be granted: but knowing, that *Caesar* had at that time great need of their service, thought by that means to wrench him to their other desires: whereupon with one cry they asked mission. *Caesar* after silence made, said; I for my part *ye Romans*; this title did actually speak them to be dismissed: which voice they had no sooner heard, but they mutinied again; and would not suffer him to go on with his speech, until he had called them by the name of his *soldiers*, and so with that one word he appeased the sedition.

171. CAESAR would say of *Sylla*, for that he did resign his dictatorship; *Sylla* was ignorant of letters, he could not dictate.

172. SENECA said of *Caesar*, that he did quickly shew the sword, but never leave it off.

173. DIOGENES begging, as divers philosophers then used, did beg more of a prodigal man, than of the rest which were present. Whereupon one said to him; see your baseness, that when you find a liberal mind, you will take most of him. No, said *Diogenes*, but I mean to beg of the rest again.

174. THEMISTOCLES, when an embassador from a mean estate did speak great matters; said to him, friend, thy words would require a city.

175. THEY would say of the duke of *Guise*, *Henry*; that he was the greatest usurer in *France*, for that he had turned all his estate into obligations. Meaning, that he had sold and oppugnerated all his patrimony, to give large donatives to other men.

176. CAESAR *Borgia*, after long division between him and the lords of *Romagna*, fell to accord with them. In this accord there was an article, that he should not call them at any time all together in person. The meaning was, that knowing his dangerous nature, if he meant them treason, he might have opportunity to oppress them all together at once. Nevertheless, he used such fine art, and fair carriage, that he won their confidence to meet all together in counsel at *Cinigaglia*; where he murdered them all. This act, when it was related unto pope *Alexander*, his father, by a cardinal, as a thing happy, but very perfidious; the pope said, it was they that broke their covenant first, in coming all together.

177. TITUS *Quinctius* was in the counsel of the *Achaians*, what time they deliberated, whether in the war then to follow, between the *Romans* and King *Antiochus*, they should confederate themselves with the *Romans*, or with King *Antiochus*? In that counsel the *AEtolians*, who incited the *Achaians* against the *Romans*, to disable their forces, gave great words, as if the late victory the *Romans* had obtained against *Philip* king of *Macedon*, had been chiefly by the strength and forces of the *AEtolians* themselves: and on the other side the embassador of *Antiochus* did extol the forces of his master; founding what an innumerable company he brought in his army; and gave the nations strange names; as *Elymaeans*, *Caducians*, and others.

others. After both their harangues, *Titus Quinctius*, when he rose up, said ; it was an easy matter to perceive what it was that had joined *Antiochus* and the *Ætoliens* together ; that it appear'd to be by the reciprocal lying of each, touching the other forces.

178. *PLATO* was amorous of a young gentleman, whose name was *Stella*, that studied astronomy ; and went oft in the clear nights to look upon the stars. Whereupon *Plato* wished himself heaven, that he might look upon *Stella* with a thousand eyes.

179. *THE Lacedæmonians* were besieged by the *Athenians* in the port of *Pyle*, which was won, and some slain, and some taken. There was one said to one of them that was taken, by way of scorn ; were they not brave men that lost their lives at the port of *Pyle* ? He answered ; certainly a *Persian* arrow is much to be set by, if it can chuse out a brave man.

180. *CLODIUS* was acquitted by a corrupt jury, that had palpably taken shares of money, before they gave up their verdict ; they prayed of the senate a guard, that they might do their consciences, for that *Clodius* was a very seditious young nobleman. Whereupon all the world gave him for condemned. But acquitted he was. *Catulus*, the next day seeing some of them that had acquitted him together, said to them ; what made you ask of us a guard ? Were you afraid your money should have been taken from you ?

181. AT the same judgment, *Cicero* gave in evidence upon oath : and when the jury, which consisted of fifty seven, had passed against his evidence, one day in the senate *Cicero* and *Clodius* being in altercation, *Clodius* upbraided him, and said ; the jury gave you no credit. *Cicero* answered, five and twenty gave me credit ; but there were two and thirty that gave you no credit, for they had their money beforehand.

182. *SIR Henry Savil* was asked by my lord of *Essex*, his opinion touching poets ? He answered my lord ; that he thought them the best writers, next to them that writ prose.

183. *DIOGENES* having seen that the kingdom of *Macedon*, which before was contemptible and low, began to come aloft when he died, was asked, how he would be buried ? He answered ; with my face downward : for within a while the world will be turned upside down, and then I shall lie right.

184. *CATO* the elder was wont to say ; that the *Romans* were like sheep ; a man were better to drive a flock of them, than one of them.

185. WHEN *Lycurgus* was to reform and alter the state of *Sparta* ; in consultation one advised, that it should be reduced to an absolute popular equality : but *Lycurgus* said to him ; sir, begin it in your own house.

186. *BION*, that was an atheist, was shew'd in a port city, in a temple of *Neptune*, many tables of pictures, of such as had in tempests made their vows to *Neptune*, and were saved from shipwreck : and was ask'd, how say you now ? Do you not acknowledge the power of the Gods ? But saith he ; Ay, but where are they painted that have been drowned after their vows ?

187. *CICERO* was at dinner, where there was an ancient lady that spake of her own years, and said ; she was but forty years old. One that sat by *Cicero*, rounded him in the ear, and said ; she talks of forty years old ; but she is far more out of question. *Cicero* answered him again ; I must believe her, for I have heard her say so any time these ten years.

188. THERE was a soldier that vaunted before *Julius Caesar*, of the hurts he had received in his face. *Julius Caesar* knowing him to be but

a coward, told him ; you were best take heed next time you run away, how you look back.

189. THERE was a suitor to *Vespasian*, who to lay his suit fairer, said it was for his brother ; whereas indeed it was for a piece of money. Some about *Vespasian* told the emperor, to cross him ; that the party his servant spoke for, was not his brother ; but that he did it upon a bargain. *Vespasian* sent for the party interested, and asked him ; whether his mean employed by him was his brother or no ? He durst not tell untruth to the emperor, and confessed he was not his brother. Whereupon the emperor said, this do, fetch me the money, and you shall have your suit dispatched. Which he did. The courtier which was the mean, solicited *Vespasian* soon after about his suit : why, (saith *Vespasian*) I gave it last day to a brother of mine.

190. VESPASIAN asked of *Apollonius* ; what was the cause of *Nero's* ruin ? Who answered, *Nero* could tune the harp well, but in government he did always wind up the strings too high, or let them down too low.

191. DIONYSIUS the tyrant, after he was deposed and brought to *Corinth*, kept a school. Many used to visit him ; and amongst others, one when he came in, opened his mantle and shook his clothes ; thinking to give *Dionysius* a gentle scorn ; because it was the manner to do so for them that came in to see him while he was tyrant. But *Dionysius* said to him ; I prithee do so, rather when thou goest out, that we may see thou stealest nothing away.

192. DIOGENES, one terrible frosty morning, came into the market-place, and stood naked, shaking, to shew his tolerance. Many of the people came about him pitying him : *Plato* passing by, and knowing he did it to be seen, said to the people as he went by ; if you pity him indeed, let him alone to himself.

193. ARISTIPPUS was earnest suitor to *Dionysius* for some grant, who would give no ear to his suit. *Aristippus* fell at his feet, and then *Dionysius* granted it. One that stood by said afterwards to *Aristippus* ; you a philosopher, and be so base as to throw your self at the tyrant's feet to get a suit. *Aristippus* answered ; the fault is not mine, but the fault is in *Dionysius*, that carries his ears in his feet.

194. SOLON when he wept for his son's death, and one said to him, weeping will not help ; answered, alas therefore I weep, because weeping will not help.

195. THE same *Solon* being asked ; whether he had given the *Athenians* the best laws ? answered, the best of those that they would have received.

196. ONE said to *Aristippus* ; 'tis a strange thing, why men should rather give to the poor, than to philosophers. He answered, because they think themselves may sooner come to be poor, than to be philosophers.

197. TRAJAN would say of the vain jealousy of princes, that seek to make away those that aspire to their succession ; that there was never king that did put to death his successor.

198. WHEN it was represented to *Alexander*, to the advantage of *Antipater*, who was a stern and imperious man ; that he only of all his lieutenants wore no purple, but kept the *Macedonian* habit of black ; *Alexander* said, yea, but *Antipater* is all purple within.

199. ALEXANDER used to say of his two friends, *Craterus* and *Hephaestion* ; that *Hephaestion* loved *Alexander*, and *Craterus* loved the king.

200. IT

200. IT fell out so, that as *Livia* went abroad in *Rome*, there met her naked young men that were sporting in the streets, which *Augustus* went about severely to punish in them : but *Livia* spake for them, and said ; it was no more to chaste women, than so many statues.

201. PHILIP of *Macedon* was wished to banish one for speaking ill of him. But *Philip* answered ; better he speak where we are both known, than where we are both unknown.

202. LUCULLUS entertained *Pompey* in one of his magnificent houses : *Pompey* said, this is a marvellous fair and stately house for the summer ; but methinks it should be very cold for winter. *Lucullus* answered ; do you not think me as wise as divers fowls are, to change my habitation in the winter season.

203. PLATO entertained some of his friends at a dinner, and had in the chamber a bed, or couch, neatly and costly furnished. *Diogenes* came in, and got up upon the bed, and trampled it, saying ; I trample upon the pride of *Plato*. *Plato* mildly answered, but with greater pride, *Diogenes*.

204. POMPEY being commissioner for sending grain to *Rome* in time of dearth, when he came to the sea, found it very tempestuous and dangerous ; inso much as those about him advised him by no means to embark ; but *Pompey* said, it is of necessity that I go, not that I live.

205. DEMOSTHENES was upbraided by *Æschines*, that his speeches did smell of the lamp. But *Demosthenes* said ; indeed there is a great deal of difference between that which you and I do by lamp-light.

206. DEMADES the orator, in his age was talkative, and would eat hard : *Antipater* would say of him, that he was like a sacrifice, that nothing was left of it but the tongue and the paunch.

207. THEMISTOCLES after he was banished, and had wrought himself into great favour afterwards, so that he was honoured and sumptuously served, seeing his present glory, said unto one of his friends ; if I had not been undone, I had been undone.

208. PHILO Judæus saith, that the sense is like the sun ; for the sun seals up the globe of heaven, and opens the globe of earth : so the sense doth obscure heavenly things, and reveals earthly things.

209. ALEXANDER, after the battel of *Granicum*, had very great offers made him by *Darius* : consulting with his captains concerning them, *Parmenio* said ; sure I would accept of these offers, if I were as *Alexander*. *Alexander* answered ; so would I, if I were as *Parmenio*.

210. ALEXANDER was wont to say, he knew himself to be mortal, chiefly by two things ; sleep, and lust.

211. AUGUSTUS *Caesar* would say, that he wonder'd that *Alexander* feared he should want work, having no more worlds to conquer : as if it were not as hard a matter to keep as to conquer.

212. ANTIGONUS, when it was told him that the enemy had such volleys of arrows that they did hide the sun, said ; that falls out well, for it is hot weather, and so we shall fight in the shade.

213. CATO the elder being aged, buried his wife, and married a young woman. His son came to him, and said ; sir, what have I offended, that you have brought a step-mother into your house ? The old man answered ; nay, quite contrary, son ; thou pleasest me so well, as I would be glad to have more such.

214. CRASSUS the orator had a fish which the *Romans* called *Muraena*, that he made very tame and fond of him ; the fish died, and *Crassus* wept for it.

One day falling in contention with *Domitius* in the senate, *Domitius* said, foolish *Crassus*, you wept for your *Muraena*. *Crassus* replied, that's more than you did for both your wives.

215. PHILIP, *Alexander's* father, gave sentence against a prisoner what time he was drowsy, and seemed to give small attention. The prisoner after sentence was pronounced, said, I appeal. The king somewhat stirred, said; to whom do you appeal? The prisoner answered; from *Philip* when he gave no ear, to *Philip* when he shall give ear.

216. THERE was a philosopher that disputed with *Adrian* the emperor, and did it but weakly. One of his friends that stood by, afterwards said unto him: methinks you were not like your self last day, in argument with the emperor; I could have answered better my self. Why, said the philosopher, would you have me contend with him that commands thirty legions.

217. WHEN *Alexander* passed into *Asia*, he gave large donatives to his captains, and other principal men of virtue; insomuch as *Parmenio* asked him; sir, what do you keep for your self? He answered, hope.

218. VESPASIAN set a tribute upon urine, *Titus* his son emboldened himself to speak to his father of it: and represented it as a thing indign and fordid. *Vespasian* said nothing for the time; but a while after, when it was forgotten, sent for a piece of silver out of the tribute-money; and called to his son, bidding him to smell to it; and asked him, whether he found any offence? Who said, no: why so, saith *Vespasian* again; yet this comes out of urine.

219. NERVA the emperor succeeded *Domitian*, who had been tyrannical; and in his time many noble houses were overthrown by false accusations; the instruments whereof were chiefly, *Marcellus* and *Regulus*. The emperor *Nerva* one night supp'd privately with some six or seven: amongst whom there was one that was a dangerous man; and began to take the like courses as *Marcellus* and *Regulus* had done. The emperor fell into discourse of the injustice and tyranny of the former time; and by name, of the two accusers; and said, what should we do with them, if we had them now? One of them that was at supper, and was a free-spoken senator, said; marry, they should sup with us.

220. THERE was one that found a great mass of money digged under ground in his grandfather's house; and being somewhat doubtful of the case, signified it to the emperor, that he had found such treasure. The emperor made a rescript thus; use it. He writ back again; that the sum was greater than his estate or condition could use. The emperor writ a new rescript, thus; abuse it.

221. JULIUS *Caesar*, as he passed by, was by acclamation of some that stood in the way, termed king, to try how the people would take it. The people shewed great murmur and distaste at it. *Caesar* finding where the wind stood, slighted it, and said; I am not king, but *Caesar*; as if they had mistaken his name. For *rex* was a surname amongst the *Romans*, as king is with us.

222. WHEN *Croesus*, for his glory, shewed *Solon* his great treasures of gold, *Solon* said to him; if another king come that hath better iron than you, he will be master of all this gold.

223. ARISTIPPUS being reprehended of luxury, by one that was not rich, for that he gave six crowns for a small fish, answered; why, what would you have given? The other said, some twelve pence. *Aristippus* said again; and six crowns is no more with me.

224. PLATO reprehended severely a young man for entering into a dissolute house. The young man said to him ; why do you reprehend so sharply for so small a matter ? *Plato* replied, but custom is no small matter.

225. ARCHIDAMUS, king of *Lacedaemon*, having received from *Philip* king of *Macedon* (after *Philip* had won the victory of *Chaeronea*, upon the *Athenians*) proud letters, writ back to him ; that if he measured his own shadow, he would find it no longer than it was before his victory.

226. PYRRHUS, when his friends congratulated to him his victory over the *Romans*, under the conduct of *Fabritius*, but with great slaughter of his own side, said to them again ; yes, but if we have such another victory, we are undone.

227. PLATO was wont to say of his master *Socrates*, that he was like the apothecaries gally-pots ; that had on the out-sides apes, and owls, and satyrs ; but within, precious drugs.

228. ALEXANDER sent to *Phocion* a great present of money. *Phocion* said to the messenger ; why doth the king send to me, and to none else ? The messenger answered ; because he takes you to be the only good man in *Athens*. *Phocion* replied ; if he think so, pray let him suffer me to be so still.

229. AT a banquet, where those that were called the seven wise men of *Greece*, were invited by the ambassador of a barbarous king ; the ambassador related, that there was a neighbour mightier than his master, pick'd quarrels with him, by making impossible demands ; otherwise threatening war ; and now at that present had demanded of him, to drink up the sea. Whereunto one of the wise men said, I would have him undertake it. Why, saith the ambassador, how shall he come off ? Thus, (saith the wise man,) let that king first stop the rivers which run into the sea, which are no part of the bargain, and then your master will perform it.

230. AT the same banquet, the ambassador desired the seven, and some other wise men that were at the banquet, to deliver every one of them some sentence or parable, that he might report to his king the wisdom of *Graecia*, which they did ; only one was silent ; which the ambassador perceiving, said to him ; sir, let it not displease you ; why do not you say somewhat, that I may report ? He answered, report to your lord, that there are of the *Graecians* that can hold their peace.

231. The *Lacedaemonians* had in custom to speak very short, which being an empire, they might do at pleasure : but after their defeat at *Leuctra*, in an assembly of the *Graecians*, they made a long invective against *Epaminondas* ; who stood up, and said no more than this ; I am glad we have brought you to speak long.

232. FABIVS *Maximus* being resolved to draw the war in length, still waited upon *Hannibal's* progress to curb him ; and for that purpose he encamped upon the high ground ; but *Terentius* his colleague fought with *Hannibal*, and was in great peril of overthrow ; but then *Fabius* came down from the high grounds, and got the day. Whereupon *Hannibal* said ; that he did ever think that the same cloud that hanged upon the hills, would at one time or other give a tempest.

233. HANNO the *Carthaginian* was sent commissioner by the state, after the second *Carthaginian* war, to supplicate for peace, and in the end obtained it : yet one of the sharper senators said, you have often broken with us the peaces, whereunto you have been sworn ; I pray, by what god will you swear ?

swear? *Hanno* answered; by the same gods that have punished the former perjury so severely.

234. *CAESAR*, when he first possessed *Rome*, *Pompey* being fled, offered to enter the sacred treasury to take the moneys that were there stored: and *Metellus*, tribune of the people, did forbid him: and when *Metellus* was violent in it, and would not desist, *Caesar* turned to him, and said; presume no farther, or I will lay you dead. And when *Metellus* was with those words somewhat astonished, *Caesar* added; young man, it had been easier for me to do this, than to speak it.

235. *CAIUS Marius* was general of the *Romans* against the *Cimbers*, who came with such a sea of people upon *Italy*. In the fight there was a band of the *Cadurcians* of a thousand, that did notable service; whereupon, after the fight, *Marius* did denison them all for citizens of *Rome*, though there was no law to warrant it. One of his friends did present it unto him; that he had transgressed the law, because that privilege was not to be granted, but by the people. Whereunto *Marius* answered; that for the noise of arms he could not hear the laws.

236. *POMPEY* did consummate the war against *Sertorius*, when *Metellus* had brought the enemy somewhat low. He did also consummate the war against the fugitives, whom *Crassus* had before defeated in a great battel. So when *Lucullus* had had great and glorious victories against *Mithridates* and *Tigranes*; yet *Pompey*, by means his friends made, was sent to put an end to that war. Whereupon *Lucullus* taking indignation, as a disgrace offered to himself, said; that *Pompey* was a carrion crow, when others had stricken down the bodies, then *Pompey* came and preyed upon them.

237. *ANTISTHENES* being asked of one what learning was most necessary for man's life? Answered; to unlearn that which is nought.

238. *ALEXANDER* visited *Diogenes* in his tub; and when he asked him, what he would desire of him? *Diogenes* answered; that you would stand a little aside, that the sun may come to me.

239. *THE* same *Diogenes*, when mice came about him, as he was eating, said; I see, that even *Diogenes* nourisheth parasites.

240. *HIERO* visited by *Pythagoras*, ask'd him; of what condition he was? *Pythagoras* answered; sir, I know you have been at the *Olympian* games: yes, saith *Hiero*. Thither (saith *Pythagoras*) come some to win the prizes. Some come to sell their merchandize, because it is a kind of mart of all *Greece*. Some come to meet their friends, and to make merry; because of the great confluence of all sorts. Others come only to look on. I am one of them that come to look on; meaning it, of philosophy, and the contemplative life.

241. *HERACLITUS* the obscure said; the dry light is the best soul: meaning, when the faculties intellectual are in vigour, not drenched, or as it were blooded by the affections.

242. *ONE* of the philosophers was asked; what a wise man differ'd from a fool? He answered, send them both naked to those that know them not, and you shall perceive.

243. *THERE* was a law made by the *Romans*, against the bribery and extortion of the governours of provinces. *Cicero* saith in a speech of his to the people; that he thought the provinces would petition to the state of *Rome* to have that law repealed. For (saith he) before the governours did bribe and extort, as much as was sufficient for themselves: but now they
bribe

bribe and extort as much, as may be enough, not only for themselves, but for the judges, and jurors, and magistrates.

244. ARISTIPPUS sailing in a tempest, shewed signs of fear. One of the seamen said to him, in an insulting manner; we that are plebeians are not troubled; you that are a philosopher, are afraid. *Aristippus* answered; that there is not the like wager upon it, for you to perish and for me.

245. THERE was an orator that defended a cause of *Aristippus*, and prevailed. Afterwards he asked *Aristippus*; now, in your distress, what, did *Socrates* do you good? *Aristippus* answered; thus, in making that which you said of me to be true.

246. THERE was an *Epicurean* vaunted, that divers of other sects of philosophers did after turn *Epicureans*; but there was never any *Epicureans* that turned to any other sect. Whereupon a philosopher that was of another sect, said; the reason was plain, for that cocks may be made capons, but capons could never be made cocks.

247. CHILON would say, that gold was tryed with the touchstone, and men with gold.

248. SIMONIDES being asked of *Hiero* what he thought of God? asked a seven-night's time to consider of it: and at the seven-night's end, he asked a fort-night's time; at the fort-night's end, a month. At which *Hiero* marvelling, *Simonides* answered; that the longer he thought upon the matter, the more difficult he found it.

249. A *Spaniard* was censuring to a *French* gentleman the want of devotion amongst the *French*; in that, whereas in *Spain*, when the sacrament goes to the sick, any that meets with it, turns back and waits upon it to the house whither it goes; but in *France*, they only do reverence, and pass by. But the *French* gentlemen answered him, there is reason for it; for here with us, *Christ* is secure amongst his friends; but in *Spain* there be so many *Jews* and *Morano's*, that it is not amiss for him to have a convoy.

250. Mr. *Popham*, (afterwards lord chief justice *Popham*) when he was speaker; and the house of commons had sat long, and done in effect nothing; coming one day to queen *Elizabeth*, she said to him; now, Mr. Speaker, what hath passed in the commons house? He answered, if it please your majesty, seven weeks.

251. THEMISTOCLES in his lower fortune was in love with a young gentleman who scorned him; but when he grew to his greatness, which was soon after, he sought him: *Themistocles* said; we are both grown wise, but too late.

252. BION was sailing, and there fell out a great tempest; and the mariners that were wicked and dissolute fellows, called upon the gods; but *Bion* said to them, peace, let them not know you are here.

253. THE *Turks* made an expedition into *Persia*; and because of the strait jaws of the mountains of *Armenia*, the bashaw consulted which way they should get in. One that heard the debate said, here's much ado how you shall get in; but I hear no body take care how you should get out.

254. PHILIP king of *Macedon* maintained arguments with a musician in points of his art, somewhat peremptorily; but the musician said to him, God forbid, sir, your fortune were so hard, that you should know these things better than my self.

255. ANTALCIDAS, when an *Athenian* said to him, ye *Spartans* are unlearned; said again, true, for we have learned no evil nor vice of you.

256. PACE;

256. PACE, the bitter fool, was not suffered to come at queen *Elizabeth*, because of his bitter humour. Yet at one time, some persuaded the queen that he should come to her; undertaking for him, that he should keep within compass: so he was brought to her, and the queen said; come on *Pace*; now we shall hear of our faults. Saith *Pace*; I do not use to talk of that that all the town talks of.

257. BISHOP *Latimer* said in a sermon at court, that he heard great speech that the king was poor; and many ways were propounded to make him rich: for his part he had thought of one way, which was, that they should help the king to some good office, for all his officers were rich.

258. AFTER the defeat of *Cyrus* the younger, *Falinus* was sent by the king to the *Grecians*, (who had for their part rather victory than otherwise) to command them to yield their arms; which when it was denied, *Falinus* said to *Clearchus*; well then, the king lets you know, that if you remove from the place where you are now encamped, it is war: if you stay, it is truce. What shall I say you will do? *Clearchus* answered, it pleaseth us, as it pleaseth the king. How is that? saith *Falinus*. Saith *Clearchus*, if we remove, war; if we stay, truce: and so would not disclose his purpose.

259. ALCIBIADES came to *Pericles*, and stayed a while ere he was admitted. When he came in, *Pericles* civilly excused it, and said; I was studying how to give mine account. But *Alcibiades* said to him, if you will be ruled by me, study rather how to give no account.

260. MENDOZA that was vice-roy of *Peru*, was wont to say, that the government of *Peru* was the best place that the king of *Spain* gave, save that it was somewhat too near *Madrid*.

261. WHEN *Vespasian* passed from *Jewry*, to take upon him the empire, he went by *Alexandria*, where remained two famous philosophers, *Apollonius* and *Euphrates*. The emperor heard the discourse, touching matter of state, in the presence of many. And when he was weary of them, he brake off, and in a secret derision, finding their discourses but speculative, and not to be put in practice, said; Oh that I might govern wise men, and wise men govern me.

262. CARDINAL *Ximenes*, upon a muster, which was taken against the *Moors*, was spoken to by a servant of his to stand a little out of the smoke of the harquebuss; but he said again, that that was his incense.

263. NERO was wont to say of his master *Seneca*, that his style was like mortar without lime.

264. AUGUSTUS *Caesar*, out of great indignation against his two daughters, and *Posthumus Agrippa*, his grand-child; whereof the two first were infamous, and the last otherwise unworthy; would say, that they were not his seed, but some imposthumes that had broken from him.

265. A seaman coming before the judges of the admiralty for admittance into an office of a ship bound for the *Indies*, was by one of the judges much slighted, as an insufficient person for that office he sought to obtain; the judge telling him, that he believed he could not say the points of his compass. The seaman answered; that he could say them, under favour, better than he could say his *Pater noster*. The judge replied; that he would wager twenty shillings with him upon that. The seaman taking him up, it came to trial: and the seaman began, and said all the points of his compass very exactly; the judge likewise said his *Pater noster*: and when he had finished it, he required the wager according to agreement; because the seaman was

to say his compass better than he his *Pater noster*, which he had not performed. Nay, I pray sir, hold, (quoth the seaman) the wager is not finished; for I have but half done: and so he immediately said his compass backward very exactly; which the judge failing of in his *Pater-noster*, the seaman carried away the prize.

266. THERE was a conspiracy against the emperor *Claudius* by *Scribonianus*, examined in the senate; where *Claudius* sat in his chair, and one of his freed servants stood at the back of his chair. In the examination; that freed servant, who had much power with *Claudius*, very saucily, had almost all the words: and amongst other things, he asked in scorn one of the examines, who was likewise a freed servant of *Scribonianus*; I pray sir; if *Scribonianus* had been emperor, what would you have done? He answered, I would have stood behind his chair and held my peace.

267. ONE was saying, that his great grand-father, and grand-father, and father, died at sea: said another that heard him; and I were as you, I would never come at sea. Why, (saith he) where did your great grand-father, and grand-father, and father die? He answered; where, but in their beds? He answered; and I were as you, I would never come in bed.

268. THERE was a dispute, whether great heads or little heads had the better wit? And one said, it must needs be the little; for that it is a maxim, *Omne majus continet in se minus*.

269. SIR *Thomas More*, when the counsel of the party pressed him for a longer day to perform the decree, said; take saint *Barnaby's*-day, which is the longest day in the year. Now saint *Barnaby's*-day was within few days following.

270. ONE of the fathers saith, that there is but this difference between the death of old men and young men; that old men go to death, and death comes to young men.

271. CASSIUS, after the defeat of *Crassus* by the *Parthians*; whose weapons were chiefly arrows, fled to the city of *Charras*; where he durst not stay any time, doubting to be pursued and besieged; he had with him an astrologer, who said to him; Sir, I would not have you go hence, while the moon is in the sign of *Scorpio*. *Cassius* answered, I am more afraid of that of *Sagittarius*.

272. JASON the *Thessalian* was wont to say, that some things must be done unjustly, that many things may be done justly.

273. DEMETRIUS king of *Macedon*, would at times retire himself from business, and give himself wholly to pleasures. One of those his retirings; giving out that he was sick, his father *Antigonus* came on the sudden to visit him; and met a fair dainty youth coming out of his chamber. When *Antigonus* came in; *Demetrius* said; Sir, the fever left me right now. *Antigonus* replied, I think it was he that I met at the door.

274. CATO major would say, that wise men learned more by fools, than fools by wise men.

275. WHEN it was said to *Anaxagoras*; the *Athenians* have condemned you to die; he said again, And nature them.

276. ALEXANDER, when his father wished him to run for the prize of the race of the *Olympian* games, (for he was very swift) answered; he would, if he might run with kings.

277. ANTIGONUS used often to go disguised, and to listen at the tents of his soldiers; and at a time heard some that spoke very ill of him. Where-

upon he opened the tent a little, and said to them; if you would speak ill of me, you should go a little farther off.

278. ARISTIPPUS said; that those that studied particular sciences, and neglected philosophy; were like *Penelope's* woers, that made love to the waiting woman.

279. THE ambassadors of *Asia minor* came to *Antonius*, after he had imposed upon them a double tax, and said plainly to him; that if he would have two tributes in one year, he must give them two feed-times, and two harvests.

280. AN orator of *Athens* said to *Demosthenes*; the *Athenians* will kill you if they wax mad: *Demosthenes* replied, and they will kill you if they be in good sense.

281. EPICTETUS used to say; that one of the vulgar, in any ill that happens to him, blames others; a novice in philosophy blames himself; and a philosopher blames neither the one nor the other.

282. CAESAR, in his book that he made against *Cato*, (which is lost) did write to shew the force of opinion and reverence, of a man that had once obtained a popular reputation; that there were some that found *Cato* drunk, and were ashamed instead of *Cato*.

283. THERE was a nobleman said of a great counsellor, that he would have made the worst farrier in the world; for he never shod horse, but he cloyed him: for he never commended any man to the king for service, or upon occasion of suite, or otherwise, but that he would come in, in the end, with a but; and drive in a nail to his disadvantage.

284. DIOGENES called an ill physician, cock. Why? (saith he.) *Diogenes* answered; because when you crow, men use to rise.

285. THERE was a gentleman fell very sick, and a friend of his said to him; surely, you are in danger; I pray send for a physician. But the sick man answered; it is no matter, for if I die, I will die at leisure.

286. CATO the elder, what time many of the *Romans* had statues erected in their honour, was asked by one in a kind of wonder, why he had none? He answered, he had much rather men should ask and wonder why he had no statue, than why he had a statue.

287. A certain friend of Sir *Thomas More's*, taking great pains about a book, which he intended to publish, (being well conceited of his own wit, which no man else thought worthy of commendation) brought it to Sir *Thomas More* to peruse it, and pass his judgment upon it; which he did: and finding nothing therein worthy the press, he said to him with a grave countenance; that if it were in verse it would be more worthy. Upon which words, he went immediately and turned it into verse, and then brought it to Sir *Thomas* again; who looking thereon, said soberly; Yes marry, now it is somewhat; for now it is rhyme; whereas before it was neither rhyme nor reason.

288. SIR *Henry Wotton* used to say; that criticks were like brushers of noblemens clothes.

289. HANNIBAL said of *Fabius Maximus*, and of *Marcellus*, whereof the former waited upon him, that he could make no progress, and the latter had many sharp fights with him; that he feared *Fabius* like a tutor, and *Marcellus* like an enemy.

290. WHEN king *Edward* the second was amongst his torturers, who hurried him to and fro, that no man should know where he was, they set him down upon a bank: and one time the more to disguise his face, shaved

shaved him, and washed him with cold water of a ditch by: the king said; Well, yet I will have warm water for my beard: and so shed abundance of tears.

291. ONE of the seven was wont to say; that laws were like cobwebs; where the small flies were caught, and the great brake through.

292. LEWIS the eleventh of *France*, having much abated the greatness and power of the peers, nobility, and court of parliament, would say, that he had brought the crown out of ward.

293. THERE was a cowardly *Spanish* foldier, that in a defeat the *Moors* gave, ran away with the foremost. Afterwards when the army generally fled, this foldier was missing. Whereupon it was said by some, that he was slain. No sure (saith one) he is alive; for the *Moors* eat no hares flesh.

294. A gentleman that was punctual of his word, and loved the same in others; when he heard that two persons had agreed upon a meeting about serious affairs, at a certain time and place; and that the one party failed in the performance, or neglected his hour; would usually say of him, he is a young man then.

295. ANACHARSIS would say, concerning the popular estates of *Graecia*, that he wondred how at *Athens* wise men did propose, and fools dispose.

296. HIS lordship, when he had finished this collection of apophthegms, concluded thus: Come now all is well: they say, he is not a wise man that will lose his friend for his wit; but he is less a wise man, that will lose his friend for another man's wit.

Apophthegms contained in the Original Edition in Octavo, (which later Copies have intirely suppressed) and which were printed in the last Folio Edition, but not in the proper place.

1. **W**HEN Queen *Elizabeth* had advanced *Raleigh*, she was one day playing on the virginals, and my lord of *Oxford*, and another nobleman stood by. It fell out so, that the ledge, before the jacks, was taken away, so as the jacks were seen: my lord of *Oxford*, and the other nobleman smiled, and a little whispered. The queen marked it, and would needs know, *what the matter was?* My lord of *Oxford* answered; *That they smiled to see, that when jacks went up, heads went down.*

22. SIR *Thomas More*, (who was a man, in all his life-time, that had an excellent vein in jesting) at the very instant of his death, having a pretty long beard, after his head was upon the block, lift it up again, and gently drew his beard aside, and said; *This hath not offended the king.*

27. DEMONAX the philosopher, when he died, was asked touching his burial. He answered; *Never take care for burying me, for stink will bury me.* He that ask'd him, said again; *Why, would you have your body left to dogs and ravens to feed upon?* Demonax answered; *Why, what great hurt is it, if having sought to do good, when I lived, to men; my body do some good to beasts, when I am dead?*

30. PHOCYON, the *Athenian*, (a Man of great severity, and no ways flexible to the will of the people) one day, when he spake to the People, in one part of his speech, was applauded: whereupon, he turned to one of his friends, and asked; *What have I said amiss?*

34. BION was wont to say ; *That Socrates, of all the lovers of Alcibiades, only held him by the ears.*

37. There was a philosopher about *Tiberius*, that looking into the nature of *Caius*, said of him ; *That he was mire mingled with blood.*

42. There was a bishop, that was somewhat a delicate Person, and bathed twice a day. A friend of his said to him ; *My lord, why do you bathe twice a day ?* The bishop answered ; *Because I cannot conveniently bathe thrice.*

89. WHEN Sir *Thomas More* was lord chancellor, he did use, at mass, to sit in the chancel ; and his lady in a pew. And because the pew stood out of sight, his gentleman-usher, ever after service came to the lady's pew, and said ; *Madam, my lord is gone.* So when the chancellor's place was taken from him, the next time they went to church, Sir *Thomas* himself came to his lady's pew, and said ; *Madam, my lord is gone.*

104. A *Graecian* captain advising the confederates, that were united against the *Lacedaemonians*, touching their enterprise, gave opinion, that they should go directly upon *Sparta*, saying ; *That the state of Sparta was like rivers ; strong when they had run a great way, and weak towards their head.*

108. ONE was examined, upon certain scandalous words spoken against the king. He confessed them, and said ; *It is true, I spake them, and if the wine had not failed, I had said much more.*

110. *TRAJAN* would say, *That the king's exchequer was like the spleen ; for when that did swell, the whole body did pine.*

111. *CHARLES* the bald, allowed one, whose name was *Scottus*, to sit at the table with him, for his pleasure. *Scottus* sat on the other side of the table. One time the king being merry with him, said to him ; *What is there between Scot and Sot ?* *Scottus* answered ; *The table only.*

113. There was a marriage made between a widow of great wealth, and a gentleman of great house, that had no estate or means. *Jack Roberts* said ; *That marriage was like a black pudding ; the one brought blood, and the other brought sewet and oatmeal.*

149. *CROESUS* said to *Cambyfes*, *That peace was better than war ; because in peace the sons did bury their fathers, but in wars the fathers did bury their sons.*

154. *CARVAJAL*, when he was drawn to execution, being fourscore and five years old, and laid upon the hurdle, said ; *What ! young in cradle, old in cradle !*

161. *DIOGENES* was asked in a kind of scorn ; *What was the matter, that philosophers haunted rich men, and not rich men philosophers ?* he answered ; *Because the one knew what they wanted, the other did not.*

162. *DEMETRIUS*, king of *Macedon*, had a petition offered him diverse times by an old woman, and still answered ; *he had no leisure.* Whereupon, the woman said aloud ; *Why then give over to be king.*

175. THERE were two gentlemen, otherwise of equal degree, save that the one was of the ancients house. The other, in courtesy, asked his hand to kiss : which he gave him ; and he kiss'd it : But said withal, to right himself, by way of friendship, *Well, I and you, against any two of them :* putting himself first.

198. *THEMISTOCLES* would say of himself ; *That he was like a plane-tree, that in tempests men fled to him, and in fair weather, men were ever cropping his leaves.*

199. *THEMISTOCLES* said of speech ; *That it was like Arras, that spread abroad shews fair images, but contracted is but like packs.*

211. LYCURGUS would say of divers of the heroes of the heathen; *That he wondered that men should mourn upon their days, for them, as mortal men, and yet sacrifice to them as gods.*

213. THERE is an ecclesiastical writer of the papists, to prove antiquity of confession, in the form that it now is, doth note, in very ancient times, even in the primitive times, amongst other foul slanders spread against the christians, one was; *That they did adore the genitories of their priests. Which* (he saith) *grew from the posture of the confessant, and the priest in confession: which is, that the confessant kneels down, before the priest sitting in a raised chair above him.*

216. FABRICIUS, in conference with *Pyrrhus*, was tempted to revolt to him; *Pyrrhus* telling him, that he should be partner of his fortunes, and second person to him. But *Fabricius* answered, in a scorn, to such a motion; *Sir, that would not be good for your self: for if the Epirotes once know me, they will rather desire to be governed by me than by you.*

221. THALES said; *That life and death were all one.* One that was present ask'd him; *Why do not you die then?* *Thales* said again; *Because they are all one.*

223. AN *Ægyptian* priest having conference with *Solon*, said to him; *You Graecians are ever children; you have no knowledge of antiquity, nor antiquity of knowledge.*

227. DIOGENES was one day in the market-place, with a candle in his hand, and being ask'd; *What he sought?* he said, *He sought a man.*

228. BIAS being asked; *How a man should order his life?* answered; *As if a man should live long, or die quickly.*

229. QUEEN *Elizabeth* was entertained by my Lord *Burleigh* at *Theobalds*: and at her going away, my lord obtained of the Queen, to make seven knights. They were gentlemen of the country, of my lord's friends and neighbours. They were placed in a rank, as the queen should pass by the hall; and to win antiquity of knighthood, in order, as my lord favoured; though indeed the more principal gentlemen were placed lowest. The queen was told of it, and said nothing; but when she went along, she passed them all by, as far as the skreen, as if she had forgot it: and when she came to the skreen, she seemed to take herself with the manner, and said, *I had almost forgot what I promised.* With that she turned back, and knighted the lowest first, and so upward. Whereupon Mr. *Stanhope* of the privy-chamber, a while after told her; *Your majesty was too fine for my lord Burleigh.* She answered; *I have but fulfilled the scripture; the first shall be last, and the last first.*

235. SIR *Fulke Grevill* had much and private access to queen *Elizabeth*, which he used honourably, and did many men good, yet he would say merrily of himself; *That he was like Robin Goodfellow; for when the maids spilt the milk-pans, or kept any racket, they would lay it upon Robin: so what tales, the ladies, about the queen, told her, or other bad offices that they did, they would put it upon him.*

240. THERE was a politick sermon, that had no divinity in it, was preached before the king. The king, as he came forth, said to Bishop *Andrews*; *Call you this a sermon?* the bishop answered; *And it please your majesty, by a charitable construction, it may be a sermon.*

244. HENRY NOEL would say; *That courtiers were like fasting days; they were next the holy days, but in themselves, they were the most meagre days of the week.*

247. CATO

247. CATO said; *The best way, to keep good acts in memory, was to refresh them with new.*

259. ARISTIPPUS said; *He took money of his friends, not so much to use it himself, as to teach them how to bestow their money.*

260. A strumpet said to *Aristippus*; *That she was with child by him: he answered; You know that no more, than if you went through a hedge of thorns, you could say, this thorn prick'd me.*

263. DEMOCRITUS said; *That truth did lie in profound pits, and when it was got, it needed much refining.*

266. DIOGENES said of a young man that danced daintily, and was much commended; *The better, the worse.*

271. THERE was a nobleman that was lean of visage, but immediately after his marriage he grew pretty plump and fat. One said to him; *Your lordship doth contrary to other married men; for they at the first wax lean, and you wax fat.* Sir *Walter Raleigh* stood by, and said; *Why, there is no beast, that if you take him from the common, and put him into the severel, but he will wax fat.*

272. DIOGENES seeing one that was a bastard, casting stones among the people, bad him take heed, *he hit not his father.*

275. IT was said by many concerning the canons of the council of *Trent*; *That we are beholden to Aristotle for many articles of our faith.*

Certain Apophthegms of the Lord Bacon's, first published in his Remains.

I. **P**LUTARCH said well, it is otherwise in a common-wealth of men than of bees: The hive of a city or kingdom is in best condition, when there is least of noise or buz in it.

2. THE same *Plutarch* said, of men of weak abilities set in great place, that they were like little statues set on great bases, made to appear the less by their advancement.

3. HE said again; good fame is like fire. When you have kindled it, you may easily preserve it; but if once you extinguish it, you will not easily kindle it again; at least, not make it burn as bright as it did.

4. *QUEEN Elizabeth* seeing Sir *Edward* — in her garden, look'd out at her window, and asked him in *Italian*, what does a man think of when he thinks of nothing? Sir *Edward* (who had not had the effect of some of the queen's grants so soon as he had hoped and desired) paused a little; and then made answer, Madam, he thinks of a woman's promise. The queen shrunk in her head, but was heard to say, Well, Sir *Edward*, I must not confute you. Anger makes dull men witty, but it keeps them poor.

5. WHEN any great officer, ecclesiastical or civil, was to be made, the queen would inquire after the piety, integrity, learning of the man. And when she was satisfied in these qualifications, she would consider of his personage. And upon such an occasion she pleas'd once to say to me, *Bacon*, how can the magistrate maintain his authority when the man is despis'd?

6. IN eighty eight, when the queen went from *Temple-bar* along *Fleet-street*, the lawyers were rank'd on one side, and the companies of the city on the other; said master *Bacon* to a lawyer that stood next him: Do but observe the courtiers; if they bow first to the citizens, they are in debt; if first to us, they are in law.

7. KING

7. KING *James* was wont to be very earnest with the countrey gentlemen to go from *London* to their countrey houses. And sometimes he would say thus to them; Gentlemen, at *London*, you are like ships at sea, which shew like nothing; but in your countrey villages, you are like ships in a river, which look like great things.

8. SOON after the death of a great officer, who was judged no advancer of the king's matters; the king said to his solicitor *Bacon*, who was his kinsman; Now tell me truly, what say you of your cousin that is gone? Mr. *Bacon* answered, Sir, since your majesty doth charge me, I'll e'en deal plainly with you, and give you such a character of him, as if I were to write his story. I do think he was no fit counsellor to make your affairs better: but yet he was fit to have kept them from growing worse. The king said, On my so'l, man, in the first thou speakest like a true man, and in the latter like a kinsman.

9. KING *James*, as he was a prince of great judgment, so he was a prince of a marvellous pleasant humour; and there now come into my mind two instances of it. As he was going through *Lufen* by *Greenwich*, he ask'd what town it was? They said *Lufen*. He ask'd a good while after, what town is this we are now in? They said, still 'twas *Lufen*. On my so'l, said the king, I will be king of *Lufen*.

10. IN some other of his progresses, he ask'd how far 'twas to a town whose name I have forgotten. They said, six miles. Half an hour after he ask'd again. One said six miles and an half. The king alighted out of his coach, and crept under the shoulder of his led horse. And when some ask'd his majesty what he meant? I must stalk, said he, for yonder town is shy, and flies me.

11. COUNT *Gondomar* sent a complement to my lord *St. Alban*, wishing him a good Easter. My lord thank'd the messenger, and said, he could not at present requite the count better than in returning him the like; that he wished his lordship a good Passover.

12. My lord chancellor *Elmere*, when he had read a petition which he disliked, would say; What, you would have my hand to this now? And the party answering, yes: he would say farther, Well, so you shall; nay, you shall have both my hands to it. And so would, with both his hands, tear it in pieces.

13. SIR *Francis Bacon* was wont to say of an angry man who suppressed his passion, that he thought worse than he spake: and of an angry man that would chide, that he spoke worse than he thought.

14. HE was wont also to say, that power in an ill man, was like the power of a black witch; he could do hurt, but no good with it. And he would add, that the magicians could turn water into blood, but could not turn the blood again to water.

15. WHEN Mr. Attorney *Coke*, in the exchequer, gave high words to Sir *Francis Bacon*, and stood much upon his higher place; sir *Francis* said to him, Mr. Attorney, the less you speak of your own greatness, the more I shall think of it; and the more, the less.

16. SIR *Francis Bacon* coming into the earl of *Arundel's* garden, where there were a great number of ancient statues of naked men and women, made a stand, and as astonish'd, cried out, the resurrection.

17. SIR *Francis Bacon* (who was always for moderate counsels) when one was speaking of such a reformation of the church of *England*, as would in effect make it no church; said thus to him, Sir, the subject we talk of is the
eye

eye of *England*; and if there be a speck or two in the eye, we endeavour to take them off; but he were a strange oculist who would pull out the eye.

18. THE same Sir *Francis Bacon* was wont to say, that those who left useful studies for useless scholastic speculations, were like the *Olympick* gamesters, who abstain'd from necessary labours, that they might be fit for such as were not so.

19. HE likewise often used this comparison: (a) the empirical philosophers are like to pismires; they only lay up and use their store. The rationalists are like to spiders; they spin all out of their own bowels. But give me a philosopher, who like the bee hath a middle faculty, gathering from abroad, but digesting that which is gathered by his own virtue.

20. THE lord *St. Alban*, who was not over-hasty to raise theories, but proceeded slowly by experiments, was wont to say to some philosophers, who would not go his pace; Gentlemen, nature is a labyrinth, in which the very haste you move with, will make you lose your way.

21. THE same lord, when he spoke of the *Dutchmen*, used to say, that we could not abandon them for our safety, nor keep them for our profit. And sometimes he would express the same sense in this manner; we hold the *Belgic* lion by the ears.

22. THE same lord, when a gentleman seem'd not much to approve of his liberality to his retinue, said to him; Sir, I am all of a piece; if the head be lifted up, the inferior parts of the body must too.

23. THE lord *Bacon* was wont to commend the advice of the plain old man at *Buxton* that sold besoms: a proud lazy young fellow came to him for a besom upon trust; to whom the old man said; Friend, hast thou no money? borrow of thy back, and borrow of thy belly, they'll ne'er ask thee again, I shall be dunning thee every day.

24. JACK WEEKS said of a great man (just then dead) who pretended to some religion, but was none of the best livers; Well, I hope he is in heaven. Every man thinks as he wishes; but if he be in heaven, 'twere pity it were known.

(a) See the substance of this in *Nov. Org.* Vol. I. & *inter Cogitata & Visa.* Vol. II.



ORNAMENTA RATIONALIA:

O R

ELEGANT SENTENCES,

Some made, others collected by the Lord *BACON*;
and by him put under the abovesaid title.

Collected out of the *Mimi* of *Publius*, and published in the
Remains.

- i. **A** LEATOR, *quanto in arte est melior, tanto est nequior*: a gamester, the greater master he is in his art, the worse man he is.
2. ARCUM, *intensio frangit; animum, remissio*: much bending breaks the bow; much unbending, the mind.
3. BIS vincit, *qui se vincit in victoria*: he conquers twice, who upon victory overcomes himself.
4. CUM vitia profint, peccat, *qui recte facit*: if vices were upon the whole matter profitable, the virtuous man would be the sinner.
5. BENE dormit, *qui non sentit, quod male dormiat*: he sleeps well, who feels not that he sleeps ill.
6. DELIBERARE utilia, *mora est tutissima*: to deliberate about useful things, is the safest delay.
7. DOLOR decrefcit, *ubi quo crescat non habet*: the flood of grief decreaseth, when it can swell no higher.
8. ETIAM innocentes cogit mentiri dolor: pain makes even the innocent man a liar.
9. ETIAM celeritas in desiderio, *mora est*: in desire, swiftness it self is delay.
10. ETIAM capillus unus habet umbram suam: the finallest hair casts a shadow.
11. FIDEM qui perdit, *quo se servat in reliquum?* he that has lost his faith, what has he left to live on?
12. FORMOSA facies muta commendatio est: a beautiful face is a silent commendation.
13. FORTUNA nimium quem fovet, *stultum facit*: fortune makes him a fool, whom she makes her darling.
14. FORTUNA obesse nulli contenta est semel: fortune is not content to do a man but one ill turn.
15. FACIT gratum fortuna, *quem nemo videt*: the fortune which no body sees, makes a man happy and unenvied.

16. HEU ! *quam miserum est ab illo laedi, de quo non possis queri* : O ! what a miserable thing 'tis to be hurt by such a one of whom 'tis in vain to complain.

17. HOMO *toties moritur quoties amittit suos* : a man dies as often as he loses his friends.

18. HAEREDIS *fletus sub persona risus est* : the tears of an heir are laughter under a vizard.

19. JUCUNDUM *nihil est, nisi quod reficit varietas* : nothing is pleasant, to which variety does not give a relish.

20. INVIDIAM *ferre, aut fortis, aut felix potest* : he may bear envy, who is either courageous or happy.

21. IN *malis sperare bonum, nisi innocens, nemo potest* : none but a virtuous man can hope well in all circumstances.

22. IN *vindicando, criminosa est celeritas* : in taking revenge, the very haste we make is criminal.

23. IN *calamitoso risus etiam injuria est* : when men are in calamity, if we do but laugh we offend.

24. IMPROBE *Neptunum accusat, qui iterum naufragium facit* : he accuseth Neptune unjustly, who makes shipwreck a second time.

25. MULTIS *minatur, qui uni facit injuriam* : he that injures one, threatens an hundred.

26. MORA *omnis ingrata est, sed facit sapientiam* : all delay is ungrateful, but we are not wise without it.

27. MORI *est felix antequam mortem invocet* : happy he who dies ere he calls for death to take him away.

28. MALUS *ubi bonum se simulat, tunc est pessimus* : an ill man is always ill ; but he is then worst of all, when he pretends to be a saint.

29. MAGNO *cum periculo custoditur, quod multis placet* : lock and key will scarce keep that secure, which pleases every body.

30. MALE *vivunt qui se semper victuros putant* : they think ill, who think of living always.

31. MALE *secum agit aeger, medicum qui haeredem facit* : that sick man does ill for himself, who makes his physician his heir.

32. MULTOS *timere debet, quem multi timent* : he of whom many are afraid, ought himself to fear many.

33. NULLA *tam bona est fortuna, de qua nil possis queri* : there's no fortune so good, but it bates an ace.

34. PARS *beneficii est, quod petitur, si bene neges* : 'tis part of the gift, if you deny genteely what is asked of you.

35. TIMIDUS *vocat se cautum, parcum sordidus* : the coward calls himself a wary man ; and the miser says, he is frugal.

36. O *vita ! misero longa, felici brevis* : O life ! an age to him that is in misery ; and to him that is happy, a moment.

*A collection of sentences out of some of the writings of the
lord Bacon.*

1. IT is a strange desire which men have, to seek power and lose liberty.

2. CHILDREN increase the cares of life ; but they mitigate the remembrance of death.

3. ROUND dealing is the honour of man's nature ; and a mixture of falsehood is like alloy in gold and silver, which may make the metal work the better, but it embaseth it.

4. DEATH opened the gate to good fame, and extinguisheth envy.

5. SCHISM, in the spiritual body of the church, is a greater scandal than a corruption in manners: as, in the natural body, a wound or solution of continuity, is worse than a corrupt humour.

6. REVENGE is a kind of wild justice, which the more a man's nature runs to, the more ought law to weed it out.

7. HE that studieth revenge, keepeth his own wounds green.

8. REVENGEFUL persons live and die like witches: Their life is mischievous, and their end is unfortunate.

9. IT was an high speech of *Seneca*, (after the manner of the Stoicks,) that the good things which belong to prosperity, are to be wish'd ; but the good things which belong to adversity, are to be admired.

10. HE that cannot see well, let him go softly.

11. IF a man be thought secret, it inviteth discovery ; as the more close air sucketh in the more open.

12. KEEP your authority wholly from your children, not so your purse.

13. MEN of noble birth are noted to be envious towards new men when they rise. For the distance is alter'd ; and it is like a deceit of the eye, that when others come on, they think themselves go back.

14. THAT envy is most malignant which is like *Cain's*, who envied his brother, because his sacrifice was better accepted, when there was no body but God to look on.

15. THE lovers of great place are impatient of privateness, even in age, which requires the shadow: like old townsmen that will be still sitting at their street-door, though there they offer age to scorn.

16. In evil, the best condition is, not to will ; the next, not to can.

17. IN great place, ask counsel of both times: of the ancient time, what is best ; and of the latter time, what is fittest.

18. As in nature things move more violently to their place, and calmly in their place: So virtue in ambition is violent ; in authority, settled and calm.

19. BOLDNESS in civil business, is like pronounciation in the orator of *Demosthenes* ; the first, second, and third thing.

20. BOLDNESS is blind: wherefore 'tis ill in counsel, but good in execution. For in counsel it is good to see dangers, in execution not to see them, except they be very great.

21. WITHOUT good-nature, man is but a better kind of vermin.

22. GOD never wrought miracle to convince atheism, because his ordinary works convince it.

23. THE great atheists indeed are hypocrites, who are always handling holy things, but without feeling ; so as they must needs be cauterized in the end.

24. The master of superstition is the people. And in all superstition, wise men follow fools.

25. IN removing superstitions, care would be had, that (as it fareth in ill purgings,) the good be not taken away with the bad ; which commonly is done, when the people is the physician.

26. HE

26. HE that goeth into a country before he hath some entrance into the language, goeth to school, and not to travel.

27. IT is a miserable state of mind (and yet it is commonly the case of kings) to have few things to desire, and many things to fear.

28. DEPRESSION of the nobility may make a king more absolute, but less safe.

29. ALL precepts concerning kings, are, in effect, comprehended in these remembrances; remember thou art a man; remember thou art God's vicegerent: The one bridleth their power, and the other their will.

30. THINGS will have their first or second agitation: If they be not tossed upon the arguments of counsel, they will be tossed upon the waves of fortune.

31. THE true composition of a counsellor, is rather to be skill'd in his master's business than his nature; for then he is like to advise him, and not to feed his humour.

32. PRIVATE opinion is more free, but opinion before others is more reverend.

33. FORTUNE is like a market, where many times if you stay a little the price will fall.

34. FORTUNE sometimes turneth the handle of the bottle, which is easy to be taken hold of; and after the belly, which is hard to grasp.

35. GENERALLY it is good to commit the beginning of all great actions to *Argus* with an hundred eyes; and the ends of them to *Briareus* with an hundred hands; first to watch, and then to speed.

36. THERE is great difference betwixt a cunning man and a wise man. There be that can pack the cards, who yet can't play well; they are good in canvasses and factions, and yet otherwise mean men.

37. EXTREME self-lovers will set a man's house on fire, tho' it were but to roast their eggs.

38. NEW things, like strangers, are more admired, and less favour'd.

39. IT were good that men, in their innovations, would follow the example of time it self, which indeed innovateth greatly, but quietly, and by degrees scarce to be perceived.

40. THEY that reverence too much old time, are but a scorn to the new.

41. THE *Spaniards* and *Spartans* have been noted to be of small dispatch. *Mi venga la muerte de Spagna*; let my death come from *Spain*, for then it will be sure to be long a coming.

42. YOU had better take for business a man somewhat absurd, than over-formal.

43. THOSE who want friends to whom to open their griefs, are cannibals of their own hearts.

44. NUMBER it self importeth not much in armies, where the people are of weak courage: For (as *Virgil* says) it never troubles a wolf how many the sheep be.

45. LET states, that aim at greatness, take heed how their nobility and gentry multiply too fast. In coppice woods, if you leave your staddles too thick, you shall never have clean underwood, but shrubs and bushes.

46. A civil war is like the heat of a fever; but a foreign war is like the heat of exercise, and serveth to keep the body in health.

47. SUSPICIONS among thoughts, are like bats among birds, they ever fly by twilight.

48. BASE natures, if they find themselves once suspected, will never be true.

49. MEN ought to find the difference between saltiness and bitterness. Certainly he that hath a satyrical vein, as he maketh others afraid of his wit, so he had need be afraid of others memory.

50. DISCRETION in speech is more than eloquence.

51. MEN seem neither well to understand their riches; nor their strength: of the former they believe greater things than they should, and of the latter much less. And from hence certain fatal pillars have bounded the progress of learning.

52. RICHES are the baggage of virtue; they cannot be spared, nor left behind, but they hinder the march.

53. GREAT riches have sold more men than ever they have bought out.

54. RICHES have wings, and sometimes they fly away of themselves, and sometimes they must be set flying to bring in more.

55. HE that defers his charity 'till he is dead, is (if a man weighs it rightly) rather liberal of another man's, than of his own.

56. AMBITION is like choler, if it can move, it makes men active; if it be stopp'd, it becomes adust, and makes men melancholy.

57. To take a soldier without ambition, is to pull off his spurs.

58. SOME ambitious men seem as screens to princes in matters of danger and envy. For no man will take such parts, except he be like the feeld dove; that mounts and mounts, because he cannot see about him.

59. PRINCES and states should chuse such ministers as are more sensible of duty than rising; and should discern a busy nature from a willing mind.

60. A man's nature runs either to herbs or weeds; therefore let him seasonably water the one, and destroy the other.

61. IF a man look sharply and attentively, he shall see fortune; for tho' she be blind, she is not invisible.

62. USURY bringeth the treasure of a realm or state into few hands: for the usurer being at certainties, and others at uncertainties; at the end of the game, most of the money will be in the box.

63. BEAUTY is best in a body that hath rather dignity of presence, than beauty of aspect. The beautiful prove accomplish'd, but not of great spirit; and study, for the most part, rather behaviour than virtue.

64. THE best part of beauty, is that which a picture cannot express.

65. HE who builds a fair house upon an ill seat, commits himself to prison.

66. IF you will work on any man, you must either know his nature and fashions, and so lead him; or his ends, and so persuade him; or his weaknesses and disadvantages, and so awe him; or those that have interest in him, and so govern him.

67. COSTLY followers (among whom we may reckon those who are importunate in suits) are not to be liked; lest while a man maketh his train longer, he maketh his wings shorter.

68. FAME is like a river that beareth up things light and swollen, and drowns things weighty and solid.

69. SENECA saith well, that anger is like rain, which breaks it self upon that it falls.

70. EXCUSATIONS, cessions, modesty it self well govern'd, are but arts of ostentation.

71. HIGH treason is not written in ice ; that when the body relenteth, the impression should go away.

72. THE best governments are always subject to be like the fairest crystals, wherein every ificle or grain is seen, which in a fouler stone is never perceived.

73. HOLLOW church papists are like the roots of nettles, which themselves sting not ; but yet they bear all the stinging leaves.



ESSAYS

OR

COUNSELS,

CIVIL and MORAL.

To Mr. *Anthony Bacon* his dear Brother.

LOVING and beloved brother, I do now like some that have an orchard ill neighboured, that gather their fruit before it is ripe, to prevent stealing. These fragments of my conceits were going to print; to labour the stay of them had been troublesome, and subject to interpretation; to let them pass had been to adventure the wrong they might receive by untrue copies, or by some garnishment which it might please any that should set them forth to bestow upon them. Therefore I held it best discretion to publish them my self, as they passed long ago from my pen, without any further disgrace than the weakness of the author. And as I did ever hold, there might be as great a vanity in retiring and withdrawing mens conceits (except they be of some nature) from the world, as in obtruding them; so in these particulars I have played my self the inquisitor, and find nothing to my understanding in them contrary or infectious to the state of religion, or manners, but rather (as I suppose) medicinal. Only I disliked now to put them out, because they will be like the late new halfpence, which though the silver were good, yet the pieces were small. But since they would not stay with their master, but would needs travel abroad, I have preferred them to you that are next my self; dedicating them, such as they are, to our love, in the depth whereof (I assure you) I sometimes wish your infirmities translated upon my self, that her majesty might have the service of so active and able a mind; and I might be with excuse confined to these contemplations and studies, for which I am fittest: so commend I you to the preservation of the divine Majesty.

*From my chamber at Grays-Inn,
this 30th of January 1597.*

Your entire loving brother,

FRAN. BACON.

D E D I C A T I O N.

To my loving brother sir *John Constable* Kt.

MY last essays I dedicated to my dear brother, Mr. *Anthony Bacon*, who is with god. Looking amongst my papers this vacation, I found others of the same nature: which if I my self shall not suffer to be lost, it seemeth the world will not, by the often printing of the former. Missing my brother, I found you next; in respect of bond both of near alliance, and of straight friendship and society, and particularly of communication in studies: wherein I must acknowledge my self beholden to you. For as my business found rest in my contemplations, so my contemplations ever found rest in your loving conference and judgment. So wishing you all good, I remain,

Your loving brother and Friend,

1612.

FRA. BACON.

T O T H E

Right honourable, my very good lord, the duke of *Buckingham*, his grace, lord high admiral of *England*.

EXCELLENT LORD,

SOLOMON says, *a good name is as a precious ointment*; and I assure my self such will your grace's name be with posterity. For your fortune and merit both have been eminent: And you have planted things that are like to last. I do now publish my essays; which, of all my other works have been most current: for that, as it seems, they come home to mens business and bosoms. I have enlarged them both in number and weight; so that they are indeed a new work. I thought it therefore agreeable to my affection and obligation to your grace, to prefix your name before them both in *English* and in *Latin*: For I do conceive, that the *Latin* volume of them, (being in the universal language) may last as long as books last. My *Instauration* I dedicated to the king: my history of *Henry* the seventh, (which I have now also translated into *Latin*) and my portions of *Natural History*, to the prince: and these I dedicate to your grace; being of the best fruits, that by the good increase which God gives to my pen and labours, I could yield. God lead your grace by the hand.

Your grace's most obliged and faithful Servant,

FR. ST. ALBAN.

ESSAYS

ESSAYS

CIVIL and MORAL.

I. *Of truth.*

WHAT is truth? said jesting *Pilate*; and would not stay for an answer. Certainly there be that delight in giddiness; and count it a bondage to fix a belief; affecting free-will in thinking, as well as in acting. And though the sects of philosophers of that kind be gone, yet there remain certain discoursing wits, which are of the same veins, though there be not so much blood in them, as was in those of the ancients. But it is not only the difficulty and labour which men take in finding out of truth; nor again, that when it is found, it imposeth upon mens thoughts; that doth bring lyes in favour: but a natural, though corrupt love of the lye it self. One of the later school of the *Graecians* examineth the matter, and is at a stand to think what should be in it, that men should love lyes; where neither they make for pleasure, as with poets; nor for advantage, as with the merchant; but for the lye's sake. But I cannot tell: this same truth is a naked and open day-light, that doth not shew the masques, and mummeries, and triumphs of the world, half so stately and daintily, as candle-lights. Truth may perhaps come to the price of a pearl, that sheweth best by day: but it will not rise to the price of a diamond or carbuncle, that sheweth best in varied lights. A mixture of a lye doth ever add pleasure. Doth any man doubt, that if there were taken out of mens minds, vain opinions, flattering hopes, false valuations, imaginations as one would, and the like; but it would leave the minds of a number of men, poor shrunken things; full of melancholy and indisposition, and unpleasing to themselves? One of the fathers in great severity, called poesy, *vinum daemonum*; because it filleth the imagination, and yet it is but with the shadow of a lye. But it is not the lye that passeth through the mind, but the lye that sinketh in, and settleth in it, that doth the hurt, such as we spake of before. But howsoever these things are thus in mens depraved judgments and affections, yet truth, which only doth judge it self, teacheth, that the enquiry of truth, which is the love-making, or wooing of it; the knowledge of truth, which is the presence of it; and the belief of truth, which is the enjoying of it; is the sovereign good of humane nature. The first creature of God, in the works of the days, was the light of the sense; the last was the light of reason; and his sabbath work ever since, is the illumination of his Spirit. First he breathed light upon the face of the matter, or *chaos*; then he breathed light into the face of man; and still he breatheth and inspireth light into the face of his chosen. The poet that beautified the sect, that was otherwise inferiour to the rest, saith yet excellently well: it is a pleasure to stand upon the shore, and to see ships tost upon the sea: a pleasure to stand in the window of a castle, and to see

a battle, and the adventures thereof below: but no pleasure is comparable to the standing upon the vantage ground of truth: (a hill not to be commanded, and where the air is always clear and serene;) and to see the errors, and wandrings, and mists, and tempests, in the vale below: so always that this prospect be with pity, and not with swelling or pride. Certainly, it is heaven upon earth, to have a man's mind move in charity, rest in providence, and turn upon the poles of truth.

To pass from theological and philosophical truth, to the truth of civil business; it will be acknowledged, even by those that practise it not, that clear and round dealing is the honour of man's nature; and that mixture of falsehood, is like alloy in coin of gold and silver; which may make the metal work the better, but it embaseth it. For these winding and crooked courses are the goings of the serpent; which goeth basely upon the belly, and not upon the feet. There is no vice that doth so cover a man with shame, as to be found false and perfidious. And therefore *Montaigne* saith prettily, when he enquired the reason, why the word of the lye should be such a disgrace, and such an odious charge? Saith he, if it be well weighed, to say that a man lyeth, is as much as to say, that he is brave towards God, and a coward towards men. For a lye faces God, and shrinks from man. Surely the wickedness of falsehood, and breach of faith, cannot possibly be so highly expressed, as in that it shall be the last peal, to call the judgments of God upon the generations of men: It being foretold, that when *Christ cometh*, he shall not find faith upon earth.

II. Of death.

MEN fear death, as children fear to go in the dark: and as that natural fear in children is increased with tales, so is the other. Certainly, the contemplation of death, as the wages of sin, and passage to another world, is holy and religious; but the fear of it, as a tribute due unto nature, is weak. Yet in religious meditations, there is sometimes mixture of vanity, and of superstition. You shall read in some of the friars books of mortification, that a man should think with himself, what the pain is, if he have but his finger's end pressed, or tortured; and thereby imagine what the pains of death are, when the whole body is corrupted and dissolved; when many times death passeth with less pain, than the torture of a limb: for the most vital parts are not the quickest of sense. And by him that spake only as a philosopher, and natural man, it was well said; *pompa mortis magis terret, quam mors ipsa*. Groans, and convulsions, and a discoloured face, and friends weeping, and blacks, and obsequies, and the like, shew death terrible. It is worthy the observing, that there is no passion in the mind of man so weak, but it mates and masters the fear of death: and therefore death is no such terrible enemy, when a man hath so many attendants about him, that can win the combat of him. Revenge triumphs over death; love flights it; honour aspireth to it; grief flieth to it; fear pre-occupateth it; nay, we read, after *Otho* the emperor had slain himself, pity (which is the tenderest of affections) provoked many to die, out of mere compassion to their sovereign, and as the truest sort of followers. Nay, *Seneca* adds, *nice-ness and satiety; cogita quamdiu eadem feceris; mori velle, non tantum fortis, aut miser, sed etiam fastidiosus potest*. A man would die, though he were neither valiant nor miserable, only upon a weariness to do the same thing so oft over and over. It is no less worthy to observe, how little alteration in good spirits, the approaches of death make; for they appear to be the same

same men till the last instant. *Augustus Caesar* died in a complement; *Livia, conjugii nostri memor, vive & vale.* *Tiberius* in dissimulation; as *Tacitus* saith of him; *jam Tiberium vires & corpus, non dissimulatio, deserebant.* *Vespasian* in a jest; sitting upon the stool; *ut puto Deus fio.* *Galba* with a sentence; *feri, si ex re sit populi Romani*; holding forth his neck. *Septimius Severus* in dispatch; *adesse, si quid mihi restat agendum*; and the like. Certainly the Stoicks bestowed too much cost upon death, and by their great preparations made it appear more fearful. Better, saith he, *qui finem vitae extremum inter munera ponat naturae.* It is as natural to die, as to be born; and to a little infant, perhaps, the one is as painful as the other. He that dies in an earnest pursuit, is like one that is wounded in hot blood; who, for the time, scarce feels the hurt; and therefore a mind fixt and bent upon somewhat that is good, doth avert the dolours of death: but above all, believe it, the sweetest canticle is, *nunc dimittis*; when a man hath obtained worthy ends and expectations. Death hath this also; that it openeth the gate to good fame, and extinguisheth envy; — *Extinctus amabitur idem.*

III. Of unity in religion.

RELIGION being the chief band of humane society, it is a happy thing, when it self is well contained within the true band of unity. The quarrels and divisions about religion were evils unknown to the heathen. The reason was, because the religion of the heathen consisted rather in rites and ceremonies, than in any constant belief. For you may imagine what kind of faith theirs was, when the chief doctors and fathers of their church were the poets. But the true God hath this attribute; that he is a jealous God; and therefore his worship and religion will endure no mixture; nor partner. We shall therefore speak a few words concerning the unity of the church; what are the fruits thereof; what the bounds; and what the means.

THE fruits of unity (next unto the well-pleasing of God, which is all in all) are two; the one towards those that are without the church; the other towards those that are within. For the former; it is certain, that heresies and schisms are of all others the greatest scandals; yea more than corruption of manners. For as in the natural body, a wound or solution of continuity, is worse than a corrupt humour; so in the spiritual. So that nothing doth so much keep men out of the church, and drive men out of the church, as breach of unity: and therefore, whensoever it cometh to that pass, that one faith, *ecce in deserto*; another faith, *ecce in penetralibus*; that is, when some men seek Christ in the conventicles of hereticks; and others in an outward face of a church, that voice had need continually to sound in mens ears, *nolite exire*, go not out. The doctor of the Gentiles (the propriety of whose vocation drew him to have a special care of those without) saith; *if an heathen come in, and hear you speak with several tongues, will he not say that you are mad?* And certainly, it is little better, when atheists, and prophane persons, do hear of so many discordant and contrary opinions in religion; it doth avert them from the church, and maketh them *to sit down in the chair of the scornors.* It is but a light thing to be vouched in so serious a matter, but yet it expresth well the deformity. There is a master of scoffing; that in his catalogue of books of a feigned library, sets down this title of a book; the Morris-dance of Hereticks. For indeed every sect of them hath a diverse posture or cringe by them-

themselves, which cannot but move derision in worldlings and depraved politicians, who are apt to condemn holy things.

As for the fruit towards those that are within, it is peace; which containeth infinite blessings: it establisheth faith; it kindleth charity; the outward peace of the church distilleth into peace of conscience; and it turneth the labours of writing and reading of controversies, into treatises of mortification and devotion.

CONCERNING the bonds of unity; the true placing of them importeth exceedingly. There appear to be two extremes. For to certain zealots all speech of pacification is odious. *Is it peace, Jebu? What hast thou to do with peace? turn thee behind me.* Peace is not the matter, but following and party. Contrariwise, certain *Laodiceans*, and lukewarm persons, think they may accommodate points of religion by middle-ways, and taking part of both, and witty reconcilements; as if they would make an arbitrement between God and man. Both these extremes are to be avoided; which will be done, if the league of Christians, penned by our Saviour himself, were in the two cross clauses thereof, soundly and plainly expounded: *he that is not with us is against us*: and again; *he that is not against us is with us*: that is, if the points fundamental, and of substance in religion, were truly discerned and distinguished, from points not merely of faith, but of opinion, order, or good intention. This is a thing may seem to many, a matter trivial, and done already; but if it were done less partially, it would be embraced more generally.

Of this I may give only this advice, according to my small model. Men ought to take heed of rending God's church by two kinds of controversies. The one is, when the matter of the point controverted is too small and light, not worth the heat and strife about it, kindled only by contradiction. For, as it is noted by one of the fathers, Christ's coat indeed had no seam; but the church's vesture was of divers colours: whereupon he saith, *in veste varietas fit, scissura non fit*; they be two things, unity and uniformity. The other is, when the matter of the point controverted is great; but it is driven to an over-great subtilty and obscurity; so that it becometh a thing rather ingenious than substantial. A man that is of judgment and understanding, shall sometimes hear ignorant men differ, and know well within himself, that those which so differ mean one thing, and yet they themselves would never agree. And if it come so to pass in that distance of judgment which is between man and man; shall we not think that God above, that knows the heart, doth not discern that frail men, in some of their contradictions, intend the same thing, and accepteth of both? The nature of such controversies is excellently expressed by St. Paul, in the warning and precept that he giveth concerning the same, *devita profanas vocum novitates, & oppositiones falsi nominis scientiae*. Men create oppositions which are not; and put them into new terms so fixed, as whereas the meaning ought to govern the term, the term in effect governeth the meaning. There be also two false peaces, or unities; the one when the peace is grounded but upon an implicit ignorance; for all colours will agree in the dark: the other, when it is pieced up upon a direct admission of contraries in fundamental points. For truth and falsehood, in such things, are like the iron and clay in the toes of *Nebuchadnezzar's* image; they may cleave, but they will not incorporate.

CONCERNING the means of procuring unity; men must beware, that in the procuring or muniting of religious unity, they do not dissolve and deface the laws

laws of charity, and of humane society. There be two swords amongst Christians, the spiritual and temporal ; and both have their due office and place in the maintenance of religion. But we may not take up the third sword, which is *Makomet's* sword, or like unto it ; that is, to propagate religion by wars, or by sanguinary persecutions, to force consciences ; except it be in cases of overt scandal, blasphemy, or intermixture of practice against the state ; much less to nourish seditions ; to authorize conspiracies and rebellions ; to put the sword into the peoples hands, and the like, tending to the subversion of all government, which is the ordinance of God. For this is but to dash the first table against the second ; and so to consider men as Christians, as we forget that they are men. *Lucretius* the poet, when he beheld the act of *Agamemnon*, that could endure the sacrificing of his own daughter, exclaimed ;

Tantum religio potuit suadere malorum.

WHAT would he have said, if he had known of the massacre in *France*, or the powder-treason of *England* ? He would have been seven times more epicure and atheist than he was : for as the temporal sword is to be drawn with great circumspection, in cases of religion ; so it is a thing monstrous to put it into the hands of the common people. Let that be left unto the anabaptists, and other furies. It was great blasphemy, when the devil said, *I will ascend and be like the Highest* ; but it is greater blasphemy to personate God, and bring him in saying ; I will descend, and be like the prince of darkness. And what is it better to make the cause of religion to descend to the cruel and execrable actions of murdering princes, butchery of people, and subversion of states, and governments ? Surely, this is to bring down the Holy Ghost, instead of the likeness of a dove, in the shape of a vulture or raven : and to set, out of the bark of a Christian church, a flag of a bark of pirates and assassins. Therefore it is most necessary, that the church by doctrine and decree ; princes by their sword ; and all learnings, both christian and moral, as by their mercury rod ; do damn and send to hell, for ever those facts and opinions, tending to the support of the same, as hath been already in good part done. Surely in counsels, concerning religion, that counsel of the Apostle would be prefixed ; *Ira hominis non implet justitiam Dei*. And it was a notable observation of a wise father, and no less ingenuously confessed ; that those which held and persuaded pressure of consciences, were commonly interested therein themselves, for their own ends.

IV. Of revenge.

REVENGE is a kind of wild justice, which the more man's nature runs to, the more ought law to weed it out. For as for the first wrong, it doth but offend the law ; but the revenge of that wrong, putteth the law out of office. Certainly in taking revenge, a man is but even with his enemy ; but in passing it over, he is superior : for it is a prince's part to pardon. And *Solomon*, I am sure, saith, *it is the glory of a man to pass by an offence*. That which is past is gone and irrevocable, and wise men have enough to do with things present and to come : therefore they do but trifle with themselves, that labour in past matters. There is no man doth a wrong for the wrong's sake ; but thereby to purchase himself profit, or pleasure, or honour, or the like. Therefore why should I be angry with a man for loving himself better than me ? And if any man should do wrong, mere-

ly out of ill nature, why? Yet it is but like the thorn, or bryar, which prick and scratch, because they can do no other. The most tolerable sort of revenge, is for those wrongs which there is no law to remedy: but then let a man take heed the revenge be such, as there is no law to punish; else a man's enemy is still before-hand, and it is two for one. Some, when they take revenge, are desirous the party should know when it cometh: this is the more generous. For the delight seemeth to be not so much in doing the hurt, as in making the party repent: but base and crafty cowards are like the arrow that flieth in the dark. *Cosmus* duke of *Florence*, had a desperate saying against perfidious or neglecting friends, as if those wrongs were unpardonable. You shall read (saith he) that we are commanded to forgive our enemies; but you never read, that we are commanded to forgive our friends. But yet the spirit of *Job* was in a better tune; shall we (saith he) take good at God's hands, and not be content to take evil also? And so of friends in a proportion. This is certain, that a man that studieth revenge, keeps his own wounds green, which otherwise would heal, and do well. Publick revenges are for the most part fortunate; as that for the death of *Caesar*; for the death of *Pertinax*; for the death of *Henry* the third of *France*; and many more: but in private revenges it is not so; nay rather, vindictive persons live the life of witches; who as they are mischievous, so end they unfortunate.

V. *Of adversity.*

IT was an high speech of *Seneca*, (after the manner of the Stoicks) that the good things which belong to prosperity are to be wished, but the good things that belong to adversity are to be admired: *Bona rerum secundarum optabilia, adversarum mirabilia*. Certainly if miracles be the command over nature, they appear most in adversity. It is yet a higher speech of his than the other, (much too high for a heathen,) it is true greatness, to have in one the frailty of a man, and the security of a God: *Vere magnum habere fragilitatem hominis, securitatem Dei*. This would have done better in poetry, where transcendencies are more allowed. And the poets indeed have been busy with it; for it is in effect the thing which is figured in that strange fiction of the ancient poets, which seemeth not to be without mystery; nay, and to have some approach to the state of a Christian: That *Hercules*, when he went to unbind *Prometheus* (by whom humane nature is represented) failed the length of the great ocean in an earthen pot or pitcher; lively describing Christian resolution, that saileth in the frail barque of the flesh through the waves of the world. But to speak in a mean: The virtue of prosperity, is temperance; the virtue of adversity, is fortitude; which in morals is the more heroical virtue. Prosperity is the blessing of the Old Testament; adversity is the blessing of the New, which carrieth the greater benediction, and the clearer revelation of God's favour. Yet, even in the Old Testament, if you listen to *David's* harp, you shall hear as many herse-like airs as carols: and the pencil of the Holy Ghost hath labour'd more in describing the afflictions of *Job*, than the felicities of *Salomon*. Prosperity is not without many fears and distastes; and adversity is not without comforts and hopes. We see in needle-works and embroideries, it is more pleasing to have a lively work upon a sad and solemn ground, than to have a dark and melancholy work upon a lightsome ground: judge therefore of the pleasure of the heart by the pleasure of the eye. Certainly virtue is like
precious

precious odours, most fragrant when they are incensed, or crushed; for prosperity doth best discover vice, but adversity doth best discover virtue.

VI. *Of simulation and dissimulation.*

DISSIMULATION is but a faint kind of policy, or wisdom; for it asketh a strong wit, and a strong heart, to know when to tell truth, and to do it. Therefore it is the weaker sort of politicians that are the great dissemblers.

TACITUS saith, *Livia* forted well with the arts of her husband, and dissimulation of her son; attributing arts or policy to *Augustus*, and dissimulation to *Tiberius*. And again, when *Mucianus* encourageth *Vespasian* to take arms against *Vitellius*, he saith; we rise not against the piercing judgment of *Augustus*, nor the extreme caution or closeness of *Tiberius*: these properties of arts or policy, and dissimulation or closeness, are indeed habits and faculties several, and to be distinguished. For if a man have that penetration of judgment as he can discern what things are to be laid open, and what to be secreted, and what to be shewed at half lights, and to whom and when, (which indeed are arts of state, and arts of life, as *Tacitus* well calleth them) to him, a habit of dissimulation, is a hinderance and a poorness. But if a man cannot obtain to that judgment, then it is left to him, generally, to be close and a dissembler. For where a man cannot chuse, or vary in particulars, there it is good to take the safest and wariest way in general; like the going softly by one that cannot well see. Certainly the ablest men that ever were, have had all an openness and frankness of dealing, and a name of certainty and veracity; but then they were like horses well managed; for they could tell passing well, when to stop or turn: and at such times, when they thought the case indeed required dissimulation, if then they used it, it came to pass, that the former opinion spread abroad of their good faith and clearness of dealing, made them almost invisible.

THERE be three degrees of this hiding and veiling of a man's self. The first closeness, reservation and secrecy, when a man leaveth himself without observation, or without hold to be taken, what he is. The second dissimulation in the negative, when a man lets fall signs and arguments, that he is not that he is. And the third simulation in the affirmative, when a man industriously and expressly feigns and pretends to be that he is not.

FOR the first of these, secrecy: it is indeed the virtue of a confessor; and assuredly the secret man heareth many confessions; for who will open himself to a blab or a babler; but if a man be thought secret, it inviteth discovery; as the more close air sucketh in the more open: and as in confession the revealing is not for worldly use, but for the ease of a man's heart; so secret men come to the knowledge of many things in that kind; while men rather discharge their minds, than impart their minds. In few words, mysteries are due to secrecy. Besides, (to say truth) nakedness is uncomely, as well in mind as in body; and it addeth no small reverence to mens manners and actions, if they be not altogether open. As for talkers and futile persons, they are commonly vain and credulous withal. For he that talketh what he knoweth, will also talk what he knoweth not. Therefore set it down, that an habit of secrecy is both politick and moral. And in this part it is good, that a man's face give his tongue leave to speak. For the discovery of a man's self, by the tracts of his countenance, is a great weakness and betraying; by how much, it is many times more marked and believed than a man's words.

FOR the second, which is dissimulation ; it followeth many times upon secrecy, by a necessity : so that he that will be secret must be a dissembler in some degree. For men are too cunning to suffer a man to keep an indifferent carriage between both, and to be secret, without swaying the balance on either side. They will so beset a man with questions, and draw him on, and pick it out of him, that without an absurd silence, he must shew an inclination one way ; or if he do not, they will gather as much by his silence, as by his speech. As for equivocations, or oraculous speeches, they cannot hold out long. So that no man can be secret, except he give himself a little scope of dissimulation ; which is as it were but the skirts or train of secrecy.

BUT for the third degree, which is simulation and false profession ; that I hold more culpable and less politick, except it be in great and rare matters. And therefore a general custom of simulation, (which is this last degree) is a vice rising either of a natural falseness, or fearfulness ; or of a mind that hath some main faults ; which because a man must needs disguise, it maketh him practise simulation in other things, lest his hand should be out of ure.

THE great advantages of simulation and dissimulation are three. First to lay asleep opposition, and to surprize. For where a man's intentions are published, it is an alarm to call up all that are against them. The second is, to reserve to a man's self a fair retreat : for if a man engage himself by a manifest declaration, he must go through, or take a fall. The third is, the better to discover the mind of another. For to him that opens himself, men will hardly shew themselves adverse ; but will (fair) let him go on, and turn their freedom of speech, to freedom of thought. And therefore it is a good shrewd proverb of the *Spaniard*, tell a lye and find a troth. As if there were no way of discovery but by simulation. There be also three disadvantages to set it even. The first, that simulation and dissimulation commonly carry with them a shew of fearfulness, which in any business doth spoil the feathers of round flying up to the mark. The second, that it puzzleth and perplexeth the conceits of many, that perhaps would otherwise co-operate with him ; and makes a man walk, almost alone, to his own ends. The third and greatest is, that it depriveth a man of one of the most principal instruments for action ; which is trust and belief. The best composition and temperature is, to have openness in fame and opinion ; secrecy in habit ; dissimulation in seasonable use ; and a power to feign, if there be no remedy.

VII. Of parents and children.

THE joys of parents are secret ; and so are their griefs and fears : they cannot utter the one, nor they will not utter the other. Children sweeten labours ; but they make misfortunes more bitter : they increase the cares of life, but they mitigate the remembrance of death. The perpetuity by generation is common to beasts ; but memory, merit, and noble works, are proper to men : and surely a man shall see the noblest works and foundations have proceeded from childless men ; which have sought to express the images of their minds, where those of their bodies have failed : so the care of posterity is most in them that have no posterity. They that are the first raisers of their houses, are most indulgent towards their children ; beholding them as the continuance, not only of their kind, but of their work ; and so both children and creatures.

THE difference in affection of parents towards their several children, is many times unequal; and sometimes unworthy; especially in the mother; as *Solomon* saith; *a wise son rejoiceth the father; but an ungracious son shames the mother.* A man shall see where there is a house full of children, one or two of the eldest respected, and the youngest made wantons; but in the midst, some that are as it were forgotten, who many times nevertheless prove the best. The illiberality of parents in allowance towards their children, is an harmful error; makes them base; acquaints them with shifts; makes them sort with mean company; and makes them surfeit more when they come to plenty: and therefore the proof is best when men keep their authority towards their children, but not their purse. Men have a foolish manner (both parents, and schoolmasters, and servants) in creating and breeding an emulation between brothers during childhood, which many times sorteth to discord when they are men, and disturbeth families. The *Italians* make little difference between children and nephews, or near kinsfolks; but so they be of the lump they care not, though they pass not through their own body. And, to say truth, in nature it is much a like matter; insomuch that we see a nephew sometimes resembleth an uncle, or a kinsman, more than his own parent; as the blood happens. Let parents chuse betimes the vocations and courses they mean their children should take; for then they are most flexible; and let them not too much apply themselves to the disposition of their children, as thinking they will take best to that which they have most mind to. It is true, that if the affection or aptness of the children be extraordinary, then it is good not to cross it; but generally the precept is good, *optimum elige, suave & facile illud faciet consuetudo.* Younger brothers are commonly fortunate, but seldom or never where the elder are disinherited.

VIII. *Of marriage and a single life.*

HE that hath wife and children, hath given hostages to fortune; for they are impediments to great enterprizes, either of virtue or mischief. Certainly, the best works, and the greatest merit for the publick, have proceeded from the unmarried, or childless men; which both in affection and means have married and endowed the publick. Yet it were great reason, that those that have children, should have greatest care of future times; unto which they know they must transmit their dearest pledges. Some there are, who though they lead a single life, yet their thoughts do end with themselves, and account future times impertinences. Nay, there are some other, that account wife and children but as bills of charges. Nay more, there are some foolish rich covetous men, that take a pride in having no children, because they may be thought so much the richer. For perhaps they have heard some talk, such a one is a great rich man; and another except to it, yea, but he hath a great charge of children: as if it were an abatement to his riches. But the most ordinary cause of a single life is liberty; especially in certain self-pleasing, and humorous minds, which are so sensible of every restraint, as they will go near to think their girdles and garters to be bonds and shackles. Unmarried men are best friends, best masters, best servants, but not always best subjects; for they are light to run away; and almost all fugitives are of that condition. A single life doth well with churchmen: for charity will hardly water the ground, where it must first fill a pool. It is indifferent for judges and magistrates: for if they be facile and corrupt, you shall have a servant five times worse than a wife.

wife. For soldiers, I find the generals commonly in their hostatives, put men in mind of their wives and children. And I think the despising of marriage amongst the Turks, maketh the vulgar soldiers more base. Certainly, wife and children are a kind of discipline of humanity: and single men, though they be many times more charitable, because their means are less exhaust; yet on the other side, they are more cruel and hard-hearted, (good to make severe inquisitors) because their tenderness is not so oft called upon. Grave natures, led by custom, and therefore constant, are commonly loving husbands; as was said of *Ulysses*, *vetulam suam praetulit immortalitati*. Chaste women are often proud and froward, as presuming upon the merit of their chastity. It is one of the best bonds, both of chastity and obedience, in the wife, if she think her husband wise; which she will never do, if she find him jealous. Wives are young mens mistresses; companions for middle age; and old mens nurses. So as a man may have a quarrel to marry when he will. But yet he was reputed one of the wise men, that made answer to the question, when a man should marry? A young man not yet, an elder man not at all. It is often seen, that bad husbands have very good wives; whether it be, that it raiseth the price of their husbands kindness when it comes; or that the wives take a pride in their patience. But this never fails, if the bad husbands were of their own choosing, against their friends consent; for then they will be sure to make good their own folly.

IX. *Of envy.*

THERE be none of the affections which have been noted to fascinate or bewitch, but love and envy. They both have vehement wishes; they frame themselves readily into imaginations and suggestions: and they come easily into the eye; especially upon the presence of the objects; which are the points that conduce to fascination, if any such thing there be. We see likewise, the scripture calleth envy, an *evil eye*: and the astrologers call the evil influences of the stars, evil aspects; so that still there seemeth to be acknowledged in the act of envy, an ejaculation, or irradiation of the eye. Nay, some have been so curious, as to note, that the times when the stroke or percussing of an envious eye doth most hurt, are, when the party envied is beheld in glory or triumph; for that sets an edge upon envy: and besides, at such times, the spirits of the person envied do come forth most into the outward parts, and so meet the blow.

BUT leaving these curiosities, (though not unworthy to be thought on in fit place) we will handle, what persons are apt to envy others; what persons are most subject to be envied themselves; and what is the difference between publick and private envy.

A man that hath no virtue in himself, ever envieth virtue in others. For mens minds will feed upon their own good, or upon others evil; and who wanteth the one, will prey upon the other; and who so is out of hope to attain to another's virtue, will seek to come at even hand, by depressing another's fortune.

A man that is busy and inquisitive, is commonly envious: for to know much of other mens matters cannot be, because all that ado may concern his own estate: therefore it must needs be, that he taketh a kind of play-pleasure in looking upon the fortunes of others; neither can he that mindeth but his own business, find much matter for envy. For envy is a gadding passion,

passion, and walketh the streets, and doth not keep home : *Non est curiosus, quin idem sit malevolus.*

MEN of noble birth are noted to be envious towards new men when they rise ; for the distance is altered ; and it is like a deceit of the eye, that when others come on, they think themselves go back.

DEFORMED persons and eunuchs, and old men and bastards, are envious : for he that cannot possibly mend his own case, will do what he can to impair another's ; except these defects light upon a very brave and heroical nature, which thinketh to make his natural wants part of his honour : in that it should be said, that an eunuch or a lame man did such great matters ; affecting the honour of a miracle, as it was in *Narjes* the eunuch, and *Agefi-laus* and *Tamberlane*, that were lame men.

THE same is the case of men that rise after calamities and misfortunes ; for they are as men fallen out with the times ; and think other mens harms a redemption of their own sufferings.

THEY that desire to excel in too many matters, out of levity and vain-glo-ry, are ever envious, for they cannot want work ; it being impossible, but many, in some one of those things, should surpass them. Which was the character of *Adrian* the emperor, that mortally envied poets, and painters, and artificers, in works wherein he had a vein to excel.

LASTLY, near kinsfolks, and fellows in office, and those that have been bred together, are more apt to envy their equals when they are raised. For it doth upbraid unto them their own fortunes ; and pointeth at them, and cometh oftener into their remembrance, and incurreth likewise more into the note of others ; and envy ever redoubleth from speech and fame. *Cain's* envy was the more vile and malignant towards his brother *Abel*, because, when his sacrifice was better accepted, there was no body to look on. Thus much for those that are apt to envy.

CONCERNING those that are more or less subject to envy : First, persons of eminent virtue, when they are advanced, are less envied. For their fortune seemeth but due unto them ; and no man envieth the payment of a debt, but rewards, and liberality rather. Again, envy is ever joined with the comparing of a man's self ; and where there is no comparison, no envy ; and therefore kings are not envied, but by kings. Nevertheless it is to be noted, that unworthy persons are most envied at their first coming in, and afterwards overcome it better ; whereas contrariwise, persons of worth and merit are most envied, when their fortune continueth long. For by that time, though their virtue be the same, yet it hath not the same lustre ; for fresh men grow up that darken it.

PERSONS of noble blood are less envied in their rising ; for it seemeth but right done to their birth : besides, there seemeth not much added to their fortune ; and envy is as the sun-beams, that beat hotter upon a bank or steep rising round, than upon a flat. And for the same reason, those that are advanced by degrees, are less envied than those that are advanced suddenly, and *per saltum*.

THOSE that have joined with their honour, great travels, cares, or perils, are less subject to envy : for men think that they earn their honours hardly, and pity them sometimes ; and pity ever healeth envy : wherefore you shall observe, that the more deep and sober sort of politick persons, in their greatness, are ever bemoaning themselves what a life they lead, chanting a *quanta patimur* : not that they feel it so, but only to abate the edge of envy. But this is to be understood of business that is laid upon men, and not such

such as they call unto themselves: for nothing increaseth envy more, than an unnecessary and ambitious ingrossing of business; and nothing doth extinguish envy more, than for a great person to preserve all other inferior officers in their full rights and preheminencies of their places: for by that means there be so many screens between him and envy.

ABOVE all, those are most subject to envy, which carry the greatness of their fortunes in an insolent and proud manner; being never well but while they are shewing how great they are, either by outward pomp, or by triumphing over all opposition or competition: whereas wise men will rather do sacrifice to envy, in suffering themselves, sometimes of purpose to be crossed, and overborn in things that do not much concern them. Notwithstanding so much is true; that the carriage of greatness, in a plain and open manner, (so it be without arrogancy and vain-glory,) doth draw less envy, than if it be in a more crafty and cunning fashion. For in that course a man doth but disavow fortune, and seemeth to be conscious of his own want in worth, and doth but teach others to envy him.

LASTLY, to conclude this part; as we said in the beginning, that the act of envy had somewhat in it of witchcraft, so there is no other cure of envy, but the cure of witchcraft: and that is, to remove the lot (as they call it) and to lay it upon another. For which purpose, the wiser sort of great persons bring in ever upon the stage, somebody upon whom to derive the envy that would come upon themselves; sometimes upon ministers and servants; sometimes upon colleagues and associates, and the like: and for that turn, there are never wanting some persons of violent and undertaking natures, who so they may have power and business, will take it at any cost.

Now to speak of publick envy. There is yet some good in publick envy, whereas in private there is none. For publick envy is as an ostracism, that eclipseth men when they grow too great: and therefore it is a bridle also to great ones, to keep them within bounds.

THIS envy, being in the *Latin* word *invidia*, goeth in the modern languages by the name of discontentment; of which we shall speak in handling sedition. It is a disease, in a state, like to infection: for as infection spreadeth upon that which is sound, and tainteth it; so when envy is gotten once into a state, it traduceth even the best actions thereof, and turneth them into an ill odour; and therefore there is little won by intermingling of plausible actions: for that doth argue but a weakness and fear of envy, which hurteth so much the more, as it is likewise usual in infections; which if you fear them, you call them upon you.

THIS publick envy seemeth to beat chiefly upon principal officers or ministers, rather than upon kings and states themselves. But this is a sure rule, that if the envy upon the minister be great, when the cause of it in him is small; or if the envy be general in a manner upon all the ministers of an estate, then the envy (though hidden) is truly upon the state it self. And so much of publick envy or discontentment, and the difference thereof from private envy, which was handled in the first place.

WE will add this in general touching the affection of envy; that of all other affections, it is the most importune and continual: for of other affections, there is occasion given but now and then; and therefore it was well said, *Invidia festos dies non agit*: for it is ever working upon some or other. And it is also noted, that love and envy do make a man pine, which other affections do not, because they are not so continual. It is also the vilest affection,
and

and the most depraved; for which cause it is the proper attribute of the devil, who is called, *the envious man, that soweth tares amongst the wheat by night*. As it always cometh to pass, that envy worketh subtilly, and in the dark; and to the prejudice of good things, such as is the wheat.

X. Of love.

THE stage is more beholden to love, than the life of man. For as to the stage, love is even matter of comedies, and now and then of tragedies; but in life it doth much mischief, sometimes like a fire, sometimes like a fury. You may observe, that amongst all the great and worthy persons, (whereof the memory remaineth, either ancient or recent,) there is not one that hath been transported to the mad degree of love; which shews, that great spirits, and great business, do keep out this weak passion. You must except nevertheless *Marcus Antonius* the half partner of the empire of *Rome*, and *Appius Claudius* the *decemvir* and law-giver; whereof the former was indeed a voluptuous man, and inordinate; but the latter was an austere and wise man: and therefore it seems (though rarely) that love can find entrance, not only into an open heart, but also into a heart well fortified, if watch be not well kept. It is a poor saying of *Epicurus*; *Satis magnum alter alteri theatrum sumus*: As if man, made for the contemplation of heaven, and all noble objects, should do nothing but kneel before a little idol, and make himself subject, though not of the mouth, (as beasts are) yet of the eye, which was given him for higher purposes. It is a strange thing to note the excess of this passion; and how it braves the nature and value of things by this, that the speaking in a perpetual hyperbole, is comely in nothing but in love: neither is it merely in the phrase; for whereas it hath been well said, that the arch flatterer, with whom all the petty flatterers have intelligence, is a man's self; certainly the lover is more. For there was never proud man thought so absurdly well of himself, as the lover doth of the person loved; and therefore it was well said, that it is impossible to love, and to be wise. Neither doth this weakness appear to others only, and not to the party loved, but to the loved most of all; except the love be reciproque. For it is a true rule, that love is ever rewarded either with the reciproque, or with an inward and secret contempt: by how much the more men ought to beware of this passion, which loseth not only other things, but it self. As for the other losses, the poet's relation doth well figure them; that he that preferred *Helena*, quitted the gifts of *Juno* and *Pallas*: for whosoever esteemeth too much of amorous affection, quitteth both riches and wisdom. This passion hath its floods in the very times of weakness, which are, great prosperity, and great adversity; though this latter hath been less observed; both which times kindle love, and make it more fervent, and therefore shew it to be the child of folly. They do best, who, if they cannot but admit love, yet make it keep quarter; and sever it wholly from their serious affairs and actions of life: for if it check once with business, it troubleth mens fortunes, and maketh men that they can no ways be true to their own ends. I know not how, but martial men are given to love: I think it is, but as they are given to wine; for perils, commonly ask to be paid in pleasures. There is in man's nature a secret inclination and motion towards love of others, which if it be not spent upon some one, or a few, doth naturally spread it self towards many, and maketh men become humane and charitable; as it is seen sometime in friars. Nuptial love maketh mankind; friendly love perfecteth it; but wanton love corrupteth and embaseth it.

XI. *Of great place.*

MEN in great place are thrice servants ; servants of the sovereign or state ; servants of fame ; and servants of business : So as they have no freedom, neither in their persons, nor in their actions, nor in their times. It is a strange desire, to seek power and to lose liberty ; or to seek power over others, and to lose power over a man's self. The rising unto place is laborious ; and by pains men come to greater pains ; and it is sometimes base, and by indignities men come to dignities. The standing is slippery, and the regress is either a downfall, or at least an eclipse, which is a melancholy thing. *Cum non sis, qui fueris, non esse, cur velis vivere?* Nay, retire men cannot when they would ; neither will they when it were reason : but are impatient of privateness, even in age and sickness, which require the shadow : like old townsmen, that will be still sitting at their street door, though thereby they offer age to scorn. Certainly great persons had need to borrow other mens opinions to think themselves happy ; for if they judge by their own feeling, they cannot find it : but if they think with themselves what other men think of them, and that other men would fain be as they are, then they are happy as it were by report, when perhaps they find the contrary within. For they are the first that find their own griefs ; though they be the last that find their own faults. Certainly men in great fortunes are strangers to themselves, and while they are in the puzzle of business, they have no time to tend their health either of body or mind. *Illi mors gravis incubat, qui notus nimis omnibus, ignotus moritur sibi.* In place there is licence to do good and evil ; whereof the latter is a curse ; for in evil the best condition is not to will ; the second not to can. But power to do good, is the true and lawful end of aspiring. For good thoughts, (though God accept them) yet towards men are little better than good dreams : except they be put in act ; and that cannot be without power and place ; as the vantage and commanding ground. Merit and good works is the end of man's motion ; and conscience of the same, is the accomplishment of man's rest. For if a man can be partaker of God's theater, he shall likewise be partaker of God's rest. *Et conversus Deus, ut aspiceret opera, quae fecerunt manus suae, vidit quod omnia essent bona nimis ;* and then the sabbath. In the discharge of thy place, set before thee the best examples ; for imitation is a globe of precepts. And after a time set before thee thine own example ; and examine thy self strictly, whether thou didst not best at first. Neglect not also the examples of those, that have carried themselves ill in the same place : not to set off thy self by taxing thy memory ; but to direct thy self what to avoid. Reform therefore, without bravery or scandal of former times and persons ; but yet set it down to thy self, as well to create good precedents, as to follow them. Reduce things to the first institution, and observe wherein and how they have degenerated ; but yet ask counsel of both times : of the ancient time what is best ; and of the latter time what is fittest. Seek to make thy course regular ; that men may know before hand what they may expect : but be not too positive and peremptory ; and express thy self well when thou digressest from thy rule. Preserve the right of thy place, but stir not questions of jurisdiction : and rather assume thy right in silence, and *de facto*, than voice it with claims and challenges. Preserve likewise the rights of inferiour places ; and think it more honour to direct in chief, than to be busy in all. Embrace and invite helps and advices, touching the execution of thy place : and do not drive away such as bring thee

thee information, as medlers; but accept of them in good part. The vices of authority are chiefly four; delays, corruption, roughness, and facility. For delays; give easy access; keep times appointed; go through with that which is in hand; and interlace not business but of necessity. For corruption; do not only bind thine own hands, or thy servants hands, from taking, but bind the hands of suitors also from offering. For integrity used doth the one; but integrity professed, and with a manifest detestation of bribery, doth the other: And avoid not only the fault, but the suspicion. Whosoever is found variable, and changeth manifestly without manifest cause, giveth suspicion of corruption. Therefore always when thou changeest thine opinion or course, profess it plainly, and declare it, together with the reasons that move thee to change; and do not think to steal it. A servant, or a favourite, if he be inward, and no other apparent cause of esteem, is commonly thought but a by-way to close corruption. For roughness; it is a needless cause of discontent; severity breedeth fear, but roughness breedeth hate. Even reproofs from authority ought to be grave, and not taunting. As for facility, it is worse than bribery. For bribes come but now and then; but if importunity, or idle respects lead a man, he shall never be without. So *Solomon* saith; *to respect persons is not good; for such a man will transgress for a piece of bread.* It is most true that was anciently spoken, a place sheweth the man: and it sheweth some to the better, and some to the worse; *omnium consensu; capax imperii, nisi imperasset*, saith *Tacitus* of *Galba*: but of *Vespasian* he saith; *solus imperantium Vespasianus mutatus in melius.* Though the one was meant of sufficiency, the other of manners and affection. It is an assured sign of a worthy and generous spirit, whom honour amends. For honour is, or should be the place of virtue: and as in nature things move violently to their place, and calmly in their place; so virtue in ambition is violent, in authority settled and calm. All rising to great place, is by a winding stair; and if there be factions, it is good to side a man's self whilst he is in the rising; and to balance himself when he is placed. Use the memory of thy predecessor fairly and tenderly; for if thou dost not, it is a debt will sure be paid when thou art gone. If thou have colleagues, respect them, and rather call them when they look not for it, than exclude them when they have reason to look to be called. Be not too sensible, or too remembring of thy place in conversation, and private answers to suitors; but let it rather be said, when he sits in place he is another man.

XII. Of boldness.

IT is a trivial grammar school text, but yet worthy a wiseman's consideration. Question was asked of *Demosthenes*, what was the chief part of an orator? He answered, action. What next? action. What next again? action. He said it that knew it best; and had by nature himself no advantage in that he commended. A strange thing, that that part of an orator, which is but superficial, and rather the virtue of a player, should be placed so high above those other noble parts of invention, elocution, and the rest: nay almost alone, as if it were all in all. But the reason is plain. There is in humane nature generally, more of the fool than of the wise; and therefore those faculties by which the foolish part of mens minds is taken, are most potent. Wonderful like is the case of boldness in civil business; what first? Boldness. What second and third? Boldness. And yet boldness is a child of ignorance and baseness, far inferiour to other parts. But neverthe-

less it doth fascinate, and bind hand and foot, those that are either shallow in judgment, or weak in courage, which are the greatest part; yea, and prevaileth with wise men at weak times: therefore we see it hath done wonders in popular states, but with senates and princes less; and more ever upon the first entrance of bold persons into action, than soon after; for boldness is an ill keeper of promise. Surely, as there are mountebanks for the natural body, so are there mountebanks for the politick body: men that undertake great cures, and perhaps have been lucky in two to three experiments, but want the grounds of science, and therefore cannot hold out: nay, you shall see a bold fellow many times do *Mahomet's* miracle. *Mahomet* made the people believe that he would call an hill to him, and from the top of it offer up his prayers for the observers of his law. The people assembled: *Mahomet* call'd the hill to come to him again and again; and when the hill stood still he was never a whit abashed, but said, if the hill will not come to *Mahomet*, *Mahomet* will go to the hill. So these men, when they have promised great matters, and failed most shamefully, yet (if they have the perfection of boldness) they will but flight it over, and make a turn, and no more ado. Certainly to men of great judgment, bold persons are a sport to behold; nay, and to the vulgar also, boldness hath somewhat of the ridiculous: for if absurdity be the subject of laughter, doubt you not but great boldness is seldom without some absurdity: especially it is a sport to see when a bold fellow is out of countenance, for that puts his face into a most shrunken and wooden posture, as needs it must; for in bashfulness the spirits do a little go and come; but with bold men, upon like occasion, they stand at a stay; like a stale at chess, where it is no mate, but yet the game cannot stir: but this last were fitter for a satyr, than for a serious observation. This is well to be weighed, that boldness is ever blind; for it seeth not dangers and inconveniences: therefore it is ill in counsel, good in execution: so that the right use of bold persons is, that they never command in chief, but be seconds, and under the direction of others. For in counsel, it is good to see dangers; and in execution not to see them, except they be very great.

XIII. Of goodness, and goodness of nature.

I take goodness in this sense, the affecting of the weal of men, which is that the *Graecians* call *Philanthropia*; and the word humanity (as it is used) is a little too light to express it. Goodness I call the habit, and goodness of nature the inclination. This of all virtues and dignities of the mind is the greatest, being the character of the Deity; and without it man is a busy, mischievous, wretched thing, no better than a kind of vermin. Goodness answers to the theological virtue charity, and admits no excess but error. The desire of power in excess caused the angels to fall; the desire of knowledge in excess caused man to fall: but in charity there is no excess; neither can angel or man come in danger by it. The inclination to goodness is imprinted deeply in the nature of man; insomuch, that if it issue not towards men, it will take unto other living creatures; as it is seen in the *Turks*, a cruel people, who nevertheless are kind to beasts, and give alms to dogs and birds: insomuch as *Busebeckius* reporteth, a Christian boy in *Constantinople* had like to have been stoned for gagging, in a waggishness, a long-billed fowl. Errors indeed in this virtue of goodness or charity, may be committed. The *Italians* have an ungracious proverb; *Tanto buon che val niente*; so good, that he is good for nothing. And one of the doctors of
Italy,

Italy, Nicholas Machiavel, had the confidence to put in writing, almost in plain terms, that the Christian faith had given up good men in prey to those that are tyrannical and unjust : which he spake, because indeed there was never law, or sect, or opinion, did so much magnify goodness, as the Christian religion doth : therefore to avoid the scandal, and the danger both, it is good to take knowledge of the errors of an habit so excellent. Seek the good of other men, but be not in bondage to their faces, or fancies ; for that is but facility or softness, which taketh an honest mind prisoner. Neither give thou *Æsop's* cock a gem, who would be better pleased, and happier if he had a barley corn. The example of God teacheth the lesson truly ; *he sendeth his rain, and maketh his sun to shine upon the just and the unjust* ; but he doth not rain wealth, nor shine honour and virtues upon men equally : common benefits are to be communicated with all, but peculiar benefits with choice. And beware, how in making the portraiture thou breakest the pattern, for divinity maketh the love of ourselves the pattern ; the love of our neighbours but the portraiture : *Sell all thou hast, and give it to the poor, and follow me*. But sell not all thou hast, except thou come and follow me ; that is, except thou have a vocation, wherein thou mayest do as much good with little means as with great : for otherwise, in feeding the streams, thou dryest the fountain. Neither is there only a habit of goodness directed by right reason ; but there is in some men, even in nature, a disposition towards it ; as on the other side there is a natural malignity. For there be, that in their nature do not affect the good of others. The lighter sort of malignity turneth but to a crossness, or frowardness, or aptness to oppose, or difficulty, or the like ; but the deeper sort to envy, and mere mischief. Such men, in other mens calamities, are as it were in season, and are ever on the loading part ; not so good as the dogs that licked *Lazarus* sores, but like flies that are still buzzing upon any thing that is raw ; *Misanthropi*, that make it their practice to bring men to the bough, and yet have never a tree for the purpose in their gardens, as *Timon* had : such dispositions are the very errors of humane nature, and yet they are the fittest timber to make great politicks of ; like to knee timber that is good for ships that are ordained to be tossed, but not for building houses that shall stand firm. The parts and signs of goodness are many. If a man be gracious and courteous to strangers, it shews he is a citizen of the world, and that his heart is no island cut off from other lands, but a continent that joins to them. If he be compassionate towards the afflictions of others, it shews that his heart is like the noble tree that is wounded itself, when it gives the balm. If he easily pardons and remits offences, it shews that his mind is planted above injuries, so that he cannot be shot. If he be thankful for small benefits, it shews that he weighs mens minds, and not their trash. But above all, if he have *St. Paul's* perfection, that he would wish to be an *anathema* from *Christ*, for the salvation of his brethren, it shews much of a divine nature, and a kind of conformity with *Christ* himself.

XIV. *Of a king.*

1. A king is a mortal god on earth, unto whom the living God hath lent his own name as a great honour ; but withal told him, he should die like a man, lest he should be proud and flatter himself, that God hath with his name imparted unto him his nature also.

2. Of all kind of men, God is the least beholden unto them ; for he doth most for them, and they do ordinarily least for him.

3. A

3. A king that would not feel his crown too heavy for him, must wear it every day; but if he think it too light, he knoweth not of what metal it is made.

4. HE must make religion the rule of government, and not to balance the scale; for he that casteth in religion only to make the scales even, his own weight is contained in those characters, *Mene, mene, tekel, upharzin*, he is found too light, his kingdom shall be taken from him.

5. AND that king that holds not religion the best reason of state, is void of all piety and justice, the supporters of a king.

6. HE must be able to give counsel himself, but not to rely thereupon; for though happy events justify their counsels, yet it is better that the evil event of good advice be rather imputed to a subject than a sovereign.

7. HE is the fountain of honour, which should not run with a waste pipe, lest the courtiers sell the water, and then (as papists say of their holy wells) it loses the virtue.

8. He is the life of the law, not only as he is *lex loquens* himself, but because he animateth the dead letter, making it active towards all his subjects, *praemio & poena*.

9. A wise king must do less in altering his laws than he may; for new government is ever dangerous. It being true in the body politick, as in the corporal, that *omnis subita immutatio est periculosa*; and though it be the better, yet it is not without a fearful apprehension; for he that changeth the fundamental laws of a kingdom, thinketh there is no good title to a crown, but by conquest.

10. A king that setteth to sale seats of justice, oppresseth the people; for he teacheth his judges to sell justice; and *precio parata precio venditur justitia*.

11. BOUNTY and magnificence are virtues very regal, but a prodigal king is nearer a tyrant than a parsimonious; for store at home draweth not his contemplations abroad; but want supplieth it self of what is next, and many times the next way: a king herein must be wise, and know what he may justly do.

12. THAT king which is not feared, is not loved; and he that is well seen in his craft, must as well study to be feared as loved; yet not loved for fear, but feared for love.

13. THEREFORE, as he must always resemble him whose great name he beareth, and that as in manifesting the sweet influence of his mercy on the severe stroke of his justice sometimes, so in this not to suffer a man of death to live; for besides that the land doth mourn, the restraint of justice towards sin, doth more retard the affection of love, than the extent of mercy doth enflame it; and sure where love is [ill] bestowed, fear is quite lost.

14. HIS greatest enemies are his flatterers; for though they ever speak on his side, yet their words still make against him.

15. THE love which a king oweth to a weal publick, should not be restrained to any one particular; yet that his more special favour do reflect upon some worthy ones, is somewhat necessary, because there are few of that capacity.

16. HE must have a special care of five things, if he would not have his crown to be but to him *infelix felicitas*.

FIRST, that *simulata sanctitas* be not in the church; for that is *duplex iniquitas*.

SECONDLY,

SECONDLY, that *inutilis aequitas* fit not in the chancery; for that is *inepta misericordia*.

THIRDLY, that *utilis iniquitas* keep not the exchequer; for that is *cru-dele latrocinium*.

FOURTHLY, that *fidelis temeritas* be not his general; for that will bring but *feram poenitentiam*.

FIFTHLY, that *infidelis prudentia* be not his general; for that is *anguis sub viridi herba*.

To conclude; as he is of the greatest power, so he is subject to the greatest cares, made the servant of his people, or else he were without a calling at all.

HE then that honoureth him not is next an atheist, wanting the fear of God in his heart.

XV. *Of nobility.*

WE will speak of nobility first as a portion of an estate, then as a condition of particular persons. A monarchy, where there is no nobility at all, is ever a pure and absolute tyranny; as that of the *Turks*: for nobility attempers sovereignty, and draws the eyes of the people somewhat aside from the line royal. But for democracies they need it not; and they are commonly more quiet, and less subject to sedition, than where there are stirps of nobles; for mens eyes are upon the business, and not upon the persons: or if upon the persons, it is for the business sake, as fittest, and not for flags and pedigree. We see the *Switzers* last well, notwithstanding their diversity of religion, and of cantons: for utility is their bond, and not respects. The United Provinces of the *Low Countries*, in their government, excel: for where there is an equality, the consultations are more indifferent, and the payments and tributes more chearful. A great and potent nobility addeth majesty to a monarch, but diminisheth power; and putteth life and spirit into the people, but presseth their fortune. It is well when nobles are not too great for sovereignty, nor for justice; and yet maintained in that height, as the insolency of inferiors may be broken upon them, before it come on too fast upon the majesty of kings. A numerous nobility causeth poverty and inconvenience in a state, for it is a surcharge of expence; and besides, it being of necessity that many of the nobility fall in time to be weak in fortune, it maketh a kind of disproportion between honour and means.

As for nobility in particular persons: It is a reverend thing to see an ancient castle or building not in decay; or to see a fair timber tree sound and perfect; how much more to behold an ancient noble family, which hath stood against the waves and weathers of time? for new nobility is but the act of power, but ancient nobility is the act of time. Those that are first raised to nobility, are commonly more virtuous, but less innocent, than their descendents; for there is rarely any rising, but by a commixture of good and evil arts: but it is reason the memory of their virtues remain to their posterity, and their faults die with themselves. Nobility of birth commonly abateth industry; and he that is not industrious, envieth him that is. Besides, noble persons cannot go much higher; and he that standeth at a stay, when others rise, can hardly avoid motion of envy. On the other side, nobility extinguisheth the passive envy from others towards them, because they are in possession of honour. Certainly kings that have able men of their nobility, shall find ease in employing them, and a better slide into their business: for people naturally bend to them, as born in some sort to command.

XVI. *Of*

ESSAYS CIVIL AND MORAL.

XVI. *Of seditions and troubles.*

SHEPHERDS of people had need know the kalendars of tempests in state; which are commonly greatest when things grow to equality; as natural tempests are greatest about the *aequinoctia*. And as there are certain hollow blasts of wind, and secret swellings of seas, before a tempest, so are there in states:

— *Ille etiam caecos instare tumultus
Saepe monet, fraudesque & operta tumescere bella.*

LIBELS, and licentious discourses against the state, when they are frequent and open; and in like sort false news often running up and down to the disadvantage of the state, and hastily embraced, are amongst the signs of troubles. *Virgil* giving the pedigree of fame, faith, she was sister to the giants.

*Illam terra parens, ira irritata deorum,
Extremam (ut perhibent) Coeo Enceladoque sororem
Progenit. — AENEID. IV. 177.*

As if fames were the reliques of seditions past: but they are no less indeed the preludes of seditions to come. Howsoever he noteth it right, that seditious tumults, and seditious fames, differ no more, but as brother and sister, masculine and feminine; especially if it come to that, that the best actions of a state, and the most plausible, and which ought to give greatest contentment, are taken in ill sense and traduced: for that shews the envy great, as *Tacitus* saith; *conflata magna invidia, seu bene, seu male, gesta premunt*. Neither doth it follow, that because these fames are a sign of troubles, that the suppressing of them with too much severity, should be a remedy of troubles. For the despising of them many times checks them best; and the going about to stop them, doth but make a wonder long-lived. Also that kind of obedience which *Tacitus* speaketh of, is to be held suspected; *Erant in officio, sed tamen qui mallent mandata imperantium interpretari, quam exequi*; disputing, excusing, cavilling upon mandates and directions, is a kind of shaking off the yoke, and assay of disobedience: especially if in those disputings, they which are for the direction, speak fearfully and tenderly; and those that are against it, audaciously.

Also, as *Machiavel* noteth well, when princes that ought to be common parents, make themselves as a party, and lean to a side, it is as a boat that is overthrown by uneven weight on the one side: as was well seen in the time of *Henry* the third of *France*; for first, himself entred league for the extirpation of the protestants; and presently after the same league was turned upon himself. For when the authority of princes is made but an accessory to a cause; and that there be other bands that tie faster than the band of sovereignty, kings begin to be put almost out of possession.

Also, when discords, and quarrels, and factions, are carried openly and audaciously; it is a sign the reverence of government is lost. For the motions of the greatest persons in a government, ought to be as the motions of the planets under *primum mobile*, (according to the old opinion;) which is, that every of them is carried swiftly by the highest motion, and softly in their own motion. And therefore when great ones in their own particular motion move violently, and as *Tacitus* expresseth it well, *liberius, quam ut imperantium meminissent*; it is a sign the orbs are out of frame. For reverence

rence is that wherewith princes are girt from God, who threatneth the dissolving thereof; *solvam cingula regum.*

So when any of the four pillars of government are mainly shaken, or weakened, (which are religion, justice, counsel and treasure,) men had need to pray for fair weather. But let us pass from this part of predictions, (concerning which, nevertheless, more light may be taken from that which followeth,) and let us speak first of the materials of seditions; then of the motives of them; and thirdly of the remedies.

CONCERNING the materials of sedition. It is a thing well to be considered: for the surest way to prevent seditions, (if the times do bear it,) is to take away the matter of them. For if there be fuel prepared, it is hard to tell whence the spark shall come, that shall set it on fire. The matter of seditions is of two kinds; much poverty and much discontentment. It is certain, so many overthrown estates, so many votes for troubles. *Lucan* noteth well the state of *Rome*, before the civil war;

*Hinc usura vorax, rapidumque in tempore foenus,
Hinc concussa fides, & multis utile bellum.*

THIS same *multis utile bellum*, is an assured and infallible sign, of a state disposed to seditions and troubles. And if this poverty and broken estate in the better sort, be joined with a want and necessity in the mean people, the danger is imminent and great. For the rebellions of the belly are the worst. As for discontentments, they are in the politick body, like to humours in the natural, which are apt to gather a preternatural heat, and to enflame. And let no prince measure the danger of them, by this; whether they be just, or unjust; for that were to imagine people to be too reasonable; who do often spurn at their own good: not yet by this; whether the griefs whereupon they rise, be in fact great or small. For they are the most dangerous discontentments, where the fear is greater than the feeling. *Dolendi modus, timendi non item.* Besides, in great oppressions, the same things that provoke the patience, do withal mate the courage: but in fears it is not so. Neither let any prince or state be secure concerning discontentments, because they have been often, or have been long, and yet no peril hath ensued; for as it is true that every vapour, or fume, doth not turn into a storm; so it is nevertheless true, that storms, though they blow over divers times, yet may fall at last; and as the *Spanish* proverb noteth well, the cord breaketh at the last by the weakest pull.

THE causes and motives of seditions are, innovation in religion, taxes, alterations of laws and customs, breaking of privileges, general oppression, advancement of unworthy persons, strangers, dearths, disbanded soldiers, factions grown desperate: And whatsoever in offending people, joineth and knitteth them in a common cause.

FOR the remedies, there may be some general preservatives, whereof we will speak; as for the just cure, it must answer to the particular disease: and so be left to counsel, rather than rule.

THE first remedy or prevention, is to remove by all means possible, that material cause of sedition, whereof we speak; which is want and poverty in the estate. To which purpose, serveth the opening, and well balancing of trade; the cherishing of manufactures; the banishing of idleness; the repressing of waste and excess by sumptuary laws; the improvement and husbanding of the soil, the regulating of prices of things vendible; the moderating of taxes and tributes, and the like. Generally it is to be foreseen,

that the population of a kingdom (especially if it be not mown down by wars) do not exceed the stock of the kingdom, which should maintain them. Neither is the population to be reckoned, only by number : for a smaller number, that spend more, and earn less, do wear out an estate, sooner than a greater number that live lower, and gather more. Therefore the multiplying of nobility, and other degrees of quality, in an over proportion, to the common people, doth speedily bring a state to necessity : and so doth likewise an overgrown Clergy ; for they bring nothing to the stock ; and in like manner, when more are bred scholars, than preferments can take off.

IT is likewise to be remembred, that forasmuch as the increase of any estate must be upon the foreigner, (for whatsoever is somewhere gotten is somewhere lost) there be but three things which one nation selleth unto another ; the commodity as nature yieldeth it ; the manufacture ; and the vecture or carriage. So that if these three wheels go, wealth will flow as in a spring tide. And it cometh many times to pass, that *materiam superabit opus* ; that the work and carriage is more worth than the material, and enricheth a state more ; as is notably seen in the *Low-Country* men, who have the best mines above ground in the world.

ABOVE all things good policy is to be used, that the treasure and moneys in a state, be not gathered into few hands. For otherwise a state may have a great stock and yet starve. And money is like muck, not good except it be spread. This is done chiefly by suppressing, or at the least keeping a strait hand upon the devouring trades of usury, ingrossing, great pasturages, and the like.

FOR removing discontentments, or at least the danger of them, there is in every state (as we know) two portions of subjects, the nobles, and the commonalty. When one of these is discontent, the danger is not great ; for common people are of slow motion, if they be not excited by the greater sort ; and the greater sort are of small strength, except the multitude be apt and ready to move of themselves. Then is the danger, when the greater sort do but wait for the troubling of the waters amongst the meaner, that then they may declare themselves. The poets feign, that the rest of the Gods would have bound *Jupiter* ; which he hearing of, by the counsel of *Pallas*, sent for *Briareus* with his hundred hands to come in to his aid. An emblem no doubt to shew, how safe it is for monarchs to make sure of the good will of common people.

To give moderate liberty, for griefs and discontentments to evaporate, (so it be without too great insolency or bravery) is a safe way. For he that turneth the humours back, and maketh the wound bleed inwards, endangereth malign ulcers and pernicious impostumations.

THE part of *Epimetheus* might well become *Prometheus*, in the case of discontentments, for there is not a better provision against them. *Epimetheus*, when griefs and evils flew abroad, at last shut the lid, and kept hope in the bottom of the vessel. Certainly the politick and artificial nourishing and entertaining of hopes, and carrying men from hopes to hopes, is one of the best antidotes against the poison of discontentments. And it is a certain sign of a wise government and proceeding, when it can hold mens hearts by hopes, when it cannot by satisfaction : and when it can handle things in such manner, as no evil shall appear so peremptory, but that it hath some outlet of hope ; which is the less hard to do, because both particular persons
and

and factions are apt enough to flatter themselves, or at least to brave that which they believe not.

ALSO, the foresight and prevention that there be no likely or fit head, whereunto discontented persons may resort, and under whom they may join, is a known but an excellent point of caution. I understand a fit head, to be one that hath greatness and reputation; that hath confidence with the discontented party, and upon whom they turn their eyes; and that is thought discontented in his own particular; which kind of persons are either to be won and reconciled to the state, and that in a fast and true manner; or to be fronted with some other of the same party that may oppose them, and so divide the reputation. Generally, the dividing and breaking of all factions and combinations that are adverse to the state, and setting them at distance, or at least distrust amongst themselves, is not one of the worst remedies. For it is a desperate case, if those that hold with the proceeding of the state, be full of discord and faction; and those that are against it be entire and united.

I have noted, that some witty and sharp speeches which have fallen from princes, have given fire to seditions. *Caesar* did himself infinite hurt in that speech; *Sylla nescivit literas, non potuit dictare*: for it did utterly cut off that hope which men had entertained, that he would at one time or other give over his dictatorship. *Galba* undid himself by that speech; *legi a se militem, non emi*: for it put the soldiers out of hopes of the donative. *Probus* likewise by that speech, *si vixero, non opus erit amplius Romano imperio militibus*; a speech of great despair for the soldiers; and many the like. Surely, princes had need in tender matter and ticklish times to beware what they say; especially in these short speeches which fly abroad like darts, and are thought to be shot out of their secret intentions. For as for large discourses, they are flat things, and not so much noted.

LASTLY, let princes against all events, not be without some great person, one, or rather more, of military valour near unto them, for the repressing of seditions in their beginnings. For without that, there useth to be more trepidation in court upon the first breaking out of troubles, than were fit. And the state runneth the danger of that which *Tacitus* saith, *atque is habitus animorum fuit, ut pessimum facinus auderent pauci, plures vellent, omnes paterentur*. But let such military persons be assured and well reputed of, rather than factious and popular; holding also good correspondence with the other great men in the state; or else the remedy is worse than the disease.

XVII. Of atheism.

I had rather believe all the fables in the legend, and the Talmud, and the Alcoran, than that this universal frame is without mind. And therefore God never wrought miracle to convince atheism, because his ordinary works convince it. It is true, that a little philosophy inclineth man's mind to atheism; but depth in philosophy bringeth mens minds about to religion: for while the mind of man looketh upon second causes scattered, it may sometimes rest in them and go no farther; but when it beholdeth the chain of them confederate and linked together, it must need fly to Providence and Deity. Nay even that school which is most accused of atheism, doth most demonstrate religion: that is, the school of *Leucippus*, and *Democritus*, and *Epicurus*. For it is a thousand times more credible, that four mutable elements, and one immutable fifth essence duly and eternally placed, need no God; than that an army of infinite small portions, or seeds unplaced,

should have produced this order and beauty without a divine marshal. The scripture saith, *The fool hath said in his heart, there is no God*: it is not said, *the fool hath thought in his heart*. So as he rather saith it by rote to himself, as that he would have, than that he can thoroughly believe it, or be persuaded of it. For none deny there is a God, but those for whom it maketh that there were no God. It appeareth in nothing more, that atheism is rather in the lip than in the heart of man, than by this; that atheists will ever be talking of that their opinion, as if they fainted in it within themselves, and would be glad to be strengthened by the consent of others: nay more, you shall have atheists strive to get disciples, as it fareth with other sects; and, which is most of all, you shall have of them that will suffer for atheism, and not recant: whereas if they did truly think that there were no such thing as God, why should they trouble themselves? *Epicurus* is charged, that he did but dissemble for his credit's sake, when he affirmed, there were blessed natures, but such as enjoyed themselves without having respect to the government of the world. Wherein they say he did temporize, though in secret he thought there was no God. But certainly he is traduced; for his words are noble and divine: *Non deos vulgi negare profanum; sed vulgi opiniones diis applicare profanum*. *Plato* could have said no more. And although he had the confidence to deny the administration, he had not the power to deny the nature. The *Indians* of the west, have names for their particular gods, though they have no name for God: as if the heathens should have had the names *Jupiter, Apollo, Mars, &c.* but not the word, *Deus*: which shews, that even those barbarous people have the notion, though they have not the latitude and extent of it. So that against atheists, the very savages take part with the very subtlest philosophers. The contemplative atheist is rare; a *Diagoras*, a *Bion*, a *Lucian* perhaps, and some others; and yet they seem to be more than they are; for that all that impugn a received religion, or superstition, are by the adverse part branded with the name of atheists. But the great atheists indeed are hypocrites; which are ever handling holy things, but without feeling: so as they must needs be cauterized in the end. The causes of atheism are; divisions in religion, if they be many; for any one main division addeth zeal to both sides; but many divisions introduce atheism. Another is, scandal of priests; when it is come to that which *S. Bernard* saith, *non est jam dicere, ut populus, sic sacerdos: quia nec sic populus, ut sacerdos*. A third is, custom of profane scoffing in holy matters; which doth by little and little deface the reverence of religion. And lastly, learned times, especially with peace and prosperity: for troubles and adversities do more bow mens minds to religion. They that deny a God, destroy man's nobility: for certainly man is of kin to the beasts by his body; and if he be not of kin to God by his spirit, he is a base and ignoble creature. It destroys likewise magnanimity, and the raising of humane nature: for take an example of a dog, and mark what a generosity and courage he will put on, when he finds himself maintained by a man; who to him is instead of a God, or *melior natura*: which courage is manifestly such, as that creature without that confidence of a better nature than his own could never attain. So man, when he resteth and assureth himself upon divine protection and favour, gathereth a force and faith, which humane nature in it self could not obtain: Therefore as atheism is in all respects hateful, so in this, that it depriveth humane nature of the means to exalt it self above humane frailty. As it is in particular persons, so it is in nations: never was there such a state for magnanimity

mity as *Rome* ; of this state hear what *Cicero* saith : *Quam volumus, licet, patres conscripti, nos amemus, tamen nec numero Hispanos, nec robore Gallos, nec calliditate Poenos, nec artibus Graecos, nec denique hoc ipso hujus gentis & terrae domestico nativoque sensu Italos ipsos & Latinos ; sed pietate, ac religione, atque hac una sapientia, quod deorum immortalium numine, omnia regi, gubernarique perspeximus, omnes gentes nationesque superavimus.*

XVIII. *Of superstition.*

IT were better to have no opinion of God at all, than such an opinion as is unworthy of him : for the one is unbelief, the other is contumely : and certainly superstition is the reproach of the Deity. *Plutarch* saith well to that purpose : surely (saith he) I had rather a great deal men should say there was no such man at all as *Plutarch*, than that they should say, that there was one *Plutarch*, that would eat his children as soon as they were born ; as the poets speak of *Saturn*. And as the contumely is greater towards God, so the danger is greater towards men. Atheism leaves a man to sense, to philosophy, to natural piety, to laws, to reputation ; all which may be guides to an outward moral virtue, though religion were not ; but superstition dismounts all these, and erecteth an absolute monarchy in the minds of men. Therefore atheism did never perturb states ; for it makes men wary of themselves, as looking no farther : and we see the times inclined to atheism (as the time of *Augustus Caesar*) were civil times. But superstition hath been the confusion of many states ; and bringeth in a new *primum mobile*, that ravisheth all the spheres of government. The master of superstition is the people ; and in all superstition wise men follow fools ; and arguments are fitted to practice in a reversed order. It was gravely said by some of the prelates in the council of *Trent*, where the doctrine of the schoolmen bare great sway ; that the schoolmen were like astronomers, which did feign eccentricks and epicycles, and such engines of orbs, to save the *phaenomena*, though they knew there were no such thing ; and in like manner, that the schoolmen had framed a number of subtle and intricate axioms and theorems, to save the practice of the church. The causes of superstition are : pleasing and sensual rites and ceremonies : excess of outward and pharisaical holiness : over-great reverence of traditions, which cannot but load the church : the stratagems of prelates for their own ambition and lucre : the favouring too much of good intentions, which openeth the gate to conceits and novelties : the taking an aim at divine matters by humane, which cannot but breed mixture of imaginations : and lastly, barbarous times, especially joined with calamities and disasters. Superstition without a vail is a deformed thing : for as it addeth deformity to an ape to be so like a man ; so the similitude of superstition to religion, makes it the more deformed. And as wholesome meat corrupteth to little worms ; so good forms and orders corrupt into a number of petty observances. There is a superstition in avoiding superstition ; when men think to do best, if they go farthest from the superstition formerly received : therefore care would be had, that (as it fareth in ill purgings) the good be not taken away with the bad, which commonly is done when the people is the reformer.

XIX. *Of travel.*

TRAVEL in the younger sort is a part of education ; in the elder a part of experience. He that travelleth into a countrey before he hath some
entrance

entrance into the language, goeth to school, and not to travel. That young men travel under some tutor, or grave servant, I allow well; so that he be such a one that hath the language, and hath been in the countrey before; whereby he may be able to tell them what things are worthy to be seen in the countrey where they go, what acquaintances they are to seek, what exercises or discipline the place yieldeth. For else young men shall go hooded, and look abroad little. It is a strange thing, that in sea-voyages where there is nothing to be seen but sky and sea, men should make diaries; but in land travel, wherein so much is to be observed, for the most part they omit it; as if chance were fitter to be registred than observation. Let diaries therefore be brought in use. The things to be seen and observed are; the courts of princes, especially when they give audience to ambassadors: the courts of justice while they sit and hear causes; and so of consistories ecclesiastick: the churches and monasteries, with the monuments which are therein extant: the walls and fortifications of cities and towns; and so the havens and harbours, antiquities and ruins, libraries, colleges, disputations, and lectures, where any are; shipping and navies; houses, and gardens of state and pleasure near great cities; armories, arsenals, magazines, exchanges, burfes, ware-houses, exercises of horsemanship, fencing, training of soldiers, and the like; comedies, such whereunto the better sort of persons do resort, treasuries of jewels and robes, cabinets and rarities: and to conclude, whatsoever is memorable in the places where they go. After all which, the tutors or servants ought to make diligent enquiry. As for triumphs, masks, feasts, weddings, funerals, capital executions, and such shews, men need not to be put in mind of them; yet are they not to be neglected. If you will have a young man to put his travels into a little room, and in short time to gather much, this you must do: first, as was said, he must have some entrance into the language before he goeth. Then he must have such a servant, or tutor, as knoweth the countrey, as was likewise said. Let him carry with him also some card or book describing the countrey where he travelleth, which will be a good key to his enquiry. Let him keep also a diary. Let him not stay long in one city or town, more or less as the place deserveth, but not long: nay, when he stayeth in one city or town, let him change his lodging from one end and part of the town to another, which is a great adamant of acquaintance. Let him sequester himself from the company of his countrey-men, and diet in such places where there is good company of the nation where he travelleth. Let him upon his removes from one place to another, procure recommendation to some person of quality residing in the place whither he removeth; that he may use his favour in those things he desireth to see or know. Thus he may abridge his travel with much profit. As for the acquaintance which is to be sought in travel, that which is most of all profitable, is acquaintance with the secretaries and employ'd men of ambassadors; for so in travelling in one countrey he shall suck the experience of many. Let him also see and visit eminent persons in all kinds, which are of great name abroad; that he may be able to tell how the life agreeth with the fame. For quarrels, they are with care and discretion to be avoided: they are commonly for mistresses, healths, place, and words. And let a man beware how he keepeth company with cholerick and quarrelsome persons; for they will engage him into their own quarrels. When a traveller returneth home, let him not leave the countries where he hath travelled altogether behind him; but maintain a correspondence by letters, with those of his acquaintance

which are of most worth. And let his travel appear rather in his discourse, than in his apparel or gesture; and in his discourse, let him be rather advised in his answers, than forward to tell stories: and let it appear that he doth not change his countrey manners for those of foreign parts; but only prick in some flowers of that he hath learned abroad, into the customs of his own countrey.

XX. *Of empire.*

It is a miserable state of mind to have few things to desire, and many things to fear: and yet that commonly is the case of kings, who being at the highest, want matter of desire, which makes their minds more languishing: and have many representations of perils and shadows, which make their minds the less clear. And this is one reason also of that effect which the scripture speaketh of, *that the king's heart is inscrutable*. For multitude of jealousies, and lack of some predominant desire, that should marshal and put in order all the rest, maketh any man's heart hard to find or sound. Hence it comes likewise, that princes many times make themselves desires, and set their hearts upon toys; sometimes upon a building; sometimes upon erecting of an order; sometimes upon the advancing of a person; sometimes upon obtaining excellency in some art, or feat of the hand; as *Nero* for playing on the harp; *Domitian* for certainty of the hand with the arrow; *Commodus* for playing at fence; *Caracalla* for driving chariots, and the like. This seemeth incredible unto those that know not the principle; that the mind of man is more cheared and refreshed by profiting in small things, than by standing at a stay in great. We see also that kings that have been fortunate conquerors in their first years, it being not possible for them to go forward infinitely, but that they must have some check or arrest in their fortunes; turn in their latter years to be superstitious and melancholy: as did *Alexander the Great*, *Dioclesian*, and in our memory *Charles the fifth*, and others: for he that is used to go forward, and findeth a stop, falleth out of his own favour, and is not the thing he was.

To speak now of the true temper of empire: it is a thing rare and hard to keep; for both temper and distemper consist of contraries. But it is one thing to mingle contraries, another to interchange them. The answer of *Apollonius* to *Vespasian*, is full of excellent instruction: *Vespasian* asked him, what was *Nero's* overthrow? He answered, *Nero* could touch and tune the harp well, but in government sometimes he used to wind the pins too high, sometimes let them down too low. And certain it is that nothing destroyeth authority so much, as the unequal and untimely interchange of power pressed too far, and relaxed too much.

This is true, that the wisdom of all these latter times in princes affairs, is rather fine deliveries, and shiftings of dangers and mischiefs, when they are near; than solid and grounded courses to keep them aloof. But this is but to try masteries with fortune: and let men beware, how they neglect, and suffer matter of trouble to be prepared; for no man can forbid the spark, nor tell whence it may come. The difficulties in princes business, are many and great; but the greatest difficulty, is often in their own mind. For it is common with princes (saith *Tacitus*) to will contradictories. *Sunt plerumque regum voluntates vehementes, & inter se contrariae*. For it is the solecism of power, to think to command the end, and yet not to endure the means.

KINGS have to deal with their neighbours, their wives, their children ; their prelates or clergy, their nobles, their second nobles or gentlemen ; their merchants ; their commons, and their men of war ; and from all these arise dangers, if care and circumspection be not used.

FIRST for their neighbours, there can no general rule be given (the occasions are so variable,) save one, which ever holdeth ; which is, that princes do keep due centinel, that none of their neighbours do overgrow so, (by encrease of territory, by embracing of trade, by approaches, or the like) as they become more able to annoy them, than they were, and this is generally the work of standing counsels, to foresee, and to hinder it. During that triumvirate of kings, king *Henry* the eighth of *England*, *Francis* the first, king of *France*, and *Charles* the fifth emperor, there was such a watch kept, that none of the three could win a palm of ground, but the other two would straightways balance it, either by confederation, or if need were by a war : and would not, in any wise, take up peace at interest. And the like was done by that league (which, *Guicciardine* saith, was the security of *Italy*) made between *Ferdinando* king of *Naples* ; *Lorenzious Medices*, and *Ludovicus Sforza*, potentates, the one of *Florence*, the other of *Milan*. Neither is the opinion of some of the school-men to be received, that a war cannot justly be made, but upon a precedent injury, or provocation. For there is no question ; but a just fear of an imminent danger, though there be no blow given, is a lawful cause of a war.

FOR their wives, there are cruel examples of them. *Livia* is infamed for the poisoning of her husband : *Roxolana*, *Solyman's* wife, was the destruction of that renowned prince, *Sultan Mustapha* ; and otherwise troubled his house and succession : *Edward* the second of *England*, his queen, had the principal hand in the deposing and murder of her husband. This kind of danger is then to be feared, chiefly, when the wives have plots, for the raising of their own children ; or else that they be advou-tresses.

FOR their children : the tragedies, likewise of the dangers for them, have been many : and generally, the entring of the fathers into suspicion of their children, hath been ever unfortunate. The destruction of *Mustapha*, (that we named before) was so fatal to *Solyman's* line, as the succession of the *Turks* from *Solyman*, until this day, is suspected to be untrue, and of strange blood ; for that *Selymus* the second was thought to be supposititious. The destruction of *Crispus*, a young prince of rare towardness, by *Constantinus* the great, his father, was in like manner fatal to his house, for both *Constantinus* and *Constance*, his sons, died violent deaths ; and *Constantius* his other son did little better ; who died indeed of sickness, but after that *Julianus* had taken arms against him. The destruction of *Demetrius*, son to *Philip* the second of *Macedon*, turned upon the father, who died of repentance. And many like examples there are ; but few or none where the fathers had good by such distrust, except it were where the sons were up in open arms against them ; as was *Selymus* the first against *Bajazet* : and the three sons of *Henry* the second king of *England*.

FOR their prelates, when they are proud and great, there is also danger from them : as it was in the times of *Anselmus* and *Thomas Becket*, archbishops of *Canterbury*, who with their crostiers did almost try it with the king's sword ; and yet they had to deal with stout and haughty kings, *William Rufus*, *Henry* the first, and *Henry* the second. The danger is not from
that

that state, but where it hath a dependence of foreign authority ; or where the churchmen come in, and are elected, not by the collation of the king, or particular patrons, but by the people.

FOR their nobles ; to keep them at a distance it is not amiss ; but to depress them, may make a king more absolute, but less safe ; and less able to perform any thing that he desires. I have noted it in my history of king *Henry* the seventh of *England*, who depressed his nobility ; whereupon it came to pass that his times were full of difficulties and troubles : for the nobility, though they continued loyal unto him, yet did they not co-operate with him in his business. So that in effect he was fain to do all things himself.

FOR their second nobles ; there is not much danger from them, being a body dispersed. They may sometimes discourse high, but that doth little hurt : besides, they are a counterpoize to the higher nobility, that they grow not too potent : and lastly, being the most immediate in authority with the common people, they do best temper popular commotions.

FOR their merchants, they are *vena porta* ; and if they flourish not, a kingdom may have good limbs, but will have empty veins, and nourish little. Taxes and imposts upon them, do seldom good to the king's revenue, for that that he wins in the hundred, he loseth in the shire ; the particular rates being increased, but the total bulk of trading rather decreased.

FOR their commons, there is little danger from them, except it be where they have great and potent heads ; or where you meddle with the point of religion, or their customs or means of life.

FOR their men of war, it is a dangerous state where they live and remain in a body, and are used to donatives, whereof we see examples in the janizaries and pretorian bands of *Rome* ; but trainings of men, and arming them in several places, and under several commanders, and without donatives, are things of defence and no danger.

PRINCES are like to heavenly bodies, which cause good or evil times ; and which have much veneration, but no rest. All precepts concerning kings are in effect comprehended in those two remembrances : *memento quod es homo* ; and *memento quod es Deus* ; or *vice Dei* : the one bridleth their power, and the other their will.

XXI. *Of counsel.*

THE greatest trust between man and man, is the trust of giving counsel. For in other confidences, men commit the parts of life ; their lands, their goods, their children, their credit, some particular affair ; but to such as they make their counsellors, they commit the whole : by how much the more they are obliged to all faith and integrity. The wisest princes need not think it any diminution to their greatness, or derogation to their sufficiency, to rely upon counsel. God himself is not without : but hath made it one of the great names of his blessed son, *the counsellor*. *Solomon* hath pronounced, that *in counsel is stability*. Things will have their first or second agitation ; if they be not tossed upon the arguments of counsel, they will be tossed upon the waves of fortune ; and be full of inconstancy, doing and undoing, like the reeling of a drunken man. *Solomon's* son found the force of counsel, as his father saw the necessity of it. For the beloved kingdom of God was first rent and broken by ill counsel ; upon which counsel there are set for our instruction, the two marks, whereby bad counsel is

for ever best discerned: that it was young counsel for the persons, and violent counsel for the matter.

THE ancient times do set forth in figure, both the incorporation and inseparable conjunction of counsel with kings; and the wise and politick use of counsel by kings: the one, in that they say *Jupiter* did marry *Metis*, which signifieth counsel; whereby they intend, that sovereignty is married to counsel: the other in that which followeth, which was thus: they say, after *Jupiter* was married to *Metis*, she conceived by him, and was with child, but *Jupiter* suffered her not to stay till she brought forth, but eat her up; whereby he became himself with child, and was delivered of *Pallas* armed out of his head. Which monstrous fable containeth a secret of empire; how kings are to make use of their council of state: that first, they ought to refer matters unto them, which is the first begetting or impregnation; but when they are elaborate, moulded, and shaped in the womb of their counsel, and grow ripe and ready to be brought forth; that then they suffer not their counsel to go through with the resolution and direction, as if it depended on them; but take the matter back into their own hands, and make it appear to the world, that the decrees and final directions (which because they come forth with prudence and power, are resembled to *Pallas* armed) proceeded from themselves: and not only from their authority, but (the more to add reputation to themselves) from their head and device.

LET us now speak of the inconveniences of counsel, and of the remedies. The inconveniences that have been noted in calling and using counsel, are three. First, the revealing of affairs, whereby they become less secret. Secondly, the weakning of the authority of princes, as if they were less of themselves. Thirdly, the danger of being unfaithfully counselled, and more for the good of them that counsel, than of him that is counselled. For which inconveniencies, the doctrine of *Italy*, and practice of *France*, in some kings times, hath introduced cabinet counsels; a remedy worse than the disease.

As to secrecy, princes are not bound to communicate all matters with all counsellors, but may extract and select. Neither is it necessary, that he that consulteth what he should do, should declare what he will do. But let princes beware, that the unsecreting of their affairs comes not from themselves. And as for cabinet counsels, it may be their motto; *plenus rimarum sum*: one futile person, that maketh it his glory to tell, will do more hurt, than many that know it their duty to conceal. It is true, there be some affairs which require extreme secrecy, which will hardly go beyond one or two persons besides the king: neither are those counsels unprosperous; for besides the secrecy, they commonly go on constantly in one spirit of direction without distraction. But then it must be a prudent king, such as is able to grind with a hand-mill; and those inward counsellors had need also be wise men, and especially true and trusty to the king's ends; as it was with king *Henry* the seventh of *England*, who in his greatest business imparted himself to none, except it were to *Morton* and *Fox*.

FOR weakning of authority; the fable sheweth the remedy. Nay, the majesty of kings is rather exalted than diminished, when they are in the chair of counsel; neither was there ever prince bereaved of his dependences by his counsel, except where there hath been either an over-greatness in one counsellor, or an over-strict combination in divers; which are things soon found and holpen.

For the last inconvenience, that men will counsel with an eye to themselves; certainly, *non inveniet fidem super terram*, is meant of the nature of times, and not of all particular persons. There be, that are in nature, faithful and sincere, and plain and direct; not crafty and involved: let princes, above all draw to themselves such natures. Besides, counsellors are not commonly so united, but that one counsellor keepeth centinel over another; so that if any do counsel out of faction or private ends, it commonly comes to the king's ear. But the best remedy is, if princes know their counsellors, as well as their counsellors know them:

Principis est virtus maxima nosse suos.

And on the other side, counsellors should not be too speculative into their sovereign's person. The true composition of a counsellor, is rather to be skilful in their master's business, than in his nature; for then he is like to advise him, and not to feed his humour. It is of singular use to princes, if they take the opinions of their counsel both separately and together: for private opinion is more free, but opinion before others is more reverend. In private, men are more bold in their own humours; and in consort, men are more obnoxious to others humours; therefore it is good to take both: and of the inferior sort, rather in private, to preserve freedom; of the greater rather in consort, to preserve respect. It is in vain for princes to take counsel concerning matters, if they take no counsel likewise concerning persons: for all matters are as dead images; and the life of the execution of affairs, resteth in the good choice of persons. Neither is it enough to consult concerning persons, *secundum genera*, as in an idea or mathematical description, what the kind and character of the person should be; for the greatest errors are committed, and the most judgment is shewn, in the choice of individuals. It was truly said, *optimi consilarii mortui*; books will speak plain, when counsellors blanch. Therefore it is good to be conversant in them, specially the books of such as themselves have been actors upon the stage.

THE counsels at this day, in most places, are but familiar meetings; where matters are rather talked on, than debated: and they run too swift to the order or act of counsel. It were better, that in causes of weight, the matter were propounded one day, and not spoken to till the next day; *in nocte consilium*. So was it done in the commission of union, between *England* and *Scotland*; which was a grave and orderly assembly. I commend set days for petitions: for both it gives the suitors more certainty for their attendance; and it frees the meetings for matters of estate, that they may *hoc agere*. In choice of committees, for ripening business for the counsel, it is better to chuse indifferent persons, than to make an indifferency, by putting in those that are strong on both sides. I commend also standing commissions; as for trade, for treasure, for war, for suits, for some provinces: for where there be divers particular counsels, and but one counsel of estate, (as it is in *Spain*) they are, in effect, no more than standing commissions; save that they have greater authority. Let such as are to inform counsels out of their particular professions, (as lawyers, sea-men, mint-men, and the like) be first heard before committees; and then, as occasion serves, before the counsel. And let them not come in multitudes, or in a tribunitious manner; for that is, to clamour counsels not to inform them. A long table and a square table, or seats about the wall, seem things of form, but are things of substance; for at a long

table, a few at the upper end, in effect, sway all the business; but in the other form, there is more use of the counsellors' opinions, that sit lower. A king when he presides in council, let him beware how he opens his own inclination too much, in that which he propoundeth: for else counsellors will but take the wind of him; and instead of giving free counsel, sing him a song of *placebo*.

XXII. *Of delays.*

FORTUNE is like the market, where many times if you can stay a little, the price will fall. And again, it is sometimes like *Sibylla's* offer, which at first offereth the commodity at full, then consumeth part and part, and still holdeth up the price. For occasion (as it is in the common verse) turneth a bald noddle, after she hath presented her locks in front, and no hold taken: or at least turneth the handle of the bottle first to be received, and after the belly, which is hard to clasp. There is surely no greater wisdom, than well to time the beginnings and onsets of things. Dangers are no more light, if they once seem light: and more dangers have deceived men, than forced them. Nay, it were better to meet some dangers half way, though they come nothing near, than to keep too long a watch upon their approaches; for if a man watch too long, it is odds he will fall asleep. On the other side, to be deceived with too long shadows, (as some have been when the moon was low, and shone on their enemies back) and so to shoot off before the time; or to teach dangers to come on, by over-early buckling towards them, is another extreme. The ripeness or unripeness of the occasion, (as we said) must ever be well weighed; and generally it is good to commit the beginnings of all great actions, to *Argos* with his hundred eyes; and the ends to *Briareus* with his hundred hands: first to watch, and then to speed. For the helmet of *Pluto*, which maketh the politick man go invisible, is secrecy in the counsel, and celerity in the execution. For when things are once come to the execution, there is no secrecy comparable to celerity; like the motion of a bullet in the air, which flieth so swift as it outruns the eye.

XXIII. *Of cunning.*

WE take cunning for a sinister or crooked wisdom. And certainly there is great difference between a cunning man, and a wise man; not only in point of honesty, but in point of ability. There be that can pack the cards, and yet cannot play well; so there are some that are good in canvasses and factions, that are otherwise weak men. Again, it is one thing to understand persons, and another thing to understand matters; for many are perfect in mens humours, that are not greatly capable of the real part of business; which is the constitution of one that hath studied men more than books. Such men are fitter for practice than for counsel; and they are good but in their own ally: turn them to new men, and they have lost their aim; so as the old rule, to know a fool from a wise man, *Mitte ambos nudos ad ignotos, & videbis*, doth scarce hold for them. And because these cunning men are like haberdashers of small wares, it is not amiss to set forth their shop.

IT is a point of cunning, to wait upon him with whom you speak with your eye; as the Jesuits give it in precept: for there be many wise men that have secret hearts and transparent countenances. Yet this would be
done

done with a demure abasing of your eye sometimes, as the Jesuits also do use.

ANOTHER is, that when you have any thing to obtain of present dispatch, you entertain and amuse the party with whom you deal with some other discourse; that he be not too much awake to make objections. I knew a counsellor and secretary, that never came to queen *Elizabeth* of *England* with bills to sign, but he would always first put her into some discourse of estate, that she might the less mind the bills.

THE like surprize may be made by moving things, when the party is in haste, and cannot stay, to consider advisedly of that is moved.

IF a man would cross a business, that he doubts some other would handsomely and effectually move, let him pretend to wish it well, and move it himself in such sort as may foil it.

THE breaking off in the midst of that one was about to say, as if he took himself up, breeds a greater appetite in him with whom you confer, to know more.

AND because it works better when any thing seemeth to be gotten from you by question, than if you offer it of your self, you may lay a bait for a question, by shewing another visage and countenance than you are wont; to the end, to give occasion for the party to ask what the matter is of the change; as *Nehemiab* did, and *I had not before that time been sad before the king*.

IN things that are tender and unpleasing, it is good to break the ice by some whose words are of less weight, and to reserve the more weighty voice to come in as by chance, so that he may be asked the question upon the other's speech: As *Narcissus* did, in relating to *Claudius* the marriage of *Messalina* and *Silius*.

IN things that a man would not be seen in himself, it is a point of cunning to borrow the name of the world; as to say, the world says, or, there is a speech abroad.

I knew one, that when he wrote a letter, he would put that which was most material in the postscript, as if it had been a by-matter.

I knew another, that when he came to have speech, he would pass over that that he intended most; and go forth, and come back again, and speak of it as of a thing that he had almost forgot.

SOME procure themselves to be surprized, at such times as it is like the party that they work upon, will suddenly come upon them: and to be found with a letter in their hand, or doing somewhat which they are not accustomed; to the end they may be apposed of those things, which of themselves they are desirous to utter.

IT is a point of cunning, to let fall those words in a man's own name, which he would have another man learn and use, and thereupon take advantage. I knew two that were competitors for the secretary's place in queen *Elizabeth's* time, and yet kept good quarter between themselves, and would confer one with another upon the business; and the one of them said, that to be a secretary in the declination of a monarchy, was a ticklish thing, and that he did not affect it: the other strait caught up those words, and discoursed with divers of his friends, that he had no reason to desire to be secretary in the declination of a monarchy. The first man took hold of it, and found means it was told the queen; who hearing of a declination of a monarchy, took it so ill, as she would never after hear of the other's suit.

THERE

THERE is a cunning which we in *England* call, the turning of the cat in the pan; which is, when that which a man says to another, he lays it as if another had said it to him; and to say truth, it is not easy when such a matter passed between two, to make it appear from which of them it first moved and began.

It is a way that some men have, to glance and dart at others, by justifying themselves by negatives; as to say, this I do not: as *Tigellinus* did towards *Burrhus*, *ſe non diverſas ſpes, ſed incolumitatem imperatoris ſimpli- citer ſpectare.*

SOME have in readineſs ſo many tales and ſtories, as there is nothing they would inſinuate, but they can wrap it into a tale; which ſerveth both to keep themſelves more in guard, and to make others carry it with more pleaſure.

It is a good point of cunning, for a man to ſhape the answer he would have in his own words and propoſitions; for it makes the other party ſtick the leſs.

It is ſtrange how long ſome men will lie in wait to ſpeak ſomewhat they deſire to ſay; and how far about they will fetch, and how many other matters they will beat over to come near it; it is a thing of great patience, but yet of much uſe.

A ſudden, bold, and unexpected queſtion, doth many times ſurprize a man, and lay him open. Like to him, that having changed his name, and walking in *Paul's*, another ſuddenly came behind him and called him by his true name, whereat ſtraightways he looked back.

BUT theſe ſmall wares and petty points of cunning are infinite, and it were a good deed to make a liſt of them; for that nothing doth more hurt in a ſtate, than that cunning men paſs for wiſe.

BUT certainly ſome there are that know the reſorts and falls of buſineſs, that cannot ſink into the main of it; like a houſe that hath convenient ſtairs and entries, but never a fair room. Therefore you ſhall ſee them find out pretty looſes in the concluſion, but are no ways able to examine or debate matters. And yet commonly they take advantage of their inability, and would be thought wits of direction. Some build rather upon the abuſing of others, and (as we now ſay) putting tricks upon them, than upon ſoundneſs of their own proceedings. But *Solomon* ſaith, *Prudens advertit ad grefſus ſuos: ſtultus divertit ad dolos.*

XXIV. *Of wiſdom for a man's ſelf.*

AN ant is a wiſe creature for itſelf: but it is a ſhrewd thing in an orchard or garden. And certainly men that are great lovers of themſelves waſte the publick. Divide with reaſon between ſelf-love and ſociety; and be ſo true to thy ſelf, as thou be not falſe to others; eſpecially to thy king and country. It is a poor center of a man's actions, himſelf. It is right earth. For that only ſtands faſt upon his own center; whereas all things that have affinity with the heavens, move upon the center of another which they benefit. The referring of all to a man's ſelf, is more tolerable in a ſovereign prince, becauſe themſelves are not only themſelves, but their good and evil is at the peril of the publick fortune. But it is a deſperate evil in a ſervant to a prince, or a citizen in a republick. For whatſoever affairs paſs ſuch a man's hands, he crooketh them to his own ends: which muſt needs be often eccentrick to the ends of his maſter or ſtate. Therefore let princes or ſtates chuſe ſuch ſervants as have not this mark; except they mean their ſervice ſhould

should be made but the necessary. That which maketh the effect more pernicious is, that all proportion is lost: it were disproportion enough for the servant's good, to be preferred before the master's; but yet it is a greater extreme, when a little good of the servant, shall carry things against a great good of the master's. And yet that is the case of bad officers, treasurers, ambassadors, generals, and other false and corrupt servants; which set a bias upon their bowl of their own petty ends and envies, to the overthrow of their masters great and important affairs. And for the most part, the good such servants receive, is after the model of their own fortune; but the hurt they sell for that good, is after the model of their masters fortune. And certainly it is the nature of extreme self-lovers, as they will set an house on fire, and it were but to roast their eggs: and yet these men many times hold credit with their masters, because their study is but to please them, and profit themselves: and for either respect they will abandon the good of their affairs.

WISDOM for a man's self, is in many branches thereof a depraved thing. It is the wisdom of rats, that will be sure to leave a house somewhat before it fall. It is the wisdom of the fox, that thrusts out the badger, who digged and made room for him. It is the wisdom of crocodiles, that shed tears when they would devour. But that which is specially to be noted is, that those which (as *Cicero* says of *Pompey*) are, *sui amantes sine rivali*, are many times unfortunate. And whereas they have all their time sacrificed to themselves, they become in the end themselves sacrifices to the inconstancy of fortune, whose wings they thought by their self-wisdom to have pinioned.

XXV. Of innovations.

As the births of living creatures at first are ill shapen; so are all innovations which are the births of time. Yet notwithstanding as those that first bring honour into their family, are commonly more worthy than most that succeed: so the first precedent (if it be good) is seldom attained by imitation. For ill, to man's nature, as it stands perverted, hath a natural motion strongest in continuance: but good, as a forced motion, strongest at first. Surely every medicine is an innovation, and he that will not apply new remedies, must expect new evils; for time is the greatest innovator: and if time of course alter things to the worse, and wisdom and counsel shall not alter them to the better, what shall be the end? It is true, that what is settled by custom, though it be not good, yet at least it is fit. And those things which have long gone together, are, as it were, confederate within themselves: whereas new things piece not so well; but though they help by their utility, yet they trouble by their inconformity. Besides, they are like strangers, more admired, and less favoured. All this is true if time stood still; which contrariwise moveth so round, that a froward retention of custom is as turbulent a thing, as an innovation; and they that reverence too much old times are but a scorn to the new. It were good therefore, that men in their innovations would follow the example of time itself, which indeed innovateth greatly, but quietly and by degrees scarce to be perceived: for otherwise whatsoever is new is unlooked for; and ever it mends some, and pairs other: and he that is holpen takes it for a fortune, and thanks the time; and he that is hurt, for a wrong, and imputeth it to the author. It is good also not to try experiments in states, except the necessity be urgent, or the utility evident; and well to beware that it be the reformation that draweth

on the change ; and not the desire of change that pretendeth the reformation. And lastly, that the novelty, though it be not rejected, yet be held for a suspect: and as the scripture saith, *That we make a stand upon the ancient way, and then look about us, and discover what is the strait and right way, and so to walk in it.*

XXVI. *Of dispatch.*

AFFECTED dispatch is one of the most dangerous things to business that can be. It is like that which the physicians call predigestion, or hasty digestion; which is sure to fill the body full of crudities, and secret seeds of diseases. Therefore measure not dispatch by the times of fitting, but by the advancement of the business. And as in races, it is not the large stride, or high lift, that makes the speed; so in business, the keeping close to the matter, and not taking of it too much at once, procureth dispatch. It is the care of some, only to come off speedily for the time; or to contrive some false periods of business, because they may seem men of dispatch. But it is one thing to abbreviate by contracting, another by cutting off; and business so handled at several fittings or meetings, goeth commonly backward and forward in an unsteady manner. I knew a wise man that had it for a by-word, when he saw men hasten to a conclusion, stay a little, that we may make an end the sooner.

ON the other side, true dispatch is a rich thing. For time is the measure of business, as money is of wares: and business is bought at a dear hand, where there is small dispatch. The *Spartans* and *Spaniards* have been noted to be of small dispatch: *Mi venga la muerte de Spagna*; let my death come from *Spain*; for then it will be sure to be long in coming.

GIVE good hearing to those that give the first information in business; and rather direct them in the beginning, than interrupt them in the continuance of their speeches: for he that is put out of his own order, will go forward and backward, and be more tedious while he waits upon his memory, than he could have been if he had gone on in his own course. But sometimes it is seen, that the moderator is more troublesome than the actor.

ITERATIONS are commonly loss of time: but there is no such gain of time, as to iterate often the state of the question; for it chafeth away many a frivolous speech as it is coming forth. Long and curious speeches are as fit for dispatch, as a robe or mantle with a long train is for race. Prefaces, and passages, and excusations, and other speeches of reference to the person, are great wastes of time; and though they seem to proceed of modesty, they are bravery. Yet beware of being too material, when there is any impediment or obstruction in mens wills; for preoccupation of mind ever requireth preface of speech; like a fomentation to make the unguent enter.

ABOVE all things, order, and distribution, and singling out of parts, is the life of dispatch; so as the distribution be not too subtle: for he that doth not divide, will never enter well into business; and he that divideth too much, will never come out of it clearly. To chuse time, is to save time; and an unseasonable motion is but beating the air. There be three parts of business; the preparation, the debate or examination, and the perfection. Whereof, if you look for dispatch, let the middle only be the work of many, and the first and last the work of few. The proceeding upon somewhat conceived in writing, doth for the most part facilitate dispatch:

for

for though it should be wholly rejected, yet that negative is more pregnant of direction, than an indefinite; as ashes are more generative than dust.

XXVII. *Of seeming wise.*

IT hath been an opinion, that the *French* are wiser than they seem; and the *Spaniards* seem wiser than they are. But howsoever it be between nations, certainly it is so between man and man. For as the Apostle saith of godliness, *having a shew of godliness, but denying the power thereof*; so certainly there are in points of wisdom and sufficiency, that do nothing or little very solemnly; *magno conatu nugas*. It is a ridiculous thing, and fit for a satyr to persons of judgment, to see what shifts these formalists have, and what prospectives to make superficies to seem body that hath depth and bulk. Some are so close and reserved, as they will not shew their wares but by a dark light; and seem always to keep back somewhat; and when they know within themselves, they speak of that they do not well know, would nevertheless seem to others, to know of that which they may not well speak. Some help themselves with countenance and gesture, and are wise by signs; as *Cicero* saith of *Piso*, that when he answered him, he fetched one of his brows up to his forehead, and bent the other down to his chin: *respondes, altero ad frontem sublato, altero ad mentum depresso supercilio, crudelitatem tibi non placere*. Some think to bear it by speaking a great word, and being peremptory; and go on, and take by admittance that which they cannot make good. Some, whatsoever is beyond their reach, will seem to despise or make light of it as impertinent or curious; and so would have their ignorance seem judgment. Some are never without a difference, and commonly by amusing men with a subtilty, blanch the matter; of whom *A. Gellius* saith, *hominem delirum, qui verborum minutiis rerum frangit pondera*. Of which kind also, *Plato* in his *Protagoras* bringeth in *Prodicus* in scorn, and maketh him make a speech that consisteth of distinctions from the beginning to the end. Generally such men in all deliberations find ease to be of the negative side, and affect a credit to object and foretel difficulties: for when propositions are denied, there is an end of them; but if they be allowed, it requireth a new work: which false point of wisdom is the bane of business. To conclude, there is no decaying merchant, or inward beggar, hath so many tricks to uphold the credit of their wealth, as these empty persons have to maintain the credit of their sufficiency. Seeming wise men may make shift to get opinion; but let no man chuse them for employment, for certainly you were better take for business a man somewhat absurd, than over-formal.

XXVIII. *Of friendship.*

IT had been hard for him that spake it, to have put more truth and untruth together, in few words, than in that speech; whosoever is delighted in solitude, is either a wild beast, or a god. For it is most true, that a natural and secret hatred, and aversion towards society, in any man, hath somewhat of the savage beast: but it is most untrue, that it should have any character at all of the divine nature, except it proceed, not out of a pleasure in solitude, but out of a love and desire to sequester a man's self for a higher conversation: such as is found to have been falsely and feignedly, in some of the heathen; as *Epimenides* the *Candian*, *Numa* the *Roman*, *Empedocles* the *Sicilian*, and *Apollonius* of *Tyana*; and truly and really, in divers of the ancient hermits, and holy fathers of the church. But little do men

perceive what solitude is, and how far it extendeth. For a croud is not company, and faces are but a gallery of pictures; and talk but a tinkling cymbal, where there is no love. The *Latin* adage meeteth with it a little; *magna civitas, magna solitudo*; because in a great town friends are scattered, so that there is not that fellowship, for the most part, which is in less neighbourhoods. But we may go farther, and affirm most truly, that it is a mere and miserable solitude, to want true friends, without which the world is but a wilderness. And even in this sense also of solitude, whosoever in the frame of his nature and affections is unfit for friendship, he taketh it of the beast, and not from humanity.

A principal fruit of friendship, is the ease and discharge of the fulness of the heart, which passions of all kinds do cause and induce. We know diseases of stoppings and suffocations, are the most dangerous in the body; and it is not much otherwise in the mind; you may take sarza to open the liver; steel to open the spleen; flower of sulphur for the lungs; *castoreum* for the brain; but no receipt openeth the heart but a true friend, to whom you may impart griefs, joys, fears, hopes, suspicions, counsels, and whatsoever lieth upon the heart, to oppress it, in a kind of civil shift or confession.

It is a strange thing to observe, how high a rate great kings and monarchs do set upon this fruit of friendship, whereof we speak; so great, as they purchase it many times at the hazard of their own safety and greatness. For princes, in regard of the distance of their fortune, from that of their subjects and servants, cannot gather this fruit, except (to make themselves capable thereof) they raise some persons to be as it were companions, and almost equals to themselves; which many times sorteth to inconvenience. The modern languages give unto such persons the name of favourites, or privadoes; as if it were matter of grace or conversation: but the *Roman* name attaineth the true use and cause thereof; naming them *participes curarum*; for it is that which tieth the knot. And we see plainly, that this hath been done, not by weak and passionate princes only, but by the wisest and most politic that ever reigned, who have oftentimes joined to themselves some of their servants, whom both themselves have called friends, and allowed others likewise to call them in the same manner, using the word which is received between private men.

L. Sylla, when he commanded *Rome*, raised *Pompey* (after surnamed the great) to that height, that *Pompey* vaunted himself for *Sylla's* over-match. For when he had carried the consulship for a friend of his, against the pursuit of *Sylla*, and that *Sylla* did a little repent thereat, and began to speak great, *Pompey* turned upon him again, and in effect bad him be quiet; for that more men adored the sun rising, than the sun setting. With *Julius Caesar*, *Decimus Brutus* had obtained that interest, as he set him down in his testament, for heir in remainder after his nephew. And this was the man that had power with him, to draw him forth to his death. For when *Caesar* would have discharged the senate, in regard of some ill presages, and specially a dream of *Calpurnia*; this man lifted him gently by the arm out of his chair, telling him, he hoped he would not dismiss the senate, till his wife had dream'd a better dream. And it seemeth, his favour was so great, as *Antonius* in a letter, which is recited *verbatim*, in one of *Cicero's* Philippicks, called him *venefica*, witch; as if he had enchanted *Caesar*. *Augustus* raised *Agrippa* (though of mean birth) to that height, as when he consulted with *Mecaenas* about the marriage of his daughter *Julia*, *Mecaenas* took

took the liberty to tell him, that he must either marry his daughter to *Agrippa*, or take away his life ; there was no third way, he had made him so great. With *Tiberius Caesar*, *Sejanus* had ascended to that height, as they two were termed and reckoned, as a pair of friends. *Tiberius* in a letter to him saith ; *haec pro amicitia nostra non occultavi*: And the whole senate dedicated an altar to friendship, as to a goddess, in respect of the great dearth of friendship between them two. The like or more was between *Septimius Severus* and *Plantianus*. For he forced his eldest son to marry the daughter of *Plantianus* ; and would often maintain *Plantianus*, in doing affronts to his son ; and did write also in a letter to the senate, by these words ; I love the man so well, as I wish he may over-live me. Now if these princes had been as a *Trajan*, or a *Marcus Aurelius*, a man might have thought that this had proceeded of an abundant goodness of nature ; but being men so wise, of such strength and severity of mind, and so extreme lovers of themselves, as all these were ; it proveth most plainly, that they found their own felicity (though as great as ever happened to mortal men) but as an half piece, except they might have a friend to make it entire ; and yet, which is more, they were princes, that had wives, sons, nephews ; and yet all these could not supply the comfort of friendship.

It is not to be forgotten what *Commineus* observeth, of his first master duke *Charles the Hardy*, namely, that he would communicate his secrets with none ; and least of all, those secrets which troubled him most. Whereupon he goeth on, and saith, that towards his latter time, that closeness did impair, and a little perish his understanding. Surely *Commineus* might have made the same judgment also, if it had pleased him, of his second master *Lewis* the eleventh, whose closeness was indeed his tormenter. The parable of *Pythagoras* is dark, but true ; *cor ne edito*, eat not the heart. Certainly, if a man would give it a hard phrase, those that want friends to open themselves unto, are cannibals of their own hearts. But one thing is most admirable, (wherewith I will conclude this first fruit of friendship) which is, that this communicating of a man's self to his friend, works two contrary effects ; for it redoubleth joys, and cutteth griefs in halves. For there is no man that imparteth his joys to his friend, but he joyeth the more ; and no man that imparteth his griefs to his friend, but he grieveth the less. So that it is in truth of operation upon a man's mind, of like virtue, as the alchymists use to attribute to their stone, for man's body ; that it worketh all contrary effects, but still to the good and benefit of nature. But yet, without praying in aid of alchymists, there is a manifest image of this in the ordinary course of nature. For in bodies, union strengtheneth and cherisheth any natural action ; and, on the other side, weakeneth and dulbeth any violent impression ; and even so is it of minds.

THE second fruit of friendship, is healthful and sovereign for the understanding, as the first is for the affections. For friendship maketh indeed a fair day in the affections, from storms and tempests ; but it maketh daylight in the understanding, out of darkness and confusion of thoughts : neither is this to be understood only of faithful counsel, which a man receiveth from his friend ; but before you come to that, certain it is, that whosoever hath his mind fraught with many thoughts, his wits and understanding do clarify and break up in the communicating and discoursing with another : he tosseth his thoughts more easily ; he marshalleth them more orderly ; he seeth how they look when they are turned into words ; finally, he waxeth wiser than himself ; and that more by an hour's discourse, than by a

day's meditation. It was well said by *Themistocles* to the king of *Persia*, that speech was like cloth of *Arras*, opened and put abroad, whereby the imagery doth appear in figure; whereas in thoughts they lie but as in packs. Neither is this second fruit of friendship, in opening the understanding, restrained only to such friends, as are able to give a man council, (they indeed are best;) but even, without that, a man learneth of himself, and bringeth his own thoughts to light, and whetteth his wits as against a stone, which it self cuts not. In a word; a man were better relate himself to a statue, or picture, than to suffer his thoughts to pass in smother.

ADD now, to make this second fruit of friendship compleat, that other point which lieth more open, and falleth within vulgar observation; which is faithful counsel from a friend. *Heracitus* saith well in one of his *aenigmas*, dry light is ever the best. And certain it is, that the light that a man receiveth by counsel from another, is drier and purer, than that which cometh from his own understanding and judgment; which is ever infused and drenched in his affections and customs. So as there is as much difference between the counsel that a friend giveth, and that a man giveth himself, as there is between the counsel of a friend, and of a flatterer. For there is no such flatterer as is a man's self; and there is no such remedy against flattery of a man's self, as the liberty of a friend. Counsel is of two sorts; the one concerning manners, the other concerning business. For the first, the best preservative to keep the mind in health, is the faithful admonition of a friend. The calling of a man's self to a strict account, is a medicine sometimes too piercing and corrosive. Reading good books of morality, is a little flat and dead. Observing our faults in others, is sometimes improper for our case: But the best receipt (best, I say, to work, and best to take) is the admonition of a friend. It is a strange thing to behold what gross errors, and extreme absurdities many (especially of the greater sort) do commit, for want of a friend to tell them of them; to the great damage both of their fame and fortune. For, as *St. James* saith, they are as men *that look sometimes into a glass, and presently forget their own shape and favour*: as for business, a man may think if he will, that two eyes see no more than one; or that a gamester seeth always more than a looker on; or that a man in anger, is as wise as he that hath said over the four and twenty letters; or that a musket may be shot off, as well upon the arm, as upon a rest; and such other fond and high imaginations, to think himself all in all. But when all is done, the help of good counsel is that which setteth business strait. And if any man think, that he will take counsel, but it shall be by pieces; asking counsel in one business of one man, and in another business of another man; it is as well (that is to say, better perhaps than if he asked none at all;) but he runneth two dangers: one, that he shall not be faithfully counselled; for it is a rare thing, except it be from a perfect and entire friend, to have counsel given, but such as shall be bowed and crooked to some ends which he hath that giveth it. The other, that he shall have counsel given, hurtful and unsafe, (though with good meaning) and mixt partly of mischief, and partly of remedy: even as if you would call a physician that is thought good for the cure of the disease you complain of, but is unacquainted with your body; and therefore may put you in way for a present cure, but overthroweth your health in some other kind, and so cure the disease and kill the patient. But a friend that is wholly acquainted with a man's estate, will beware by furthering any present business, how he dasheth upon

upon other inconvenience. And therefore rest not upon scattered counsels; they will rather distract and mislead, than settle and direct.

AFTER these two noble fruits of friendship, (peace in the affections, and support of the judgment) followeth the last fruit, which is like the pomegranate, full of many kernels; I mean aid, and bearing a part in all actions and occasions. Here the best way to represent to life the manifold use of friendship, is to cast and see how many things there are which a man cannot do himself; and then it will appear that it was a sparing speech of the ancients to say, that a friend is another himself: for that a friend is far more than himself. Men have their time, and die many times in desire of some things which they principally take to heart; the bestowing of a child, the finishing of a work, or the like. If a man have a true friend, he may rest almost secure, that the care of those things will continue after him. So that a man hath as it were two lives in his desires. A man hath a body, and that body is confined to a place; but where friendship is, all offices of life are as it were granted to him and his deputy: For he may exercise them by his friend. How many things are there, which a man cannot, with any face or comeliness, say or do himself? A man can scarce alledge his own merits with modesty, much less extol them: a man cannot sometimes brook to supplicate or beg; and a number of the like. But all these things are graceful in a friend's mouth, which are blushing in a man's own. So again, a man's person hath many proper relations, which he cannot put off. A man cannot speak to his son, but as a father; to his wife, but as a husband; to his enemy, but upon terms: whereas a friend may speak as the case requires, and not as it sorteth with the person. But to enumerate these things were endless: I have given the rule, where a man cannot fitly play his own part; if he have not a friend, he may quit the stage.

XXIX. *Of expence.*

RICHES are for spending; and spending for honour and good actions. Therefore extraordinary expence must be limited by the worth of the occasion: for voluntary undoing may be as well for a man's countrey, as for the kingdom of heaven. But ordinary expence ought to be limited by a man's estate, and governed with such regard as it be within his compass; and not subject to deceit and abuse of servants; and ordered to the best shew, that the bills may be less than the estimation abroad. Certainly if a man will keep but of even hand, his ordinary expences ought to be but to the half of his receipts. And if he think to wax rich, but to the third part. It is no baseness for the greatest, to descend and look into their own estate. Some forbear it, not upon negligence alone, but doubting to bring themselves into melancholy, in respect they shall find it broken. But wounds cannot be cured without searching. He that cannot look into his own estate at all, had need both chuse well those whom he employeth, and change them often: for new are more timorous, and less subtle. He that can look into his estate but seldom, it behoveth him to turn all to certainties. A man had need, if he be plentiful in some kind of expence, to be as saving again in some other. As if he be plentiful in diet, to be saving in apparel: if he be plentiful in the hall, to be saving in the stable: and the like. For he that is plentiful in expences of all kinds, will hardly be preserved from decay. In clearing of a man's estate, he may as well hurt himself in being in too sudden, as in letting it run on too long: For hasty selling is commonly as disadvantageable as interest. Besides, he that clears at once will relapse;
for

for finding himself out of straits, he will revert to his customs: but he that cleareth by degrees induceth a habit of frugality, and gaineth as well upon his mind as upon his estate. Certainly, who hath a state to repair, may not despise small things: and commonly, it is less dishonourable to abridge petty charge, than to stoop to petty gettings. A man ought warily to begin charges, which once begun will continue; but in matters that return not, he may be more magnificent.

XXX. *Of the true greatness of kingdoms and estates.*

THE speech of *Themistocles* the *Athenian*, which was haughty and arrogant in taking so much to himself, had been a grave and wise observation and censure, applied at large to others. Desiring at a feast to touch a lute, he said, he could not fiddle, but yet he could make a small town a great city. These words (holpen a little with a metaphor) may express two differing abilities, in those that deal in business of estate. For if a true survey be taken of counsellors and statesmen, there may be found (though rarely) those, which can make a small state great, and yet cannot fiddle: as on the other side, there will be found a great many that can fiddle very cunningly, but yet are so far from being able to make a small state great, as their gift lieth the other way; to bring a great and flourishing estate to ruin and decay. And certainly those degenerate arts and shifts, whereby many counsellors and governours gain both favour with their masters, and estimation with the vulgar, deserve no better name than fiddling; being things rather pleasing for the time, and graceful to themselves only, than tending to the weal and advancement of the state which they serve. There are also (no doubt) counsellors and governours which may be held sufficient, (*negotiiis pares*) able to manage affairs, and to keep them from precipices and manifest inconveniences; which nevertheless are far from the ability to raise and amplify an estate, in power, means, and fortune. But be the workmen what they may be, let us speak of the work; that is, the true greatness of kingdoms and estates; and the means thereof. An argument fit for great and mighty princes to have in their hand; to the end, that neither by over-measuring their forces, they lose themselves in vain enterprizes; nor on the other side by under-valuing them, they descend to fearful and pusillanimous counsels.

THE greatness of an estate in bulk and territory, doth fall under measure; and the greatness of finances and revenue doth fall under computation. The population may appear by musters; and the number and greatness of cities and towns by cards and maps. But yet there is not any thing amongst civil affairs more subject to error, than the right valuation and true judgment concerning the power and forces of an estate. The kingdom of heaven is compared, not to any great kernel or nut, but to a grain of mustard-seed; which is one of the least grains, but hath in it a property and spirit hastily to get up and spread. So are there states, great in territory, and yet not apt to enlarge or command; and some that have but a small dimension of stem, and yet apt to be the foundation of great monarchies.

WALLED towns, stored arsenals and armories, goodly races of horse, chariots of war, elephants, ordnance, artillery, and the like: all this is but a sheep in a lion's skin, except the breed and disposition of the people be stout and warlike. Nay, number (it self) in armies, importeth not much, where the people is of weak courage: for (as *Virgil* saith) it never troubles a

wolf how many the sheep be. The army of the *Persians*, in the plains of *Arbela*, was such a vast sea of people, as it did somewhat astonish the commanders in *Alexander's* army; who came to him therefore, and wish'd him to set upon them by night; but he answered, he would not pilfer the victory: and the defeat was easy. When *Tigranes* the *Armenian*, being encamp'd upon a hill with four hundred thousand men, discovered the army of the *Romans*, being not above fourteen thousand marching towards him; he made himself merry with it, and said, yonder men are too many for an ambassage, and too few for a fight. But before the sun set, he found them enow to give him the chase, with infinite slaughter. Many are the examples of the great odds between number and courage: so that a man may truly make a judgment, that the principal point of greatness in any state, is to have a race of military men. Neither is money the sinews of war, (as it is trivially said,) where the sinews of mens arms, in base and effeminate people, are failing. For *Solon* said well to *Croesus*, (when in ostentation he shewed him his gold,) Sir, if any other come that hath better iron than you, he will be master of all this gold. Therefore let any prince or state think soberly of his forces, except his militia of natives be of good and valiant soldiers. And let princes, on the other side, that have subjects of martial disposition, know their own strength, unless they be otherwise wanting unto themselves. As for mercenary forces, (which is the help in this case) all examples shew, that whatsoever estate or prince doth rest upon them, he may spread his feathers for a time, but he will mew them soon after.

THE blessing of *Judah* and *Issachar* will never meet; that the same people, or nation, should be both the lion's whelp, and the ass between burthens. Neither will it be, that a people over-laid with taxes should ever become valiant and martial. It is true, that taxes levied by consent of the estate, do abate mens courage less; as it hath been seen notably in the exercises of the *Low Countries*; and in some degree, in the subsidies of *England*. For you must note, that we speak now of the heart, and not of the purse. So that although the same tribute and tax, laid by consent, or by imposing, be all one to the purse, yet it works diversly upon the courage. So that you may conclude, that no people, over-charged with tribute, is fit for empire.

LET states that aim at greatness, take heed how their nobility and gentlemen do multiply too fast: for that maketh the common subject grow to be a peasant, and base swain, driven out of heart, and in effect but a gentleman's labourer. Even as you may see in coppice woods; if you leave your staddles too thick, you shall never have clean underwood, but shrubs and bushes. So in countries, if the gentlemen be too many, the commons will be base; and you will bring it to that, that not the hundred poll will be fit for an helmet; especially as to the infantry, which is the nerve of an army: and so there will be great population, and little strength. This, which I speak of, hath been no where better seen, than by comparing of *England* and *France*; whereof *England*, though far less in territory and population, hath been (nevertheless) an overmatch; in regard the middle people of *England* make good soldiers, which the peasants of *France* do not. And herein the device of king *Henry* the seventh, (whereof I have spoken largely in the history of his life) was profound and admirable; in making farms, and houses of husbandry, of a standard; that is, maintained with such a proportion of land unto them, as may breed a subject to live in convenient plenty, and no servile condition; and to keep the plough in the hands of
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the owners, and not mere hirelings. And thus indeed you shall attain to *Virgil's* character, which he gives to ancient *Italy* :

— *Terra potens armis atque ubere glebae.*

Neither is that state (which for any thing I know, is almost peculiar to *England*, and hardly to be found any where else, except it be perhaps in *Poland*) to be passed over; I mean the state of free servants, and attendants upon noblemen and gentlemen, which are no ways inferior unto the yeomanry for arms: and therefore out of all question, the splendour and magnificence, and great retinues, and hospitality of noblemen and gentlemen, received into custom, doth much conduce unto martial greatness: whereas, contrariwise, the close and reserved living of noblemen and gentlemen, causeth a penury of military forces.

By all means it is to be procured, that the trunk of *Nebuchadnezzar's* tree of monarchy be great enough to bear the branches of the boughs: that is, that the natural subjects of the crown or state, bear a sufficient proportion to the strange subjects that they govern. Therefore all states, that are liberal of naturalization towards strangers, are fit for empire. For to think that an handful of people can, with the greatest courage and policy in the world, embrace too large extent of dominion, it may hold for a time, but it will fail suddenly. The *Spartans* were a nice people in point of naturalization; whereby, while they kept their compass, they stood firm; but when they did spread, and their boughs were become too great for their stem, they became a windfall upon the sudden. Never any state was, in this point, so open to receive strangers into their body, as were the *Romans*; therefore it sorted with them accordingly, for they grew to the greatest monarchy. Their manner was to grant naturalization, (which they called *jus civitatis*) and to grant it in the highest degree, that is, not only *jus commercii*, *jus connubii*, *jus haereditatis*; but also, *jus suffragii*, and *jus honorum*: and this not to singular persons alone, but likewise to whole families; yea, to cities, and sometimes to nations. Add to this, their custom of plantation of colonies, whereby the *Roman* plant was removed into the soil of other nations: and putting both constitutions together, you will say, that it was not the *Romans* that spread upon the world, but it was the world that spread upon the *Romans*; and that was the sure way of greatness. I have marvelled sometimes at *Spain*, how they clasp and contain so large dominions, with so few natural *Spaniards*: But sure, the whole compass of *Spain* is a very great body of a tree, far above *Rome* and *Sparta* at the first. And besides, though they have not had that usage, to naturalize liberally, yet they have that which is next to it: that is, to employ, almost indifferently, all nations, in their militia of ordinary soldiers; yea, and sometimes in their highest commands. Nay, it seemeth at this instant, they are sensible of this want of natives; as by the pragmatical sanction, now published, appeareth.

It is certain, that sedentary and within-door arts, and delicate manufactures, (that require rather the finger than the arm) have in their nature a contrariety to a military disposition. And generally all warlike people are a little idle, and love danger better than travail: neither must they be too much broken of it, if they shall be preserved in vigour. Therefore it was great advantage in the ancient states of *Sparta*, *Athens*, *Rome*, and others, that they had the use of slaves, which commonly did rid those manufactures. But that is abolished, in greatest part, by the christian law. That which
cometh

cometh nearest to it, is, to leave those arts chiefly to strangers, (which for that purpose are the more easy to be received) and to contain the principal bulk of the vulgar natives within those three kinds; tillers of the ground, free servants, and handycraftsmen, of strong and manly arts; as smiths, masons, carpenters, &c. not reckoning soldiers.

BUT above all, for empire and greatness, it importeth most; that a nation do profess arms as their principal honour, study and occupation. For the things which we formerly have spoken of, are but habilitations towards arms: and what is habilitation without intention and act? *Romulus*, after his death, (as they report or feign) sent a present to the *Romans*, that above all they should intend arms, and then they should prove the greatest empire of the world. The fabrick of the state of *Sparta* was wholly (though not wisely) framed and composed, to that scope and end. The *Persians* and *Macedonians* had it for a flash. The *Gauls*, *Germans*, *Goths*, *Saxons*, *Normans*, and others, had it for a time. The *Turks* have it at this day, though in great declination. Of Christian *Europe* they that have it, are in effect only the *Spaniards*. But it is so plain, that every man profiteth in that he most intendeth, that it needeth not to be stood upon. It is enough to point at it; that no nation which doth not directly profess arms, may look to have greatness fall into their mouths. And on the other side, it is a most certain oracle of time, that those states that continue long in that profession, (as the *Romans* and *Turks* principally have done) do wonders: And those that have professed arms but for an age, have notwithstanding commonly attained that greatness in that age, which maintained them long after, when their profession and exercise of arms hath grown to decay.

INCIDENT to this point is, for a state to have those laws or customs, which may reach forth unto them just occasions (as may be pretended) of war. For there is that justice imprinted on the nature of men; that they enter not upon wars (whereof so many calamities do ensue) but upon some, at the least specious, grounds and quarrels. The *Turk* hath at hand, for cause of war; the propagation of his law or sect, a quarrel that he may always command. The *Romans*, though they esteemed the extending the limits of their empire to be great honour to their generals, when it was done; yet they never rested upon that alone to begin a war. First therefore, let nations that pretend to greatness have this, that they be sensible of wrongs, either upon borderers; merchants, or politick ministers; and that they fit not too long upon a provocation. Secondly, let them be press'd, and ready to give aids and succours to their confederates; as it ever was with the *Romans*: inasmuch, as if the confederate had leagues defensive with divers other states, and upon invasion offered, did implore their aids severally, yet the *Romans* would ever be the foremost, and leave it to none other to have the honour. As for the wars, which were anciently made on the behalf of a kind of party, or tacit conformity of estate, I do not see how they may be well justified; as when the *Romans* made a war for the liberty of *Graecia*; or when the *Lacedaemonians* and *Athenians* made wars, to set up or pull down democracies and oligarchies: Or when wars were made by foreigners, under the pretence of justice, or protection, to deliver the subjects of others from tyranny and oppression, and the like. Let it suffice, that no estate expect to be great that is not awake, upon any just occasion of arming.

No body can be healthful without exercise, neither natural body, nor politick: and certainly, to a kingdom or estate, a just and honourable war is

the true exercise. A civil war, indeed, is like the heat of a fever; but a foreign war is like the heat of exercise, and serveth to keep the body in health. For in a slothful peace, both courages will effeminate, and manners corrupt. But howsoever it be for happiness; without all question, for greatness, it maketh, to be still, for the most part, in arms: and the strength of a veteran army, (though it be a chargeable business) always on foot, is that which commonly giveth the law; or at least the reputation amongst all neighbour states, as may well be seen in *Spain*; which hath had, in one part or other, a veteran army, almost continually, now by the space of six-score years.

To be master of the sea, is an abridgment of a monarchy. *Cicero* writing to *Atticus*, of *Pompey* his preparation against *Caesar*, saith, *Consilium Pompeii plane Themistocleum est; putat enim, qui mari potitur, eum rerum potiri*. And without doubt *Pompey* had tired out *Caesar*, if upon vain confidence he had not left that way. We see the great effects of battels by sea. The battel of *Actium* decided the empire of the world. The battel of *Lepanto* arrested the greatness of the *Turk*. There be many examples, where sea fights have been final to the war; but this is, when princes or states have set up their rest upon the battels. But thus much is certain; that he that commands the sea is at great liberty, and may take as much and as little of the war, as he will. Whereas those that be strongest by land, are many times, nevertheless, in great straits. Surely, at this day, with us of *Europe*, the vantage of strength at sea (which is one of the principal dowries of this kingdom of *Great Britain*) is great: both because most of the kingdoms of *Europe* are not merely inland, but girt with the sea, most part of their compass; and because the wealth of both *Indies* seems in great part but an accessory to the command of the seas.

THE wars of latter ages seem to be made in the dark, in respect of the glory and honour which reflected upon men, from the wars in ancient time. There be now, for martial encouragement, some degrees and orders of chivalry, which nevertheless are conferred promiscuously upon soldiers, and no soldiers, and some remembrance perhaps upon the escutcheon, and some hospitals for maimed soldiers, and such like things. But in ancient times, the trophies erected upon the place of the victory; the funeral laudatives and monuments for those that died in the wars; the crowns and garlands personal; the style of emperor, which the great kings of the world after borrowed; the triumphs of the generals upon their return; the great donatives and largesses upon the disbanding of the armies, were things able to enflame all mens courages: but above all, that of the triumph, amongst the *Romans*, was not pageants or gaudery, but one of the wisest and noblest institutions that ever was. For it contained three things; honour to the general; riches to the treasury out of the spoils; and donatives to the army. But that honour, perhaps, were not fit for monarchies; except it be in the person of the monarch himself, or his sons; as it came to pass, in the times of the *Roman* emperors, who did impropriate the actual triumphs to themselves and their sons, for such wars as they did achieve in person; and left only, for wars achieved by subjects, some triumphal garments and ensignes to the general.

To conclude: no man can, by *care taking*, (as the scripture saith) *add a cubit to his stature*, in this little model of a man's body: but in the great frame of kingdoms, and commonwealths, it is in the power of princes, or estates, to add amplitude and greatness to their kingdoms. For by introducing
such

such ordinances, constitutions and customs as we have now touched, they may sow greatness to their posterity and succession. But these things are commonly not observed, but left to take their chance.

XXXI. *Of regiment of health.*

THERE is a wisdom in this beyond the rules of physick: a man's own observation, what he finds good of, and what he finds hurt of, is the best physick to preserve health. But it is a safer conclusion to say, this agreeth not well with me, therefore I will not continue it; than this, I find no offence of this, therefore I may use it. For strength of nature in youth passeth over many excesses, which are owing a man till his age. Discern of the coming on of years, and think not to do the same things still; for age will not be defied. Beware of sudden change in any great point of diet, and if necessity enforce it, fit the rest to it. For it is a secret both in nature and state, that it is safer to change many things than one. Examine thy customs of diet, sleep, exercise, apparel, and the like; and try in any thing thou shalt judge hurtful, to discontinue it by little and little; but so, as if thou dost find any inconvenience by the change, thou come back to it again: for it is hard to distinguish that which is generally held good and wholesome, from that which is good particularly, and fit for thine own body. To be free-minded, and cheerfully disposed at hours of meat, and of sleep, and of exercise, is one of the best precepts of long lasting. As for the passions and studies of the mind, avoid envy, anxious fears, anger fretting inwards, subtle and knotty inquisitions, joys and exhilarations in excess, sadness not communicated. Entertain hopes, mirth rather than joy, variety of delights, rather than surfeit of them; wonder and admiration, and therefore novelties; studies that fill the mind with splendid and illustrious objects, as histories, fables, and contemplations of nature. If you fly physick in health altogether, it will be too strange for your body when you shall need it. If you make it too familiar, it will work no extraordinary effect when sickness cometh. I commend rather some diet for certain seasons, than frequent use of physick, except it be grown into a custom. For those diets alter the body more, and trouble it less. Despise no new accident in your body, but ask opinion of it. In sickness, respect health principally; and in health, action. For those that put their bodies to endure in health, may in most sicknesses which are not very sharp, be cured only with diet, and rendering. *Celsus* could never have spoken it as a physician, had he not been a wise man withal; when he giveth it for one of the great precepts of health and lasting, that a man do vary and interchange contraries; but with an inclination to the more benign extreme. Use fasting and full eating, but rather full eating; watching and sleep, but rather sleep; sitting and exercise, but rather exercise; and the like. So shall nature be cherished, and yet taught masteries. Physicians are some of them so pleasing and conformable to the humour of the patient, as they press not the true cure of the disease; and some other are so regular in proceeding according to art for the disease, as they respect not sufficiently the condition of the patient. Take one of a middle temper; or if it may not be found in one man, combine two of either sort; and forget not to call as well the best acquainted with your body, as the best reputed of for his faculty.

XXXII. *Of suspicion.*

SUSPICIONS amongst thoughts, are like bats amongst birds, they ever fly
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by twilight. Certainly they are to be repressed, or at the least well guarded: for they cloud the mind, they lose friends, and they check with business, whereby business cannot go on currently and constantly. They dispose kings to tyranny, husbands to jealousy, wise men to irresolution and melancholy. They are defects, not in the heart but in the brain; for they take place in the stoutest natures; as in the example of *Henry* the seventh of *England*; there was not a more suspicious man, nor a more stout. And in such a composition they do small hurt. For commonly they are not admitted but with examination, whether they be likely or no? But in fearful natures they gain ground too fast. There is nothing makes a man suspect much, more than to know little: and therefore men should remedy suspicion, by procuring to know more, and not to keep their suspicions in smother. What would men have? Do they think those they employ and deal with are saints? Do they not think they will have their own ends, and be truer to themselves than to them? Therefore there is no better way to moderate suspicions, than to account upon such suspicions as true, and yet to bridle them as false, for so far a man ought to make use of suspicions, as to provide, as if that should be true that he suspects, yet it may do him no hurt. Suspicions that the mind of it self gathers, are but buzzes; but suspicions that are artificially nourished, and put into mens heads by the tales and whisperings of others, have stings. Certainly the best mean to clear the way in this same wood of suspicions, is frankly to communicate them with the party that he suspects; for thereby he shall be sure to know more of the truth of them than he did before; and withal shall make that party more circumspect, not to give farther cause of suspicion. But this would not be done to men of base natures: for they, if they find themselves once suspected, will never be true. The *Italian* says, *Sospetto licentia fede*; as if suspicion did give a passport to faith; but it ought rather to kindle it to discharge it self.

XXXIII. *Of discourse.*

SOME in their discourse desire rather commendation of wit, in being able to hold all arguments, than of judgment in discerning what is true: as if it were a praise to know what might be said, and not what should be thought. Some have certain common places and themes, wherein they are good and want variety: which kind of poverty is for the most part tedious, and, when it is once perceived, ridiculous. The honourablest part of talk is to give the occasion; and again to moderate and pass to somewhat else, for then a man leads the dance. It is good in discourse, and speech of conversation, to vary, and intermingle speech of the present occasion with arguments; tales with reasons; asking of questions, with telling of opinions; and jest with earnest: for it is a dull thing to tire, and as we say now, to jade any thing too far. As for jest, there be certain things which ought to be privileged from it; namely, religion, matters of state, great persons, any man's present business of importance, and any case that deserveth pity. Yet there be some that think their wits have been asleep, except they dart out somewhat that is piquant, and to the quick: that is a vein which would be bridled;

Parce puer stimulis, & fortius utere loris.

And generally men ought to find the difference between saltiness and bitterness. Certainly he that hath a satyrical vein, as he maketh others afraid of

of his wit, so he had need be afraid of others memory. He that questioneth much shall learn much ; and content much, but especially if he apply his questions to the skill of the persons whom he asketh : for he shall give them occasion to please themselves in speaking, and himself shall continually gather knowledge. But let his questions not be troublesome, for that is fit for a poser. And let him be sure to leave other men their turns to speak. Nay, if there be any that would reign, and take up all the time, let him find means to take them off, and bring others on ; as musicians use to do with those that dance too long galliards. If you dissemble sometimes your knowledge of that you are thought to know, you shall be thought another time to know that you know not. Speech of a man's self ought to be seldom, and well chosen. I knew one was wont to say in scorn, he must needs be a wise man he speaks so much of himself : and there is but one case wherein a man may commend himself with good grace, and that is in commending virtue in another ; especially if it be such a virtue whereunto himself pretendeth. Speech of touch towards others, should be sparingly used : for discourse ought to be as a field, without coming home to any man. I knew two noblemen of the west part of *England*, whereof the one was given to scoff, but kept ever royal cheer in his house ; the other would ask of those that had been at the other's table, tell truly, was there never a flout or dry blow given ? To which the guest would answer ; such and such a thing passed. The lord would say, I thought he would mar a good dinner. Discretion of speech is more than eloquence ; and to speak agreeably to him with whom we deal, is more than to speak in good words, or in good order. A good continued speech, without a good speech of interlocution, shews slowness : and a good reply, or second speech, without a good settled speech, sheweth shallowness and weakness. As we see in beasts, that those that are weakest in the course, are yet nimblest in the turn : as it is betwixt the greyhound and the hare. To use too many circumstances ere one come to the matter, is wearisome ; to use none at all is blunt.

XXXIV. *Of plantations.*

PLANTATIONS are amongst ancient, primitive, and heroical works. When the world was young, it begat more children ; but now it is old, it begets fewer : for I may justly account new plantations to be the children of former kingdoms. I like a plantation in a pure soil ; that is, where people are not displanted to the end to plant in others. For else it is rather an extirpation, than a plantation. Planting of countries, is like planting of woods ; for you must make account to lose almost twenty years profit, and expect your recompence in the end. For the principal thing that hath been the destruction of most plantations, hath been the base and hasty drawing of profit in the first years. It is true, speedy profit is not to be neglected, as far as may stand with the good of the plantation, but no farther. It is a shameful and unblest thing, to take the scum of people, and wicked condemned men, to be the people with whom you plant ; and not only so, but it spoileth the plantation ; for they will ever live like rogues, and not fall to work, but be lazy, and do mischief, and spend victuals, and be quickly weary, and then certify over to their countrey, to the discredit of the plantation. The people wherewith you plant, ought to be gardeners, ploughmen, labourers, smiths, carpenters, joyners, fishermen, fowlers, with some few apothecaries, surgeons, cooks and bakers. In a countrey of
 plantation,

plantation, first look about what kind of victual the countrey yields of it self to hand; as chestnuts, walnuts, pine-apples, olives, dates, plumbs, cherries, wild honey, and the like, and make use of them. Then consider what victual, or esculent things there are, which grow speedily, and within the year; as parsnips, carrets, turnips, onions, radish, artichokes of *Hierusalem*, maiz, and the like. For wheat, barley, and oats, they ask too much labour: but with pease and beans you may begin; both because they ask less labour, and because they serve for meat, as well as for bread. And of rice likewise cometh a great increase, and it is a kind of meat. Above all, there ought to be brought store of bisket, oatmeal, flower, meal, and the like, in the beginning, till bread may be had. For beasts or birds, take chiefly such as are least subject to diseases, and multiply fastest: as swine, goats, cocks, hens, turkeys, geese, house-doves, and the like. The victual in plantations, ought to be expended almost as in a besieged town; that is, with certain allowance. And let the main part of the ground employed to gardens or corn, be to a common stock; and to be laid in, and stored up, and then delivered out in proportion; besides some spots of ground that any particular person will manure for his own private. Consider likewise what commodities the soil where the plantation is doth naturally yield, that they may some way help to defray the charge of the plantation: so it be not, as was said, to the untimely prejudice of the main business; as it hath fared with tobacco in *Virginia*. Wood commonly aboundeth but too much; and therefore timber is fit to be one. If there be iron ore, and streams whereupon to set the mills; iron is a brave commodity where wood aboundeth. Making of bay-salt, if the climate be proper for it, would be put in experience. Growing silk likewise, if any be, is a likely commodity. Pitch and tar, where store of firs and pines are, will not fail. So drugs, and sweet woods, where they are, cannot but yield great profit. Soap ashes likewise, and other things that may be thought of. But moil not too much under ground, for the hope of mines is very uncertain, and useth to make the planters lazy in other things. For government, let it be in the hands of one assisted with some counsel: and let them have commission to exercise martial laws with some limitation. And above all, let men make that profit of being in the wilderness, as they have God always, and his service, before their eyes. Let not the government of the plantation depend upon too many counsellors and undertakers, in the countrey that planteth, but upon a temperate number; and let those be rather noblemen and gentlemen, than merchants; for they look ever to the present gain. Let there be freedoms from custom, till the plantation be of strength: and not only freedom from custom, but freedom to carry their commodities where they may make their best of them, except there be some special cause of caution. Cram not in people, by sending too fast, company after company; but rather hearken how they waste, and send supplies proportionably; but so as the number may live well in the plantation, and not by surcharge be in penury. It hath been a great endangering to the health of some plantations, that they have built along the sea and rivers, in marsh and unwholesome grounds. Therefore though you begin there to avoid carriage, and other like discommodities, yet build still rather upwards from the streams, than along. It concerneth likewise the health of the plantation, that they have good store of salt with them, that they may use it in their victuals when it shall be necessary. If you plant where savages are, do not only entertain them with trifles and jingles; but use them
justly

justly and graciously, with sufficient guard nevertheless: and do not win their favour by helping them to invade their enemies, but for their defence it is not amiss. And send oft of them over to the countrey that plants, that they may see a better condition than their own, and commend it when they return. When the plantation grows to strength, then it is time to plant with women, as well as with men; that the plantation may spread into generations; and not be ever pieced from without. It is the sinfulness thing in the world, to forsake or destitute a plantation once in forwardness: for besides the dishonour, it is the guiltiness of blood of many commiserable persons.

XXXV. Of riches.

I cannot call riches better than the baggage of virtue. The *Roman* word is better, *impedimenta*. For as the baggage is to an army, so are riches to virtue. It cannot be spared, nor left behind, but it hindreth the march; yea, and the care of it, sometimes, loseth or disturbeth the victory: of great riches there is no real use, except it be in the distribution; the rest is but conceit. So saith *Solomon*; *where much is, there are many to consume it; and what bath the owner, but the sight of it with his eyes?* The personal fruition in any man, cannot reach to feel great riches: there is a custody of them; or a power of dole and donative of them; or a fame of them; but no solid use to the owner. Do you not see what feigned princes are set upon little stones and rarities? And what works of ostentation are undertaken, because there might seem to be some use of great riches? But then you will say they may be of use, to buy men out of dangers or troubles. As *Solomon* saith, *riches are as a strong hold, in the imagination of the rich man*. But this is excellently expressed, that it is in imagination, and not always in fact. For certainly great riches have sold more men than they have bought out. Seek not proud riches, but such as thou mayst get justly, use soberly, distribute chearfully, and leave contentedly; yet have no abstract nor friar-like contempt of them: But distinguish, as *Cicero* saith well of *Rabirius Posthumus*; *in studio rei amplificandae, apparebat, non avaritiae praedam, sed instrumentum bonitati quaeri*. Harken also to *Solomon*, and beware of hasty gathering of riches: *Qui festinat ad divitias, non erit insons*. The poets feign, that when *Plutus* (which is riches) is sent from *Jupiter*, he limps, and goes slowly; but when he is sent from *Pluto*, he runs, and is swift of foot: meaning, that riches gotten by good means and just labour, pace slowly; but when they come by the death of others, (as by the course of inheritance, testaments, and the like,) they come tumbling upon a man. But it might be applied likewise to *Pluto*, taking him for the devil. For when riches come from the devil, (as by fraud, and oppression, and unjust means,) they come upon speed. The ways to enrich are many, and most of them foul. Parsimony is one of the best, and yet is not innocent: for it withholdeth men from works of liberality and charity. The improvement of the ground is the most natural obtaining of riches; for it is our great mother's blessing, the earth; but it is slow. And yet, where men of great wealth do stoop to husbandry, it multiplieth riches exceedingly. I knew a nobleman in *England* that had the greatest audits of any man in my time; a great grafter, a great sheep master, a great timber man, a great collier, a great cornmaster, a great lead man; and so of iron, and a number of the like points of husbandry: so as the earth seemed a sea to him, in respect of
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the perpetual importation. It was truly observed by one, that himself came very hardly to a little riches, and very easily to great riches. For when a man's stock is come to that, that he can expect the prime of markets, and overcome those bargains, which for their greatness are few mens money, and be partner in the industries of younger men, he cannot but encrease mainly. The gains of ordinary trades and vocations are honest, and furthered by two things, chiefly, by diligence, and by a good name for good and fair dealing : but the gains of bargains are of a more doubtful nature, when men should wait upon others necessity ; broke by servants and instruments to draw them on ; put off others cunningly that would be better chapmen, and the like practices, which are crafty and naught : As for the chopping of bargains, when a man buys, not to hold, but to sell over again, that commonly grindeth double, both upon the feller, and upon the buyer. Sharings do greatly enrich, if the hands be well chosen that are trusted. Usury is the certainest means of gain, though one of the worst, as that whereby a man doth eat his bread *in sudore vultus alieni* ; and besides, doth plough upon *Sundays*. But yet certain though it be, it hath flaws ; for that the scriveners and brokers do value unsound men, to serve their own turn. The fortune, in being the first in an invention, or in a privilege, doth cause sometimes a wonderful overgrowth in riches ; as it was with the first sugar man in the *Canaries*. Therefore, if a man can play the true logician, to have as well judgment as invention, he may do great matters, especially if the times be fit. He that resteth upon gains certain, shall hardly grow to great riches. And he that puts all upon adventures, doth oftentimes break, and come to poverty : it is good therefore to guard adventures with certainties that may uphold losses. Monopolies, and co-emption of wares for resale, where they are not restrained, are great means to enrich ; especially if the party have intelligence what things are like to come into request, and so store himself before-hand. Riches gotten by service, though it be of the best rise, yet when they are gotten by flattery, feeding humours, and other servile conditions, they may be placed amongst the worst. As for fishing for testaments and executorships, (as *Tacitus* saith of *Seneca*, *Testamenta & orbos tanquam indagine capi*,) it is yet worse ; by how much men submit themselves to meaner persons, than in service. Believe not much them, that seem to despise riches ; for they despise them that despair of them ; and none worse when they come to them. Be not penny-wise ; riches have wings, and sometimes they fly away of themselves, sometimes they must be set flying to bring in more. Men leave their riches either to their kindred, or to the publick : and moderate portions prosper best in both. A great estate left to an heir, is as a lure to all the birds of prey round about, to seize on him, if he be not the better stablished in years and judgment. Likewise glorious gifts and foundations, are like sacrifices without salt ; and but the painted sepulchres of arms, which soon will putrefy and corrupt inwardly. Therefore measure not thine advancements by quantity, but frame them by measure ; and defer not charities till death. For certainly, if a man weigh it rightly, he that doth so, is rather liberal of another man's, than of his own.

XXXVI. *Of prophecies.*

I mean not to speak of divine prophecies, nor of heathen oracles, nor of natural predictions ; but only of prophecies that have been of certain memory,

ry, and from hidden causes. Saith the *Pythoniſſa* to *Saul*; *To-morrow thou and thy ſon ſhall be with me.* *Virgil* hath theſe verſes from *Homer* :

*At domus AEneae cunctis dominabitur oris,
Et nati natorum, & qui naſcentur ab illis.* *AEneid.* iii. 97.

A prophecy, as it ſeems, of the *Roman* empire. *Seneca* the tragedian hath theſe verſes :

————— *Venient annis*
Saecula ſeris, quibus oceanus
Vincula rerum laxet, & ingens
Pateat tellus, Tiphysque novos
Detegat orbes ; nec ſit terris
Ultima Thule :

A prophecy of the diſcovery of *America*. The daughter of *Polycrates* dreamed, that *Jupiter* bathed her father, and *Apollo* anointed him : And it came to paſs, that he was crucified in an open place, where the ſun made his body run with ſweat, and the rain waſhed it. *Philip* of *Macedon* dreamed, he ſealed up his wife's belly ; whereby he did expound it, that his wife ſhould be barren : But *Ariſtander* the ſoothſayer told him, his wife was with child, becauſe men do not uſe to ſeal veſſels that are empty. A phantaſm that appeared to *M. Brutus* in his tent, ſaid to him ; *Philippis iterum me videbis.* *Tiberius* ſaid to *Galba*, *Tu quoque, Galba, deguſtabis imperium.* In *Veſpaſian's* time there went a prophecy in the eaſt, that thoſe that ſhould come forth of *Judaea*, ſhould reign over the world ; which though it may be was meant of our Saviour, yet *Tacitus* expounds it of *Veſpaſian*. *Domitian* dreamed, the night before he was ſlain, that a golden head was growing out of the nape of his neck : and indeed the ſucceſſion that followed him, for many years, made golden times. *Henry* the fixth of *England*, ſaid of *Henry* the ſeventh, when he was a lad, and gave him water ; this is the lad that ſhall enjoy the crown for which we ſtrive. When I was in *France*, I heard from one *Dr. Pena*, that the queen mother, who was given to curious arts, cauſed the king her huſband's nativity to be calculated under a falſe name ; and the aſtrologer gave a judgment, that he ſhould be killed in a duel ; at which the queen laughed, thinking her huſband to be above challenges and duels : but he was ſlain, upon a courſe at tilt, the ſplinters of the ſtaff of *Montgomery* going in at his bever. The trivial prophecy, which I heard when I was a child, and queen *Elizabeth* was in the flower of her years, was ;

When hempe is ſpun,
England's done.

Whereby it was generally conceived, that after the princes had reigned, which had the principal letters of that word hempe, (which were *Henry*, *Edward*, *Mary*, *Philip*, and *Elizabeth*) *England* ſhould come to utter confuſion : which, thanks be to God, is verified only in the change of the name, for that the king's ſtyle is now no more of *England*, but of *Britain*. There was alſo another prophecy before the year of eighty eight, which I do not well underſtand.

ESSAYS CIVIL AND MORAL.

*There shall be seen upon a day,
Between the bough and the May,
The black fleet of Norway.
When that that is come and gone,
England build houses of lime and stone,
For after wars shall you have none.*

It was generally conceived to be meant of the *Spanish* fleet that came in eighty eight. For that the king of *Spain's* surname, as they say, is *Norway*. The prediction of *Regiomontanus*,

Octogesimus octavus mirabilis annus :

was thought likewise accomplished, in the sending of that great fleet, being the greatest in strength, though not in number, of all that ever swam upon the sea. As for *Cleon's* dream, I think it was a jest : It was, that he was devoured of a long dragon ; and it was expounded of a maker of sausages, that troubled him exceedingly. There are numbers of the like kind ; especially if you include dreams, and predictions of astrology. But I have set down these few only of certain credit, for example. My judgment is, that they ought all to be despised, and ought to serve but for winter talk by the fire-side. Though when I say despised, I mean it as for belief : for otherwise, the spreading or publishing them, is in no sort to be despised ; for they have done much mischief. And I see many severe laws made to suppress them : That that hath given them grace, and some credit, consisteth in three things : first, that men mark when they hit, and never mark when they miss ; as they do, generally, also of dreams. The second is, that probable conjectures, or obscure traditions, many times, turn themselves into prophecies : while the nature of man, which coveteth divination, thinks it no peril to foretel that, which indeed they do but collect ; as that of *Seneca's* verse. For so much was then subject to demonstration, that the globe of the earth had great parts beyond the Atlantick, which might be probably conceived not to be all sea : and adding thereto, the tradition of *Plato's Timaeus*, and his *Atlanticus*, it might encourage one to turn it to a prediction. The third and last, (which is the great one) is, that almost all of them, being infinite in number, have been impostures, and by idle and crafty brains, merely contrived and feigned, after the event past.

XXXVII. *Of ambition.*

AMBITION is like choler, which is an humour that maketh men active, earnest, full of alacrity and stirring, if it be not stopped. But if it be stopped, and cannot have its way, it becometh adust, and thereby malign and venomous. So ambitious men, if they find the way open for their rising, and still get forward, they are rather busy than dangerous ; but if they be check'd in their desires, they become secretly discontent, and look upon men and matters with an evil eye, and are best pleased when things go backward ; which is the worst property in a servant of a prince or state. Therefore it is good for princes, if they use ambitious men, to handle it so, as they be still progressive, and not retrograde ; which, because it cannot be without inconvenience, it is good not to use such natures at all. For if they rise not with their service, they will take order to make their service fall with them. But since we have said, it were good not to use men of ambitious natures, except it be upon necessity, it is fit we speak, in what cases, they

they are of necessity. Good commanders in the wars must be taken, be they never so ambitious: for the use of their service dispenseth with the rest; and to take a soldier without ambition, is to pull off his spurs. There is also great use of ambitious men, in being screens to princes; in matters of danger and envy: for no man will take that part, except he be like a feeled dove, that mounts and mounts; because he cannot see about him. There is use also of ambitious men, in pulling down the greatness of any subject that over-tops: as *Tiberius* used *Macro* in the pulling down of *Sejanus*. Since therefore they must be used in such cases, there resteth to speak, how they are to be bridled, that they may be less dangerous. There is less danger of them, if they be of mean birth, than if they be noble; and if they be rather harsh of nature, than gracious and popular; and if they be rather new raised, than grown cunning and fortified in their greatness. It is counted by some a weakness in princes to have favourites; but it is, of all others, the best remedy against ambitious great ones. For when the way of pleasuring and displeasing lieth by the favourite, it is impossible any other should be over-great. Another means to curb them, is to balance them by others as proud as they. But then there must be some middle counsellors to keep things steady; for without that ballast, the ship will roul too much. At the least, a prince may animate and inure some meaner persons, to be as it were scourges to ambitious men. As for the having of them obnoxious to ruin, if they be of fearful natures, it may do well: but if they be stout and daring, it may precipitate their designs, and prove dangerous. As for the pulling of them down, if the affairs require it, and that it may not be done with safety suddenly, the only way is, the interchange continually of favours and disgraces; whereby they may not know what to expect, and be as it were in a wood. Of ambitions, it is less harmful the ambition to prevail in great things, than that other to appear in every thing; for that breeds confusion; and marrs business: but yet it is less danger to have an ambitious man stirring in business, than great in dependences. He that seeketh to be eminent amongst able men, hath a great task; but that is ever good for the publick. But he that plots to be the only figure amongst ciphers, is the decay of a whole age. Honour hath three things in it: the vantage ground to do good; the approach to kings and principal persons; and the raising of a man's own fortunes. He that hath the best of these intentions, when he aspireth, is an honest man: and that prince that can discern of these intentions in another that aspireth, is a wise prince. Generally let princes and states chuse such ministers as are more sensible of duty, than of rising; and such as love business rather upon conscience, than upon bravery: and let them discern a busy nature from a willing mind.

XXXVIII. *Of masques and triumphs.*

THESE things are but toys to come amongst such serious observations. But yet since princes will have such things, it is better they should be graced with elegancy, than daubed with cost. Dancing to song, is a thing of great state and pleasure. I understand it; that the song be in quire, placed aloft, and accompanied with some broken musick: and the ditty fitted to the device. Acting in song, especially in dialogues, hath an extreme good grace; I say acting, not dancing; (for that is a mean and vulgar thing) and the voices of the dialogue would be strong and manly, (a base; and a tenor; no treble) and the ditty high and tragical; not nice or dainty. Several quires placed one over against another, and taking the voice by

catches anthem-wise, give great pleasure. Turning dances into figure, is a childish curiosity. And generally let it be noted, that those things which I here set down, are such as do naturally take the sense, and not respect petty wonderments. It is true, the alterations of scenes, so it be quietly and without noise, are things of great beauty and pleasure; for they feed and relieve the eye before it be full of the same object. Let the scenes abound with light, especially coloured and varied: and let the masquers, or any other that are to come down from the scene, have some motions upon the scene it self before their coming down. For it draws the eye strangely, and makes it with great pleasure to desire to see that it cannot perfectly discern. Let the songs be loud and cheerful, and not chirpings or pulings. Let the musick likewise be sharp and loud, and well placed. The colours that shew best by candle-light, are white, carnation, and a kind of sea-water green; and ouches, or spangs, as they are of no great cost, so they are of most glory. As for rich embroidery, it is lost and not discerned. Let the suits of the masquers be graceful, and such as become the person when the vizards are off: not after examples of known attires; turks, soldiers, mariners, and the like. Let anti-masques not be long; they have been commonly of fools, satyrs, baboons, wild men, anticks, beasts, spirits, witches, aethiopes, pygmies, turquets, nymphs, rusticks, cupids, statues, moving, and the like. As for angels, it is not comical enough to put them in anti-masques; and any thing that is hideous, as devils, giants, is on the other side as unfit: but chiefly, let the musick of them be recreative, and with some strange changes. Some sweet odours suddenly coming forth without any drops falling, are in such a company as there is steam and heat, things of great pleasure and refreshment. Double masques, one of men, another of ladies, addeth state and variety. But all is nothing except the room be kept clear and neat.

For jousts, and tourneys, and barriers, the glories of them are chiefly in the chariots, wherein the challengers make their entry; especially if they be drawn with strange beasts; as lions, bears, camels, and the like: or in the devices of their entrance, or in bravery of their liveries; or in the goodly furniture of their horses and armour. But enough of these toys.

XXXIX. *Of nature in men.*

NATURE is often hidden, sometimes overcome, seldom extinguished. Force maketh nature more violent in the return; doctrine and discourse maketh nature less importune: but custom only doth alter and subdue nature. He that seeketh victory over his nature, let him not set himself too great, nor too small tasks; for the first will make him dejected by often failing; and the second will make him a small proceeder, though by often prevailings. And at the first, let him practise with helps, as swimmers do with bladders or rushes: but after a time, let him practise with disadvantages, as dancers do with thick shoes. For it breeds great perfection, if the practice be harder than the use. Where nature is mighty, and therefore the victory hard, the degrees had need be, first to stay and arrest nature in time; like to him that would say over the four and twenty letters when he was angry: then to go less in quantity; as if one should, in forbearing wine, come from drinking healths, to a draught at a meal; and lastly, to discontinue altogether. But if a man have the fortitude and resolution to enfranchise himself at once, that is the best:

Optimus

*Optimus ille animi vindex, laedentia pectus
Vincula qui rupit, dedoluitque semel.*

Neither is the ancient rule amiss, to bend nature as a wand to a contrary extreme, whereby to set it right : understanding it where the contrary extreme is no vice. Let not a man force a habit upon himself with a perpetual continuance, but with some intermission. For both the pause reinforceth the new onset ; and if a man that is not perfect, be ever in practice, he shall as well practise his errors as his abilities, and induce one habit of both : and there is no means to help this but by seasonable intermission. But let not a man trust his victory over his nature too far ; for nature will lie buried a great time, and yet revive upon the occasion or temptation. Like as it was with *Æsop's* damsel, turned from a cat to a woman, who sat very demurely at the board's end, till a mouse ran before her. Therefore let a man either avoid the occasion altogether, or put himself often to it, that he may be little moved with it. A man's nature is best perceived in privateness ; for there is no affectation in passion ; for that putteth a man out of his precepts, and in a new case or experiment, for there custom leaveth him. They are happy men, whose natures sort with their vocations ; otherwise they may say, *multum incola fuit anima mea* : when they converse in those things they do not affect. In studies, whatsoever a man commandeth upon himself, let him set hours for it ; but whatsoever is agreeable to his nature, let him take no care for any set times : for his thoughts will fly to it of themselves ; so as the spaces of other business or studies will suffice. A man's nature runs either to herbs, or weeds : therefore let him seasonably water the one, and destroy the other.

XL. *Of custom and education.*

MEN's thoughts are much according to their inclination ; their discourse and speeches according to their learning and infused opinions ; but their deeds are after as they have been accustomed. And therefore, as *Machiavel* well noteth, (though in an evil-favoured instance) there is no trusting to the force of nature, nor to the bravery of words ; except it be corroborate by custom. His instance is, that for the atchieving of a desperate conspiracy, a man should not rest upon the fierceness of any man's nature, or his resolute undertakings ; but take such an one as hath had his hands formerly in blood. But *Machiavel* knew not of a friar *Clement*, nor a *Ravillac*, nor a *Faureguy*, nor a *Baltazar Gerard* : yet his rule holdeth still, that nature, nor the engagement of words, are not so forcible as custom. Only superstition is now so well advanced, that men of the first blood, are as firm as butchers by occupation : and votary resolution is made equipollent to custom, even in matter of blood. In other things, the predominancy of custom is every where visible ; insomuch as a man would wonder to hear men profess, protest, engage, give great words, and then do just as they have done before : as if they were dead images, and engines moved only by the wheels of custom. We see also the reign or tyranny of custom what it is. The *Indians* (I mean the sect of their wise men) lay themselves quietly upon a stack of wood, and so sacrifice themselves by fire. Nay, the wives strive to be burned with the corps of their husbands. The lads of *Sparta* of ancient time, were wont to be scourged upon the altar of *Diana*, without so much as queching. I remember in
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the beginning of queen *Elizabeth's* time of *England*, an *Irish* rebel condemned, put up a petition to the deputy, that he might be hanged in a with, and not in an halter, because it had been so used with former rebels. There be monks in *Russia*, for penance, that will sit a whole night in a vessel of water, till they be engaged with hard ice. Many examples may be put of the force of custom, both upon mind and body. Therefore since custom is the principal magistrate of man's life; let men by all means endeavour to obtain good customs. Certainly custom is most perfect, when it beginneth in young years: this we call education, which is, in effect, but an early custom. So we see in languages, the tongue is more pliant to all expressions and sounds, the joints are more supple to all feats of activity and motions, in youth than afterwards. For it is true, the late learners cannot so well take the ply, except it be in some minds that have not suffered themselves to fix, but have kept themselves open and prepared to receive continual amendment, which is exceeding rare. But if the force of custom simple and separate, be great; the force of custom copulate and conjoined, and collegiate, is far greater. For there example teacheth, company comforteth, emulation quickeneth, glory raiseth: so as in such places the force of custom is in its exaltation. Certainly the great multiplication of virtues upon human nature, resteth upon societies well ordained and disciplined. For commonwealths and good governments do nourish virtue grown, but do not much mend the seeds. But the misery is, that the most effectual means are now applied to the ends least to be desired.

XLI. Of fortune.

IT cannot be denied but outward accidents conduce much to fortune: favour, opportunity, death of others, occasion fitting virtue. But chiefly, the mould of a man's fortune is in his own hands. *Faber quisque fortunæ suæ*; saith the poet. And the most frequent of external causes is, that the folly of one man is the fortune of another. For no man prospers so suddenly as by others errors. *Serpens nisi serpentem comederit non fit draco*. Overt and apparent virtues bring forth praise; but there be secret and hidden virtues that bring forth fortune: Certain deliveries of a man's self, which have no name. The *Spanish* name, *desemboltura*, partly expresseth them: when there be not stonds, nor restiveness in a man's nature; but that the wheels of his mind keep way with the wheels of his fortune. For so *Livy* (after he had described *Cato Major* in these words; *in illo viro, tantum robur corporis & animi fuit, ut quocunque loco natus esset, fortunam sibi facturum videretur*;) falleth upon that that he had, *versatile ingenium*. Therefore if a man look sharply and attentively, he shall see fortune: for though she be blind, yet she is not invisible. The way of fortune is like the milky way in the sky; which is a meeting or knot of a number of small stars, not seen asunder, but giving light together. So are there a number of little, and scarce discerned virtues, or rather faculties and customs, that make men fortunate. The *Italians* note some of them, such as a man would little think. When they speak of one that cannot do amiss, they will throw in into his other conditions, that he hath *Poco di matto*. And certainly there be not two more fortunate properties, than to have a little of the fool, and not too much of the honest. Therefore extreme lovers of their country, or masters, were never fortunate, neither can they be. For when a man placeth his thoughts without himself, he goeth not his own way. And hasty fortune maketh an enterprizer and remover, (the *French* hath

hath it better, *entreprenant*, or *remuant*;) but the exercised fortune maketh the able man. Fortune is to be honoured and respected, and it be but for her daughters, confidence and reputation. For those two felicity breedeth: the first within a man's self; the latter, in others towards him. All wise men, to decline the envy of their own virtues, use to ascribe them to providence and fortune; for so they may the better assume them: and besides, it is greatness in a man to be the care of the higher powers. So *Caesar* said to the pilot in the tempest, *Caesarem portas, & fortunam ejus*. So *Sylla* chose the name of *felix*, and not of *magnus*: And it hath been noted, that those that ascribe openly too much to their own wisdom and policy, end unfortunate. It is written, that *Timotheus* the *Athenian*, after he had, in the account he gave to the state of his government, often interlaced this speech, and in this fortune had no part; never prospered in any thing he undertook afterwards. Certainly there be, whose fortunes are like *Homer's* verses, that have a slide and easiness more than the verses of other poets: as *Plutarch* saith of *Timoleon's* fortune, in respect of that of *Agefilaus*, or *Epaminondas*. And that this should be, no doubt it is much in a man's self.

XLII. Of usury.

MANY have made witty invectives against usury. They say, that it is pity the devil should have God's part, which is the tithe. That the usurer is the greatest sabbath-breaker, because his plough goeth every Sunday. That the usurer is the drone that *Virgil* speaketh of:

Ignavum fucos pecus a praesepibus arcent.

That the usurer breaketh the first law that was made for mankind after the fall; which was, *in sudore vultus tui comedes panem tuum*; not, *in sudore vultus alieni*. That usurers should have orange-tawney bonnets, because they do judaize. That it is against nature, for money to beget money, and the like. I say this only, that usury is a *concessum propter duritiem cordis*: for since there must be borrowing and lending, and men are so hard of heart as they will not lend freely, usury must be permitted. Some others have made suspicious and cunning propositions of banks, discovery of mens estates, and other inventions. But few have spoken of usury usefully. It is good to set before us the incommodities and commodities of usury; that the good may be either weighed out, or culled out; and warily to provide, that while we make forth to that which is better, we meet not with that which is worse.

THE discommodities of usury are: first, that it makes fewer merchants. For were it not for this lazy trade of usury, money would not lie still, but would in great part be employed upon merchandizing; which is the *vena porta* of wealth in a state. The second, that it makes poor merchants. For as a farmer cannot husband his ground so well, if he sit at a great rent; so the merchant cannot drive his trade so well, if he sit at great usury. The third is incident to the other two; and that is, the decay of customs of kings or states, which ebb or flow with merchandizing. The fourth, that it bringeth the treasure of a realm or state into a few hands. For the usurer being at certainties, and others at uncertainties, at the end of the game most of the money will be in the box; and ever a state flourisheth, when wealth is more equally spread. The fifth, that it beats down the price of land: for the employment of money is chiefly either merchandizing,

dizing, or purchasing ; and usury way-lays both. The sixth, that it doth dull and damp all industries, improvements, and new inventions, wherein money would be stirring, if it were not for this slug. The last, that it is the canker and ruin of many mens estates, which in process of time breeds a publick poverty.

ON the other side, the commodities of usury are : first, that howsoever usury in some respect hindereth merchandizing, yet in some other it advanceth it : for it is certain that the greatest part of trade is driven by young merchants, upon borrowing at interest ; so as if the usurer either call in, or keep back his money, there will ensue presently a great stand of trade. The second is, that were it not for this easy borrowing upon interest, mens necessities would draw upon them a most sudden undoing ; in that they would be forced to sell their means (be it lands or goods) far under foot ; and so whereas usury doth but gnaw upon them, bad markets would swallow them quite up. As for mortgaging, or pawning, it will little mend the matter ; for either men will not take pawns without use ; or if they do, they will look precisely for the forfeiture. I remember a cruel moneyed man in the countrey, that would say ; the devil take this usury, it keeps us from forfeitures of mortgages and bonds. The third and last is, that it is a vanity to conceive, that there would be ordinary borrowing without profit ; and it is impossible to conceive the number of inconveniences that will ensue, if borrowing be cramped. Therefore to speak of the abolishing of usury is idle. All states have ever had it in one kind or rate, or other. So as that opinion must be sent to *Utopia*.

To speak now of the reformation and reglement of usury ; how the discommodities of it may be best avoided, and the commodities retained : It appears by the balance, of commodities and discommodities of usury, two things are to be reconciled. The one, that the tooth of usury be grinded, that it bite not too much : the other, that there be left open a means to invite moneyed men to lend to the merchants, for the continuing and quickning of trade. This cannot be done, except you introduce two several sorts of usury, a less and a greater. For if you reduce usury to one low rate, it will ease the common borrower, but the merchant will be to seek for money. And it is to be noted, that the trade of merchandize being the most lucrative, may bear usury at a good rate ; other contracts not so.

To serve both intentions, the way would be briefly thus. That there be two rates of usury ; the one free and general for all ; the other under licence only to certain persons, and in certain places of merchandizing. First therefore let usury in general be reduced to five in the hundred ; and let that rate be proclaimed to be free and current ; and let the state shut it self out, to take any penalty for the same. This will preserve borrowing from any general stop or dryness. This will ease infinite borrowers in the countrey. This will in good part raise the price of land, because land purchased at sixteen years purchase, will yield six in the hundred and somewhat more, whereas this rate of interest yields but five. This by like reason will encourage and edge industrious and profitable improvements ; because many will rather venture in that kind, than take five in the hundred, especially having been used to greater profit. Secondly, let there be certain persons licensed to lend to known merchants, upon usury at a high rate ; and let it be with the cautions following. Let the rate be even with the merchant himself, somewhat more easy than that he used formerly to pay : for by that means all borrowers shall have some ease by this reformation, be he
merchar. :

merchant or whosoever. Let it be no bank, or common stock, but every man be master of his own money. Not that I altogether mislike banks, but they will hardly be brooked in regard of certain suspicions. Let the state be answered some small matter for the licence, and the rest left to the lender: for if the abatement be but small, it will no whit discourage the lender. For he, for example, that took before ten or nine in the hundred, will sooner descend to eight in the hundred, than give over this trade of usury: and go from certain gains, to gains of hazard. Let these licensed lenders be in number indefinite, but restrained to certain principal cities and towns of merchandizing: for then they will be hardly able to colour other mens moneys in the countrey; so as the licence of nine, will not suck away the current rate of five: For no man will lend his moneys far off, nor put them into unknown hands.

If it be objected, that this doth in a sort authorize usury, which before was in some places but permissive: the answer is, that it is better to mitigate usury by declaration, than to suffer it to rage by connivance.

XLIII. *Of youth and age.*

A MAN that is young in years, may be old in hours, if he have lost no time. But that happeneth rarely. Generally youth is like the first cogitations, not so wise as the second. For there is a youth in thoughts, as well as in ages. And yet the invention of young men, is more lively than that of old; and imaginations stream into their minds better, and as it were more divinely. Natures that have much heat, and great and violent desires and perturbations, are not ripe for action, till they have passed the meridian of their years: as it was with *Julius Caesar*, and *Septimius Severus*. Of the latter of whom it is said, *juventutem egit, erroribus, imo furoribus plenam*. And yet he was the ablest emperor, almost, of all the list. But reposed natures may do well in youth: as it is seen in *Augustus Caesar*, *Cosmus* duke of *Florence*, *Gaston de Foix*, and others. On the other side, heat and vivacity in age, is an excellent composition for business. Young men are fitter to invent than to judge; fitter for execution than for counsel; and fitter for new projects, than for settled business. For the experience of age, in things that fall within the compass of it, directeth them; but in new things, abuseth them. The errors of young men are the ruin of business; but the errors of aged men amount but to this; that more might have been done, or sooner. Young men, in the conduct and manage of actions, embrace more than they can hold, stir more than they can quiet; fly to the end, without consideration of the means and degrees; pursue some few principles which they have chanced upon absurdly; care not to innovate, which draws unknown inconveniencies; use extreme remedies at first; and that which doubleth all errors, will not acknowledge or retract them; like an unready horse, that will neither stop nor turn. Men of age object too much, consult too long, adventure too little, repent too soon, and seldom drive business home to the full period; but content themselves with a mediocrity of success. Certainly it is good to compound employments of both; for that will be good for the present, because the virtues of either age may correct the defects of both: and good for succession, that young men may be learners, while men in age are actors: and lastly, good for external accidents, because authority followeth old men, and favour and popularity youth. But for the moral part, perhaps youth will have the preheminance, as age hath for the politick. A certain Rabbin upon the

text, *your young men shall see visions, and your old men shall dream dreams*; inferreth, that young men are admitted nearer to God, than old; because vision is a clearer revelation than a dream. And certainly, the more a man drinketh of the world, the more it intoxicateth; and age doth profit rather in the powers of understanding, than in the virtues of the will and affections. There be some have an over-early ripeness in their years, which fadeth betimes: these are first, such as have brittle wits, the edge whereof is soon turned; such as was *Hermogenes* the rhetorician, whose books are exceeding subtle; who afterwards waxed stupid. A second sort is of those that have some natural dispositions, which have better grace in youth than in age: such as is a fluent and luxuriant speech; which becomes youth well, but not age. So *Tully* saith of *Hortensius*; *idem manebat, neque idem decebat*. The third is of such as take too high a strain at the first; and are magnanimous, more than tract of years can uphold. As was *Scipio Africanus*, of whom *Livy* saith in effect; *ultima primis cedebant*.

XLIV. *Of beauty.*

VIRTUE is like a rich stone, best plain set: and surely virtue is best in a body that is comely, though not of delicate features; and that hath rather dignity of presence, than beauty of aspect. Neither is it almost seen, that very beautiful persons are otherwise of great virtue. As if nature were rather busy not to err, than in labour to produce excellency. And therefore they prove accomplished, but not of great spirit; and study rather behaviour than virtue. But this holds not always; for *Augustus Caesar*, *Titus Vespasianus*, *Philip le Belle* of France, *Edward the fourth* of England, *Alcibiades* of Athens, *Ismael* the sophy of Persia, were all high and great spirits; and yet the most beautiful men of their times. In beauty, that of favour is more than that of colour; and that of decent and gracious motion more than that of favour. That is the best part of beauty, which a picture cannot express; no nor the first sight of the life. There is no excellent beauty, that hath not some strangeness in the proportion. A man cannot tell, whether *Apelles*, or *Albert Durer*, were the more trifler; whereof the one would make a personage by geometrical proportions: the other, by taking the best parts out of divers faces, to make one excellent. Such personages, I think, would please no body but the painter that made them. Not but I think a painter may make a better face than ever was; but he must do it by a kind of felicity, (as a musician that maketh an excellent air in musick) and not by rule. A man shall see faces, that if you examine them part by part, you shall never find a good; and yet altogether do well. If it be true, that the principal part of beauty is in decent motion, certainly it is no marvel, though persons in years seem many times more amiable; *pulchrorum autumnus pulcher*: for no youth can be comely but by pardon, and considering the youth, as to make up the comeliness. Beauty is as summer-fruits, which are easy to corrupt, and cannot last: and for the most part, it makes a dissolute youth, and an age a little out of countenance: but yet certainly again, if it light well, it maketh virtues shine, and vices blush.

XLV. *Of deformity.*

DEFORMED persons are commonly even with nature; for as nature hath done ill by them, so do they by nature; being for the most part (as the scripture saith) *void of natural affection*; and so they have their revenge of nature. Certainly there is a consent between the body and the mind, and
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where nature erreth in the one, she ventureth in the other. *Ubi peccat in uno, periclitatur in altero.* But because there is in man an election touching the frame of his mind, and a necessity in the frame of his body, the stars of natural inclination are sometimes obscured by the sun of discipline and virtue: therefore it is good to consider of deformity, not as a sign which is more deceivable, but as a cause which seldom faileth of the effect. Whosoever hath any thing fixed in his person that doth induce contempt, hath also a perpetual spur in himself, to rescue and deliver himself from scorn; therefore all deformed persons are extreme bold. First, as in their own defence, as being exposed to scorn; but in process of time by a general habit. Also it stirreth in them industry, and especially of this kind, to watch and observe the weakness of others, that they may have somewhat to repay. Again, in their superiours, it quencheth jealousy towards them, as persons that they think they may at pleasure despise: and it layeth their competitors and emulators asleep; as never believing they should be in possibility of advancement, till they see them in possession. So that upon the matter in a great wit, deformity is an advantage to rising. Kings in ancient times, (and at this present in some countries) were wont to put great trust in eunuchs, because they that are envious towards all, are more obnoxious and officious towards one. But yet their trust towards them, hath rather been as to good spies, and good whisperers, than good magistrates and officers. And much like is the reason of deformed persons. Still the ground is, they will, if they be of spirit, seek to free themselves from scorn; which must be either by virtue or malice. And therefore let it not be marvelled, if sometimes they prove excellent persons; as was *Agessilaus*, *Zanger* the son of *Solomon*, *AEjop*, *Gasca* president of *Peru*; and *Socrates* may go likewise amongst them, with others.

XLVI. Of building.

HOUSES are built to live in, and not to look on; therefore let use be preferred before uniformity, except where both may be had. Leave the goodly fabricks of houses for beauty only, to the enchanted palaces of the poets: who build them with small cost. He that builds a fair house upon an ill seat, committeth himself to prison. Neither do I reckon it an ill seat only, where the air is unwholesome, but likewise where the air is unequal; as you shall see many fine seats, set upon a knap of ground, environed with higher hills round about it, whereby the heat of the sun is pent in, and the wind gathereth as in troughs; so as you shall have, and that suddenly, as great diversity of heat and cold, as if you dwelt in several places. Neither is it ill air only that maketh an ill seat; but ill ways, ill markets; and, if you will consult with *Momus*, ill neighbours. I speak not of many more; want of water, want of wood, shade, and shelter; want of fruitfulness, and mixture of grounds of several natures; want of prospect; want of level grounds; want of places at some near distance, for sports of hunting, hawking, and races; too near the sea, too remote; having the commodity of navigable rivers, or the discommodity of their overflowing; too far off from great cities, which may hinder business; or too near them, which lurcheth all provisions, and maketh every thing dear; where a man hath a great living laid together, and where he is scant: all which, as it is impossible perhaps to find together, so it is good to know them, and think of them, that a man may take as many as he can: and if he have several dwellings, that he sort them so, that what he wanteth in the one, he may find in the other. *Lucullus*,

answered *Pompey* well, who when he saw his stately galleries and rooms, so large and lightsome in one of his houses, said, surely an excellent place for summer, but how do you in winter? *Lucullus* answered, why do you not think me as wise as some fowls are, that ever change their abode towards the winter?

To pass from the seat to the house itself, we will do as *Cicero* doth in the orator's art, who writes books *De Oratore*, and a book he entitles *Orator*: whereof the former delivers the precepts of the art, and the latter the perfection. We will therefore describe a princely palace, making a brief model thereof. For it is strange to see, now in *Europe*, such huge buildings as the *Vatican* and *Escurial*, and some others be, and yet scarce a very fair room in them.

FIRST therefore I say you cannot have a perfect palace, except you have two several sides; a side for the banquet, as is spoken of in the book of *Hester*; and a side for the household: the one for feasts and triumphs, and the other for dwelling. I understand both these sides to be not only returns, but parts of the front; and to be uniform without, though severally partitioned within; and to be on both sides of a great and stately tower, in the midst of the front; that, as it were, joineth them together on either hand. I would have on the side of the banquet, in front, one only goodly room above stairs, of some forty foot high; and under it, a room for a dressing or preparing place, at times of triumphs. On the other side, which is the household side, I wish it divided at the first into a hall and a chapel, (with a partition between,) both of good state and bigness; and those not to go all the length, but to have at the farther end a winter and a summer parlour, both fair: and under these rooms a fair and large cellar sunk under ground; and likewise some privy kitchens, with butteries and pantries, and the like. As for the tower, I would have it two stories, of eighteen foot high a-piece, above the two wings; and goodly leads upon the top, raised with statues interposed; and the same tower to be divided into rooms, as shall be thought fit. The stairs likewise to the upper rooms, let them be upon a fair open newel, and finely railed in, with images of wood, cast into a brass colour; and a very fair landing place at the top. But this to be, if you do not point any of the lower rooms for a dining-place of servants; for otherwise you shall have the servants dinner after your own; for the steam of it will come up as in a tunnel: and so much for the front. Only I understand the height of the first stairs to be sixteen foot, which is the height of the lower room.

BEYOND this front is there to be a fair court, but three sides of it of a far lower building than the front. And in all the four corners of that court fair stair-cases cast into turrets on the outside, and not within the row of buildings themselves: but those towers are not to be of the height of the front, but rather proportionable to the lower building. Let the court not be paved, for that striketh up a great heat in summer, and much cold in winter: but only some side alleys, with a cross, and the quarters to graze, being kept shorn, but not too near shorn. The row of return on the banquet side, let it be all stately galleries; in which galleries, let there be three, or five, fine cupola's, in the length of it, placed at equal distance; and fine coloured windows of several works. On the household side, chambers of presence, and ordinary entertainments, with some bed-chambers; and let all three sides be a double house, without thorow lights on the sides, that you may have rooms from the sun, both for forenoon and afternoon. Cast it also,

also, that you may have rooms both for summer and winter; shady for summer, and warm for winter. You shall have sometimes fair houses so full of glass, that one cannot tell where to become to be out of the sun, or cold. For imbowed windows, I hold them of good use; (in cities indeed, upright do better, in respect of the uniformity towards the street;) for they be pretty retiring places for conference; and besides, they keep both the wind and sun off; for that which would strike almost through the room, doth scarce pass the window. But let them be but few, four in the court, on the sides only.

BEYOND this court, let there be an inward court of the same square and height, which is to be environed with the garden on all sides: and in the inside, cloistered on all sides, upon decent and beautiful arches, as high as the first story: on the under story, towards the garden, let it be turned to a grotto, or place of shade or estivation: and only have opening and windows towards the garden, and be level upon the floor, no whit sunk under ground, to avoid all dampness. And let there be a fountain, or some fair work of statues, in the midst of this court; and to be paved as the other court was. These buildings to be for privy lodgings on both sides, and the end for privy galleries: whereof you must foresee, that one of them be for an infirmary, if the prince or any special person should be sick, with chambers, bed-chamber, *antecamera* and *recamera*, joining to it. This upon the second story. Upon the ground story, a fair gallery, open, upon pillars; and upon the third story likewise, an open gallery upon pillars, to take the prospect and freshness of the garden. At both corners of the farther side, by way of return, let there be two delicate or rich cabinets, daintily paved, richly hanged, glazed with crystalline glass, and a rich cupola in the midst; and all other elegancy that may be thought upon. In the upper gallery too, I wish that there may be, if the place will yield it, some fountains running in divers places from the wall, with some fine avoidances. And thus much for the model of the palace; save that you must have, before you come to the front, three courts: a green court plain, with a wall about it: a second court of the same, but more garnished, with little turrets, or rather embellishments upon the wall; and a third court, to make a square with the front, but not to be built, nor yet enclosed with a naked wall, but enclosed with terraces leaded aloft, and fairly garnished on the three sides; and cloister'd on the inside with pillars, and not with arches below. As for offices, let them stand at distance, with some low galleries to pass from them to the palace itself.

XLVII. *Of gardens.*

God Almighty first planted a garden: and indeed it is the purest of human pleasures. It is the greatest refreshment to the spirits of man; without which, buildings and palaces are but gross handy-works: and a man shall ever see, that when ages grow to civility and elegancy, men come to build stately, sooner than to garden finely; as if gardening were the greater perfection. I do hold it, in the royal ordering of gardens, there ought to be gardens for all the months in the year: in which, severally, things of beauty may be then in season. For *December* and *January*, and the latter part of *November*, you must take such things as are green all winter; holly; ivy; bays; juniper; cypress trees; yew; pine-apple trees; fir trees; rosemary; lavender; periwinkle, the white, the purple, and the blue; germander; flags; orange trees; lemon trees, and myrtles, if they be stoved;
and

and sweet marjoram warm set. There followeth, for the latter part of *January* and *February*, the *mezereon* tree, which then blossoms; *crocus vernus*, both the yellow and the grey; primroses; anemonies; the early tulip; *hyacinthus orientalis*; *chamairis*; *fritellaria*. For *March* there come violets, especially the single blue, which are the earliest; the yellow daffadil; the daisy; the almond tree in blossom; the peach tree in blossom; the cornelian tree in blossom; sweet-briar. In *April* follow the double white violet; the wall-flower; the stockgilliflower; the cowslip, flower-de-luces, and lilies of all natures; rosemary-flowers; the tulip; the double piony; the pale daffadil; the *French* honeysuckle; the cherry tree in blossom; the damascene and plumb trees in blossom; the white thorn in leaf; the lilach tree. In *May* and *June* come pinks of all sorts; especially the blush pink, roses of all kinds, except the musk, which comes later; honeysuckles; strawberries; bugloss; columbine; the *French* marygold; *flos Africanus*; cherry tree in fruit; ribes; figs in fruit; rasps; vine flowers; lavender in flowers; the sweet satyrian, with the white flower; *herba muscaria*; *lilium convallium*; the apple tree in blossom. In *July* come gilliflowers of all varieties; musk roses; the lime tree in blossom; early pears, and plumbs in fruit, gennittings, codlins. In *August* come plumbs of all sorts in fruit; pears; apricots, berries; filberds, muskmelons; monks-hoods, of all colours. In *September* come grapes; apples; poppey of all colours; peaches; *melo-cotones*: nectarines; cornelians; wardenes; quinces. In *October*, and the beginning of *November*, come services; medlars; bullaces; roses cut or removed, to come late; holyoaks, and such like. These particulars are for the climate of *London*: but my meaning is perceived, that you may have *ver perpetuum*, as the place affords.

AND because the breath of flowers is far sweeter in the air, (where it comes and goes, like the warbling of musick,) than in the hand, therefore nothing is more fit for that delight, than to know what be the flowers and plants that do best perfume the air. Roses damask and red, are fast flowers of their smells; so that you may walk by a whole row of them, and find nothing of their sweetness; yea, though it be in a morning's dew. Bays likewise yield no smell, as they grow; rosemary little; nor sweet marjoram. That which above all others, yields the sweetest smell in the air, is the violet; especially the white double violet, which comes twice a year; about the middle of *April*, and about *Bartholomew-tide*. Next to that is the musk-rose; then the strawberry leaves dying, with a most excellent cordial smell. Then the flower of the vines; it is a little dust, like the dust of a bent, which grows upon the cluster, in the first coming forth: then sweet-briar, then wall-flowers, which are very delightful, to be set under a parlour, or lower chamber window. Then pinks and gilliflowers, especially the matted pink and clove-gilliflower: then the flowers of the lime tree: then the honeysuckles, so they be somewhat afar off. Of bean-flowers I speak not, because they are field flowers: But those which perfume the air most delightfully, not passed by as the rest, but being trodden upon and crushed, are three: that is, burnet, wild thyme, and water mints. Therefore you are to set whole alleys of them, to have the pleasure when you walk or tread.

FOR gardens, (speaking of those which are indeed prince-like, as we have done of buildings) the contents ought not well to be under thirty acres of ground, and to be divided into three parts; a green in the entrance; a heath or desert in the going forth! and the main garden in the midst; besides alleys on both sides. And I like well, that four acres of ground be assigned

signed to the green, six to the heath, four and four to either side, and twelve to the main garden. The green hath two pleasures; the one, because nothing is more pleasant to the eye, than green grass kept finely shorn; the other, because it will give you a fair alley in the midst; by which you may go in front upon a stately hedge, which is to inclose the garden. But because the alley will be long, and in great heat of the year or day, you ought not to buy the shade in the garden, by going in the sun through the green; therefore you are, of either side the green, to plant a covert alley, upon carpenter's work, about twelve foot in height, by which you may go in shade into the garden. As for the making of knots or figures, with divers coloured earths, that they may lie under the windows of the house, on that side which the garden stands, they be but toys; you may see as good sights, many times, in tarts. The garden is best to be square, encompassed on all the four sides with a stately arched hedge: the arches to be upon pillars of carpenter's work, of some ten foot high, and six foot broad: and the spaces between, of the same dimension with the breadth of the arch. Over the arches, let there be an entire hedge, of some four foot high, framed also upon carpenter's work; and upon the upper hedge, over every arch, a little turret, with a belly enough to receive a cage of birds: and over every space, between the arches, some other little figure, with broad plates of round colour'd glass, gilt, for the sun to play upon. But this hedge I intend to be raised upon a bank, not steep, but gently slope, of some six foot, set all with flowers. Also I understand, that this square of the garden should not be the whole breadth of the ground, but to leave on either side ground enough for diversity of side alleys; unto which, the two covert alleys of the green may deliver you: but there must be no alleys with hedges at either end of this great enclosure; not at the hither end, for letting your prospect upon this fair hedge from the green; nor at the farther end, for letting your prospect from the hedge, through the arches, upon the heath.

FOR the ordering of the ground within the great hedge, I leave it to variety of device; advising nevertheless, that whatsoever form you cast it into, first it be not too busy, or full of work: wherein I, for my part, do not like images cut out in juniper or other garden stuff; they be for children. Little low hedges round, like welts, with some pretty pyramids, I like well; and in some places, fair columns upon frames of carpenter's work. I would also have the alleys spacious and fair. You may have closer alleys upon the side grounds, but none in the main garden. I wish also, in the very middle, a fair mount, with three ascents and alleys, enough for four to walk a-breast; which I would have to be perfect circles, without any bulwarks or embossments; and the whole mount to be thirty foot high; and some fine banquetting house, with some chimneys neatly cast, and without too much glass.

FOR fountains, they are a great beauty and refreshment; but pools marr all, and make the garden unwholesome, and full of flies and frogs. Fountains I intend to be of two natures: the one that sprinkleth or spouteth water; the other a fair receipt of water, of some thirty or forty foot square, but without fish, or slime, or mud. For the first, the ornaments of images gilt, or of marble, which are in use, do well: but the main matter is so to convey the water, as it never stay either in the bowls, or in the cistern; that the water be never by rest discoloured, green or red, or the like; or gather any mossiness or putrefaction. Besides that, it is to be cleansed every day

day by the hand. Also some steps up to it, and some fine pavement about it doth well. As for the other kind of fountain, which we may call a bathing pool, it may admit much curiosity and beauty, wherewith we will not trouble our selves; as, that the bottom be finely paved, and with images; the sides likewise; and withal embellished with coloured glafs, and such things of lustre; encompassed also with fine rails of low statues. But the main point is the same which we mentioned in the former kind of fountain; which is, that the water be in perpetual motion, fed by a water higher than the pool, and delivered into it by fair spouts, and then discharged away under ground by some equality of bores, that it stay little. And for fine devices of arching water without spilling, and making it rise in several forms (of feathers, drinking glasses, canopies, and the like) they be pretty things to look on, but nothing to health and sweetness.

For the heath, which was the third part of our plot, I wish it to be framed as much as may be to a natural wildness. Trees I would have none in it, but some thickets made only of sweet-briar and honey-suckle, and some wild vine amongst; and the ground set with violets, straw-berries, and primroses. For these are sweet and prosper in the shade. And these to be in the heath here and there, not in any order. I like also little heaps, in the nature of mole-hills, (such as are in wild heaths) to be set, some with wild thyme, some with pinks, some with germander, that gives a good flower to the eye, some with periwinkle, some with violets, some with straw-berries, some with couflips, some with daisies, some with red roses, some with *lilium convallium*, some with sweet-williams red, some with bears-foot, and the like low flowers, being withal sweet and sightly. Part of which heaps to be with standards of little bushes, prickt upon their top, and part without. The standards to be roses, juniper, holly, berberries, (but here and there, because of the smell of their blossom) red currans, gooseberries, rosemary, bays, sweet briar, and such like. But these standards to be kept with cutting, that they grow not out of course.

For the side grounds, you are to fill them with variety of alleys, private, to give a full shade; some of them wheresoever the sun be. You are to frame some of them likewise for shelter, that when the wind blows sharp, you may walk as in a gallery. And those alleys must be likewise hedged at both ends, to keep out the wind; and these closer alleys must be ever finely gravelled, and no grass, because of going wet. In many of these alleys likewise, you are to set fruit-trees of all sorts; as well upon the walls as in ranges. And this would be generally observed, that the borders wherein you plant your fruit trees, be fair and large, and low, and not steep; and set with fine flowers, but thin and sparingly, lest they deceive the trees. At the end of both the side grounds, I would have a mount of some pretty height, leaving the wall of the inclosure breast high, to look abroad into the fields.

For the main garden, I do not deny but there should be some fair alleys, ranged on both sides with fruit-trees, and some pretty tufts of fruit-trees, and arbours with seats, set in some decent order; but these to be by no means set too thick, but to leave the main garden so as it be not close, but the air open and free. For as for shade, I would have you rest upon the alleys of the side grounds, there to walk, if you be disposed, in the heat of the year or day; but to make account, that the main garden is for the more temperate parts of the year; and in the heat of summer, for the morning and the evening, or overcast days.

For

For aviaries, I like them not, except they be of that largeness, as they may be turfed, and have living plants and bushes set in them; that the birds may have more scope, and natural nestling, and that no foulness appear in the floor of the aviary. So I have made a platform of a princely garden, partly by precept, partly by drawing; not a model, but some general lines of it; and in this I have spared for no cost. But it is nothing for great princes, that for the most part taking advice with workmen, with no less cost, set their things together; and sometimes add statues, and such things, for state and magnificence, but nothing to the true pleasure of a garden.

XLVIII. *Of negotiating.*

It is generally better to deal by speech, than by letter; and by the mediation of a third, than by a man's self. Letters are good, when a man would draw an answer by letter back again; or when it may serve for a man's justification, afterwards to produce his own letter; or where it may be in danger to be interrupted, or heard by pieces. To deal in person is good, when a man's face breedeth regard, as commonly with inferiors; or in tender cases, where a man's eye upon the countenance of him with whom he speaketh, may give him a direction how far to go: and generally where a man will reserve to himself liberty, either to disavow, or to expound. In choice of instruments, it is better to chuse men of a plainer sort, that are like to do that that is committed to them, and to report back again faithfully the success; than those that are cunning to contrive out of other mens business, somewhat to grace themselves; and will help the matter in report for satisfaction sake. Use also such persons as affect the business wherein they are employed, for that quickneth much; and such as are fit for the matter; as bold men for expostulation, fair-spoken men for persuasion, crafty men for inquiry and observation, froward and absurd men for business that doth not well bear out it self. Use also such as have been lucky, and prevailed before in things wherein you have employed them; for that breeds confidence, and they will strive to maintain their prescription. It is better to found a person with whom one deals afar off, than to fall upon the point at first; except you mean to surprize him by some short question. It is better dealing with men in appetite, than with those that are where they would be. If a man deal with another upon conditions, the start of first performance is all; which a man cannot reasonably demand, except either the nature of the thing be such which must go before; or else a man can persuade the other party, that he shall still need him in some other thing; or else that he be counted the honestest man. All practice is to discover, or to work. Men discover themselves in trust, in passion, at unawares, and of necessity, when they would have somewhat done, and cannot find an apt pretext. If you would work any man, you must either know his nature and fashions, and so lead him; or his ends, and so persuade him; or his weakness and disadvantages, and so awe him; or those that have interest in him, and so govern him. In dealing with cunning persons, we must ever consider their ends to interpret their speeches; and it is good to say little to them, and that which they least look for. In all negotiations of difficulty, a man may not look to sow and reap at once; but must prepare business, and so ripen it by degrees.

XLIX. *Of followers and friends.*

COSTLY followers are not to be liked ; lest while a man maketh his train longer, he make his wings shorter. I reckon to be costly, not them alone which charge the purse, but which are wearisome and importune in suits. Ordinary followers ought to challenge no higher conditions than countenance, recommendation, and protection from wrongs. Factious followers are worse to be liked, which follow not upon affection to him with whom they range themselves, but upon discontentment conceived against some other : whereupon commonly ensueth that ill intelligence that we many times see between great personages. Likewise glorious followers, who make themselves as trumpets of the commendation of those they follow, are full of inconvenience ; for they taint business through want of secrecy ; and they export honour from a man, and make him a return in envy. There is a kind of followers likewise, which are dangerous, being indeed espials ; which enquire the secrets of the house, and bear tales of them to others. Yet such men many times are in great favour ; for they are officious, and commonly exchange tales. The following by certain estates of men answerable to that which a great person himself professeth, (as of soldiers to him that hath been employed in the wars, and the like) hath ever been a thing civil, and well taken even in monarchies ; so it be without too much pomp or popularity. But the most honourable kind of following, is to be followed as one that apprehendeth to advance virtue and desert in all sorts of persons. And yet where there is no eminent odds in sufficiency, it is better to take with the more passable, than with the more able. And besides, to speak truth in base times, active men are of more use than virtuous. It is true, that in government, it is good to use men of one rank equally : for to countenance some extraordinarily, is to make them insolent, and the rest discontent ; because they may claim a due. But contrariwise in favour, to use men with much difference and election is good ; for it maketh the persons preferred more thankful, and the rest more officious ; because all is of favour. It is good discretion not to make too much of any man at the first ; because one cannot hold out that proportion. To be governed (as we call it) by one, is not safe ; for it shews softness, and gives a freedom to scandal and disreputation ; for those that would not censure, or speak ill of a man immediately, will talk more boldly of those that are so great with them, and thereby wound their honour. Yet to be distracted with many is worse ; for it makes men to be of the last impression, and full of change. To take advice of some few friends is ever honourable ; for lookers on many times see more than gamesters ; and the vale best discovereth the hill. There is little friendship in the world, and least of all between equals, which was wont to be magnified. That that is, is between superiour and inferiour, whose fortunes may comprehend, the one the other.

L. *Of suitors.*

MANY ill matters and projects are undertaken ; and private suits do putrefy the publick good. Many good matters are undertaken with bad minds ; I mean not only corrupt minds, but crafty minds, that intend not performance. Some embrace suits, which never mean to deal effectually in them ; but if they see there may be life in the matter by some other mean, they will be content to win a thank, or take a second reward, or at least

to make use in the mean time of the suitor's hopes. Some take hold of suits, only for an occasion to cross some other ; or to make an information, whereof they could not otherwise have apt pretext ; without care what become of the suit when that turn is served : or generally, to make other mens business a kind of entertainment to bring in their own. Nay, some undertake suits, with a full purpose to let them fall ; to the end to gratify the adverse party or competitor. Surely there is in some sort a right in every suit ; either a right of equity, if it be a suit of controversy ; or a right of desert, if it be a suit of petition. If affection lead a man to favour the wrong side in justice, let him rather use his countenance to compound the matter, than to carry it. If affection lead a man to favour the less worthy in desert, let him do it without depraving or disabling the better deserver. In suits which a man doth not well understand, it is good to refer them to some friend of trust and judgment, that may report whether he may deal in them with honour ; but let him chuse well his referendaries, for else he may be led by the nose. Suitors are so distasted with delays and abuses, that plain dealing in denying to deal in suits at first, and reporting the success barely, and in challenging no more thanks than one hath deserved, is grown not only honourable, but also gracious. In suits of favour, the first coming ought to take little place ; so far forth consideration may be had of his trust, that if intelligence of the matter could not otherwise have been had but by him, advantage be not taken of the note, but the party left to his other means ; and in some sort recompensed for his discovery. To be ignorant of the value of a suit is simplicity ; as well as to be ignorant of the right thereof, is want of conscience. Secrecy in suits is a great mean of obtaining ; for voicing them to be in forwardness, may discourage some kind of suitors ; but doth quicken and awake others. But timing of the suit is the principal : Timing, I say, not only in respect of the person that should grant it, but in respect of those which are like to cross it. Let a man in the choice of his mean, rather chuse the fittest mean, than the greatest mean : and rather them that deal in certain things, than those that are general. The reparation of a denial, is sometimes equal to the first grant ; if a man shew himself neither dejected nor discontented. *Iniquum petas, ut æquum feras* ; is a good rule, where a man hath strength of favour : but otherwise a man were better rise in his suit ; for he that would have ventured at first to have lost the suitor, will not in the conclusion lose both the suitor and his own former favour. Nothing is thought so easy a request to a great person, as his letter ; and yet, if it be not in a good cause, it is so much out of his reputation. There are no worse instruments than these general contrivers of suits ; for they are but a kind of poison and infection to publick proceedings.

LI. Of studies.

STUDIES serve for delight, for ornament, and for ability. Their chief use for delight, is in privateness and retiring ; for ornament, is in discourse ; and for ability, is in the judgment and disposition of business. For expert men can execute, and perhaps judge of particulars, one by one ; but the general counsels, and the plots and marshalling of affairs, come best from those that are learned. To spend too much time in studies, is sloth ; to use them too much for ornament, is affectation ; to make judgment wholly by their rules, is the humour of a scholar. They perfect nature, and are perfected by experience : for natural abilities are like natural plants, that need pruning by

study; and studies themselves do give forth directions too much at large, except they be bounded in by experience. Crafty men contemn studies; simple men admire them, and wise men use them; for they teach not their own use; but that is a wisdom without them, and above them, won by observation. Read not to contradict and confute; nor to believe and take for granted; nor to find talk and discourse; but to weigh and consider. Some books are to be tasted, others to be swallowed, and some few to be chewed and digested: that is, some books are to be read only in parts; others to be read, but not curiously; and some few to be read wholly, and with diligence and attention. Some books also may be read by deputy, and extracts made of them by others; but that would be only in the less important arguments, and the meaner sort of books: else distilled books are like common distilled waters, flashy things. Reading maketh a full man; conference a ready man; and writing an exact man. And therefore if a man write little, he had need have a great memory; if he confer little, he had need have a present wit; and if he read little, he had need have much cunning, to seem to know that he doth not. Histories make men wise; poets witty; the mathematick subtil; natural philosophy deep; moral, grave; logick and rhetoric, able to contend: *Abeunt studia in mores*. Nay, there is no stond or impediment in the wit, but may be wrought out by fit studies; like as diseases of the body may have appropriate exercises: bowling is good for the stone and reins; shooting for the lungs and breast; gentle walking for the stomach; riding for the head; and the like. So if a man's wit be wandering, let him study the mathematicks; for in demonstrations, if his wit be called away never so little, he must begin again: if his wit be not apt to distinguish or find differences, let him study the schoolmen; for they are *Cymini sectores*. If he be not apt to beat over matters, and to call up one thing, to prove and illustrate another, let him study the lawyers cases: so every defect of the mind may have a special receipt.

LII. *Of faction.*

MANY have an opinion not wise; that for a prince to govern his estate; or for a great person to govern his proceedings, according to the respect of factions, is a principal part of policy; whereas contrariwise, the chiefeſt wiſdom is, either in ordering thoſe things which are general, and wherein men of ſeveral factions do nevertheleſs agree, or in dealing with correſpondence to particular perſons, one by one. But I ſay not, that the conſideration of factions is to be neglected. Mean men, in their riſing, muſt adhere; but great men, that have ſtrength in themſelves, were better to maintain themſelves indifferent and neutral. Yet even in beginners, to adhere ſo moderately, as he be a man of the one faction, which is moſt paſſable with the other, commonly giveth beſt way. The lower and weaker faction is the firmer in conjunction: and it is often ſeen, that a few that are ſtiff, do tire out a greater number that are more moderate. When one of the factions is extinguished, the remaining ſubdivideth: as the faction between *Lucullus*, and the reſt of the nobles of the ſenate (which they called *optimates*) held out a while againſt the faction of *Pompey* and *Caesar*: But when the ſenate's authority was pulled down, *Caesar* and *Pompey* ſoon after brake. The faction or party of *Antonius* and *Octavianus Caesar*, againſt *Brutus* and *Cassius*, held out likewise for a time: but when *Brutus* and *Cassius* were overthrown, then ſoon after *Antonius* and *Octavianus* brake and ſubdivided. Theſe examples are of wars, but the ſame holdeth in private factions.

factions. And therefore those that are seconds in factions, do many times, when the faction subdivideth, prove principals; but many times also they prove cyphers and casheer'd; for many a man's strength is in opposition; and when that faileth, he groweth out of use. It is commonly seen, that men once placed, take in with the contrary faction to that, by which they enter: thinking belike that they have the first sure, and now are ready for a new purchase. The traitor in faction lightly goeth away with it; for when matters have stuck long in balancing, the winning of some one man casteth them, and he getteth all the thanks. The even carriage between two factions, proceedeth not always of moderation, but of a trueneſs to a man's self, with end to make use of both. Certainly in *Italy*. they hold it a little suspect in popes, when they have often in their mouth *Padre commune*: and take it to be a sign of one, that meaneth to refer all to the greatness of his own house. Kings had need beware how they ſide themselves, and make themselves as of a faction or party; for leagues within the ſtate are ever pernicious to monarchies; for they raiſe an obligation, paramount to obligation of ſovereignty, and make the king, *tanquam unus ex nobis*; as was to be ſeen in the league of *France*. When factions are carried too high, and too violently, it is a ſign of weakneſs in princes, and much to the prejudice both of their authority and buſineſs. The motions of factions, under kings, ought to be like the motions (as the aſtronomers ſpeak) of the inferior orbs; which may have their proper motions, but yet ſtill are quietly carried by the higher motion of *primum mobile*.

LIII. *Of ceremonies and reſpects.*

HE that is only real, had need have exceeding great parts of virtue; as the ſtone had need to be rich, that is ſet without foil: but if a man mark it well, it is in praiſe and commendation of men, as it is in gettings and gains. For the proverb is true, that light gains make heavy purſes; for light gains come thick, whereas great come but now and then. So it is true, that ſmall matters win great commendation, becauſe they are continually in uſe, and in note; whereas the occaſion of any great virtue cometh but on feſtivals: therefore it doth much add to a man's reputation, and is, (as queen *Iſabella* ſaid) like perpetual letters commendatory, to have good forms: to attain them, it almoſt ſufficeth not to deſpiſe them: for ſo ſhall a man obſerve them in others; and let him truſt himſelf with the reſt. For if he labour too much to expreſs them, he ſhall loſe their grace; which is to be natural and unaffected. Some mens behaviour is like a verſe, wherein every ſyllable is meaſured: how can a man comprehend great matters, that breaketh his mind too much to ſmall obſervations? Not to uſe ceremonies at all, is to teach others not to uſe them again; and ſo diminifheth reſpect to himſelf; eſpecially they be not to be omitted to ſtrangers, and formal natures: but the dwelling upon them, and exalting them above the moon, is not only tedious, but doth diminifh the faith and credit of him that ſpeaks. And certainly there is a kind of conveying of effectual and imprinting paſſages, amongſt complements, which is of ſingular uſe, if a man can hit upon it. Amongſt a man's peers, a man ſhall be ſure of familiarity; and therefore it is good a little to keep ſtate. Amongſt a man's inferiors, one ſhall be ſure of reverence; and therefore it is good a little to be familiar. He that is too much in any thing, ſo that he giveth another occaſion of ſociety, maketh himſelf cheap. To apply one's ſelf to others is good; ſo it be with demonſtration, that a man doth it upon regard, and not upon faci-

lity. It is a good precept, generally in seconding another, yet to add somewhat of one's own; as if you will grant his opinion, let it be with some distinction; if you will follow his motion, let it be with condition; if you allow his counsel, let it be with alleging farther reason. Men had need beware how they be too perfect in complements; for be they never so sufficient otherwise, their enviers will be sure to give them that attribute, to the disadvantage of their greater virtues. It is loss also in business, to be too full of respects, or to be too curious in observing times and opportunities: *Solomon saith; He that considereth the wind, shall not sow; and he that looketh to the clouds, shall not reap.* A wise man will make more opportunities than he finds. Mens behaviour should be like their apparel; not too straight or point device, but free for exercise or motion.

LIV. *Of praise.*

PRAISE is the reflection of virtue: but it is as the glass or body, which giveth the reflection. If it be from the common people, it is commonly false and nought; and rather followeth vain persons, than virtuous; for the common people understand not many excellent virtues: the lowest virtues draw praise from them; the middle virtues work in them astonishment, or admiration; but of the highest virtues, they have no sense or perceiving at all: but shews, and *species virtutibus similes*, serve best with them. Certainly fame is like a river, that beareth up things light and swoln, and drowns things weighty and solid: but if persons of quality and judgment concur, then it is (as the scripture saith) *Nomen bonum instar unguenti fragrantis*. It filleth all round about, and will not easily away: for the odours of ointments, are more durable than those of flowers. There be so many false points of praise, that a man may justly hold it a suspect. Some praises proceed merely of flattery; and if he be an ordinary flatterer, he will have certain common attributes, which may serve every man; if he be a cunning flatterer, he will follow the arch-flatterer, which is a man's self; and wherein a man thinketh best of himself, therein the flatterer will uphold him most: but if he be an impudent flatterer, look wherein a man is conscious to himself, that he is most defective, and is most out of countenance in himself, that will the flatterer entitle him to perforce, *spreta conscientia*. Some praises come of good wishes and respects, which is a form due in civility to kings and great persons, *laudando praecipere*; when by telling men what they are, they represent to them what they should be. Some men are praised maliciously to their hurt, thereby to stir envy and jealousy towards them; *pestimum genus inimicorum laudantium*; insomuch as it was a proverb amongst the *Grecians*, that, he that was praised to his hurt, should have a push rise upon his nose: as we say, that a blister will rise upon one's tongue, that tells a lye. Certainly moderate praise, used with opportunity, and not vulgar, is that which doth the good. *Solomon saith, he that praiseth his friend aloud, rising early, it shall be to him no better than a curse.* Too much magnifying of man or matter, doth irritate contradiction, and procure envy and scorn. To praise a man's self cannot be decent, except it be in rare cases: but to praise a man's office or profession, he may do it with good grace, and with a kind of magnanimity. The cardinals of *Rome*, which are theologues, and friers, and schoolmen, have a phrase of notable contempt and scorn, towards civil business; for they call all temporal business, of wars, embassages, judicature, and other employments, *shirrerie*, which is under-sheriffries, as if they were but matters for under-sheriffs and catchpoles; though many times those under-sheriffries

sheriffries do more good than their high speculations. St. *Paul*, when he boasts of himself, he doth oft interlace, *I speak like a fool*; but speaking of his calling, he saith, *magnificabo apostolatium meum*.

LV. *Of vain-glory.*

IT was prettily devised of *Æsop*: The fly sate upon the axle-tree of the chariot wheel, and said, what a dust do I raise? So are there some vain persons, that whatsoever goeth alone, or moveth upon greater means, if they have never so little hand in it, they think it is they that carry it. They that are glorious, must needs be factious; for all bravery stands upon comparisons. They must needs be violent, to make good their own vaunts: neither can they be secret, and therefore not effectual; but according to the *French* proverb, *beaucoup de bruit, peu de fruit*: much brute, little fruit. Yet certainly there is use of this quality in civil affairs: where there is an opinion, and fame to be created, either of virtue or greatness, these men are good trumpeters. Again, as *Titus Livius* noteth, in the case of *Antiochus* and the *Ætolians*, there are sometimes great effects of cross lyes; as if a man that negotiates between two princes, to draw them to join in a war against the third, doth extol the forces of either of them, above measure, the one to the other; and sometimes, he that deals between man and man, raiseth his own credit with both, by pretending greater interest than he hath in either. And in these, and the like kinds, it often falls out, that somewhat is produced of nothing; for lyes are sufficient to breed opinion, and opinion brings on substance. In military commanders and soldiers, vain-glory is an essential point; for as iron sharpens iron, so by glory one courage sharpeneth another: In cases of great enterprize, upon charge and adventure, a composition of glorious natures doth put life into business; and those that are of solid and sober natures, have more of the ballast than of the sail. In fame of learning, the flight will be slow, without some feathers of ostentation: *Qui de contemnenda gloria libros scribunt, nomen suum inscribunt*. *Socrates*, *Aristotle*, *Galen*, were men full of ostentation. Certainly vain-glory helpeth to perpetuate a man's memory; and virtue was never so beholden to human nature, as it received its due at the second hand. Neither had the fame of *Cicero*, *Seneca*, *Plinius secundus*, born her age so well, if it had not been joined with some vanity in themselves: like unto varnish, that makes cielings not only shine, but last. But all this while, when I speak of vain-glory, I mean not of that property that *Tacitus* doth attribute to *Mucianus*; *omnium, quae dixerat, feceratque, arte quadam ostentator*: for that proceeds not of vanity, but of natural magnanimity and discretion: and in some persons, is not only comely, but gracious. For excusations, cessions, modesty it self well governed, are but arts of ostentation. And amongst those arts there is none better, than that which *Plinius secundus* speaketh of; which is to be liberal of praise and commendation to others, in that wherein a man's self hath any perfection. For saith *Pliny* very wittily; in commending another, you do your self right; for he that you commend is either superior to you, in that you commend, or inferior. If he be inferior, if he be to be commended, you much more. If he be superior, if he be not to be commended, you much less glorious. Men are the scorn of wise men; the admiration of fools; the idols of parasites; and the slaves of their own vaunts.

LVI. *Of*

LVI. *Of honour and reputation.*

THE winning of honour is but the revealing of a man's virtue and worth, without disadvantage. For some in their actions do woo and affect honour and reputation; which sort of men are commonly much talked of, but inwardly little admired. And some, contrariwise, darken their virtue in the shew of it; so as they be undervalued in opinion. If a man perform that which hath not been attempted before, or attempted and given over; or hath been achieved, but not with so good circumstance; he shall purchase more honour, than by effecting a matter of greater difficulty, or virtue, wherein he is but a follower. If a man so temper his actions, as in some one of them he doth content every faction or combination of people, the musick will be the fuller. A man is an ill husband of his honour, that entereth into any action, the failing wherein may disgrace him more, than the carrying of it through can honour him. Honour that is gained and broken upon another, hath the quickest reflection, like diamonds cut with facets. And therefore let a man contend to excel any competitors of his in honour, in out-shooting them, if he can, in their own bow. Discreet followers and servants help much to reputation: *omnis fama a domesticis emanat*. Envy, which is the canker of honour, is best extinguished, by declaring a man's self in his ends, rather to seek merit than fame; and by attributing a man's successes rather to divine providence and felicity, than to his own virtue or policy. The true marshalling of the degrees of sovereign honour, are these. In the first place are *conditores imperiorum*; founders of states and commonwealths; such as were *Romulus*, *Cyrus*, *Caesar*, *Ottoman*, *Ismael*. In the second place are *legislatores*, law-givers, which are also called second founders, or *perpetui principes*, because they govern by their ordinances, after they are gone: such were *Lycurgus*, *Solon*, *Justinian*, *Edgar*, *Alphonfus of Castile*, the wife, that made the *Siete partidas*. In the third place are *liberatores*, or *salvatores*; such as compound the long miseries of civil wars, or deliver their countries from servitude of strangers or tyrants; as *Augustus Caesar*, *Vespasianus*, *Aurelianus*, *Theodoricus*, king *Henry* the seventh of *England*, king *Henry* the fourth of *France*. In the fourth place are *propagatores*, or *propugnatores imperii*, such as in honourable wars enlarge their territories, or make noble defence against invaders. And in the last place, are *patres patriae*, which reign justly, and make the times good, wherein they live. Both which last kinds need no examples, they are in such number. Degrees of honour in subjects are; first, *participes curarum*, those upon whom princes do discharge the greatest weight of their affairs; their right hands, as we call them. The next are, *duces belli*, great leaders; such as are princes lieutenants, and do them notable services in the wars. The third are *gratiosi*, favourites; such as exceed not this scantling; to be solace to the sovereign, and harmless to the people: and the fourth, *negotiis pares*; such as have great places under princes, and execute their places with sufficiency. There is an honour likewise, which may be ranked amongst the greatest, which happeneth rarely. That is, of such as sacrifice themselves to death or danger, for the good of their countrey; as was *M. Regulus*, and the two *Decii*.

LVII. *Of judicature.*

JUDGES ought to remember, that their office is *jus dicere*, and not *jus dare*; to interpret law, and not to make law, or give law. Else will it be

like the authority claimed by the church of *Rome* ; which under pretext of exposition of scripture, doth not stick to add and alter ; and to pronounce that which they do not find ; and by shew of antiquity to introduce novelty. Judges ought to be more learned than witty ; more reverend than plausible ; and more advised than confident. Above all things, integrity is their portion and proper virtue. *Cursed* (saith the law) *is he that removeth the land-mark.* The mislayer of a mere-stone is to blame : But it is the unjust judge that is the capital remover of land-marks, when he defineth amiss of lands and property. One foul sentence doth more hurt, than many foul examples. For these do but corrupt the stream ; the other corrupteth the fountain. So saith *Solomon* ; *fons turbatus, & vena corrupta, est justus cadens in causa sua coram adversario.* The office of judges may have reference unto the parties that sue, unto the advocates that plead ; unto the clerks and ministers of justice underneath them, and to the sovereign or state above them.

FIRST, for the causes or parties that sue. *There be* (saith the scripture) *that turn judgment into wormwood* ; and surely there be also that turn it into vinegar : for injustice maketh it bitter, and delays make it sour. The principal duty of a judge, is to suppress force and fraud ; whereof force is the more pernicious when it is open ; and fraud when it is close and disguised. Add thereto contentious suits, which ought to be spewed out as the surfeit of courts. A judge ought to prepare his way to a just sentence, as God useth to prepare his way by raising valleys, and taking down hills : so when there appeareth on either side an high hand, violent prosecution, cunning advantages taken, combination, power, great counsel, then is the virtue of a judge seen, to make inequality equal ; that he may plant his judgment as upon an even ground. *Qui fortiter emungit, elicit sanguinem* ; and where the wine-press is hard wrought, it yields a harsh wine that tastes of the grape-stone. Judges must beware of hard constructions, and strained inferences ; for there is no worse torture than the torture of laws : especially in case of laws penal, they ought to have care, that that which was meant for terror, be not turned into rigour ; and that they bring not upon the people that shower whereof the scripture speaketh, *pluet super eos laqueos* : for penal laws pressed, are a shower of snares upon the people. Therefore let penal laws, if they have been sleepers of long, or if they be grown unfit for the present time, be by wise judges confined in the execution ; *judicis officium est, ut res, ita tempora rerum, &c.* In causes of life and death, judges ought (as far as the law permitteth) in justice to remember mercy ; and to cast a severe eye upon the example, but a merciful eye upon the person.

SECONDLY, for the advocates and counsel that plead : patience and gravity of hearing is an essential part of justice ; and an over-speaking judge is no well-tuned cymbal. It is no grace to a judge, first to find that which he might have heard in due time from the bar ; or to shew quickness of conceit in cutting off evidence or counsel too short ; or to prevent information by questions, though pertinent. The parts of a judge in hearing are four ; to direct the evidence ; to moderate length, repetition, or impertinency of speech ; to recapitulate, select, and collate, the material points of that which hath been said ; and to give the rule or sentence. Whatsoever is above these, is too much ; and proceedeth either of glory and willingness to speak, or of impatience to hear, or of shortness of memory, or of want of a stayed and equal attention. It is a strange thing to see, that the boldness of advocates

should prevail with judges ; whereas they should imitate God in whose seat they sit ; who represseth the presumptuous, and giveth grace to the modest. But it is more strange, that judges should have noted favourites, which cannot but cause multiplication of fees, and suspicion of by-ways. There is due from the judge to the advocate, some commendation and gracing where causes are well handled, and fair pleaded ; especially towards the side which obtaineth not ; for that upholds in the client the reputation of his counsel, and beats down in him the conceit of his cause. There is likewise due to the publick a civil reprehension of advocates, where there appeareth cunning counsel, gross neglect, slight information, indiscreet pressing, or an over-bold defence. And let not the counsel at the bar chop with the judge, nor wind himself into the handling of the cause anew, after the judge hath declared his sentence : but on the other side, let not the judge meet the cause half way ; nor give occasion to the party to say, his counsel or proofs were not heard.

THIRDLY, for that that concerns clerks and ministers. The place of justice is an hallowed place ; and therefore, not only the bench, but the footpace and precincts, and purprise thereof, ought to be preserved without scandal and corruption. For certainly, *grapes* (as the scripture saith) *will not be gathered of thorns or thistles* : neither can justice yield her fruit with sweetness, amongst the briars and brambles of catching and polling clerks and ministers. The attendants of courts are subject to four bad instruments. First, certain persons that are sowers of suits ; which make the court swell, and the countrey pine. The second sort, is of those that engage courts in quarrels of jurisdiction, and are not truly *amici curiae*, but *parasiti curiae* ; in puffing a court up beyond her bounds, for their own scraps and advantage. The third sort, is of those that may be accounted the left hands of courts ; persons that are full of nimble and sinister tricks and shifts, whereby they pervert the plain and direct courses of courts, and bring justice into oblique lines and labyrinths. And the fourth is, the poller and exacter of fees ; which justifies the common resemblance of the courts of justice to the bush, whereunto while the sheep flies for defence in weather, he is sure to lose part of the fleece. On the other side, an ancient clerk, skilful in precedents, wary in proceeding, and understanding in the business of the court, is an excellent finger of a court, and doth many times point the way to the judge himself.

FOURTHLY, for that which may concern the sovereign and estate. Judges ought above all to remember the conclusion of the *Roman* twelve tables ; *salus populi suprema lex* ; and to know that laws, except they be in order to that end, are but things captious, and oracles not well inspired. Therefore it is an happy thing in a state, when kings and states do often consult with judges ; and again, when judges do often consult with the king and state : the one, when there is matter of law intervenient in business of state ; the other, when there is some consideration of state, intervenient in matter of law. For many times, the things deduced to judgment may be *meum* and *tuum*, when the reason and consequence thereof may trench to point of estate : I call matter of estate, not only the parts of sovereignty, but whatsoever introduceth any great alteration, or dangerous precedent ; or concerneth manifestly any great portion of people. And let no man weakly conceive, that just laws, and true policy, have any antipathy ; for they are like the spirits and sinews, that one moves with the other. Let judges also remember, that *Solomon's* throne was supported by lions on both sides ;
let

let them be lions, but yet lions under the throne; being circumspect that they do not check or oppose any points of sovereignty. Let not judges also be so ignorant of their own right, as to think there is not left to them as a principal part of their office, a wise use and application of laws. For they may remember what the Apostle saith of a greater law than theirs; *Nos scimus quia lex bona est, modo quis ea utatur legitime.*

LVIII. *Of anger.*

To seek to extinguish anger utterly, is but a bravery of the Stoicks. We have better oracles: *Be angry, but sin not. Let not the sun go down upon your anger.* Anger must be limited and confined, both in race and in time. We will first speak, how the natural inclination and habit, *to be angry*, may be attempted and calmed. Secondly, how the particular motions of anger may be repressed, or at least refrained from doing mischief. Thirdly, how to raise anger, or appease anger in another.

FOR the first, there is no other way but to meditate and ruminate well upon the effects of anger, how it troubles man's life. And the best time to do this, is to look back upon anger when the fit is thoroughly over. *Seneca* saith well; that anger is like rain, which breaks it self upon that it falls. The scripture exhorteth us, *to possess our souls in patience.* Whosoever is out of patience, is out of possession of his soul. Men must not turn bees;

——— *Animasque in vulnere ponunt.*

ANGER is certainly a kind of baseness; as it appears well in the weakness of those subjects in whom it reigns; children, women, old folks, sick folks. Only men must beware, that they carry their anger rather with scorn than with fear; so that they may seem rather to be above the injury than below it. Which is a thing easily done, if a man will give law to himself in it.

FOR the second point, the causes and motives of anger are chiefly three. First, to be too sensible of hurt; for no man is angry that feels not himself hurt: and therefore tender and delicate persons must needs be oft angry. They have so many things to trouble them, which more robust natures have little sense of. The next is, the apprehension and construction of the injury offered to be, in the circumstances thereof, full of contempt. For contempt is that which putteth an edge upon anger, as much or more than the hurt it self. And therefore when men are ingenious in picking out circumstances of contempt, they do kindle their anger much. Lastly, opinion of the touch of a man's reputation, doth multiply and sharpen anger. Wherein the remedy is, that a man should have, as *Consalvo* was wont to say, *telum honoris crassiores.* But in all refrainings of anger, it is the best remedy to win time; and to make a man's self believe, that the opportunity of his revenge is not yet come: but that he foresees a time for it, and so to still himself in the mean time, and reserve it.

To contain anger from mischief, though it take hold of a man, there be two things whereof you must have special caution. The one, of extreme bitterness of words, especially if they be aculeate and proper: for *communia maledicta* are nothing so much: and again, that in anger a man reveal no secrets; for that makes him not fit for society. The other, that you do not peremptorily break off, in any business, in a fit of anger: but howsoever you shew bitterness, do not act any thing that is not revocable.

FOR raising and appeasing anger in another; it is done chiefly by chusing of times. When men are frowardest and worst disposed, to incense

them. Again, by gathering (as was touched before) all that you can find out to aggravate the contempt: and the two remedies are by the contraries. The former to take good times, when first to relate to a man an angry business: for the first impression is much. And the other is, to sever, as much as may be, the construction of the injury, from the point of contempt: imputing it to misunderstanding, fear, passion, or what you will.

LIX. *Of vicissitude of things.*

SOLOMON saith, *there is no new thing upon the earth*: So that as *Plato* had an imagination, that all knowledge was but remembrance; so *Solomon* giveth his sentence, *that all novelty is but oblivion*. Whereby you may see, that the river of *Lethe* runneth as well above ground, as below. There is an abstruse astrologer, that saith, if it were not for two things that are constant; (the one is, that the fixed stars ever stand at like distance one from another, and never come nearer together, nor go farther asunder: the other, that the diurnal motion perpetually keepeth time;) no individual would last one moment. Certain it is, that the matter is in a perpetual flux, and never at a stay. The great winding-sheets that bury all things in oblivion, are two; deluges, and earthquakes. As for conflagrations, and great droughts, they do not merely dispeople but destroy. *Phaeton's* car went but a day. And the three years drought, in the time of *Elias*, was but particular, and left people alive. As for the great burnings by lightnings, which are often in the *West-Indies*, they are but narrow. But in the other two destructions, by deluge and earthquake, it is farther to be noted, that the remnant of people which hap to be reserved, are commonly ignorant and mountainous people, that can give no account of the time past: So that the oblivion is all one, as if none had been left. If you consider well of the people of the *West-Indies*, it is very probable that they are a newer, or younger people, than the people of the old world: and it is much more likely, that the destruction that hath heretofore been there, was not by earthquakes, (as the *AEgyptian* priest told *Solon*, concerning the island of *Atlantis*, that it was swallow'd by an earthquake;) but rather, that it was desolated by a particular deluge; for earthquakes are seldom in those parts: but on the other side, they have such pouring rivers, as the rivers of *Asia*, and *Africa*, and *Europe*, are but brooks to them. Their *Andes* likewise, or mountains, are far higher than those with us; whereby it seems, that the remnants of generation of men, were, in such a particular deluge, saved. As for the observation that *Machiavel* hath, that the jealousy of sects doth much extinguish the memory of things; traducing *Gregory* the Great, that he did what in him lay, to extinguish all heathen antiquities; I do not find that those zeals do any great effects, nor last long: as it appeared in the succession of *Sabinian*, who did revive the former antiquities.

THE vicissitude or mutations, in the superior globe, are no fit matter for this present argument. It may be *Plato's* great year, if the world should last so long, would have some effect, not in renewing the state of like individuals, (for that is the fume of those, that conceive the celestial bodies have more accurate influences upon these things below, than indeed they have,) but in gross. Comets, out of question, have likewise power and effect, over the gross and mass of things: but they are rather gazed upon, and waited upon in their journey, than wisely observed in their effects; especially in their respective effects; that is, what kind of comet, for magnitude,

nitide, colour, version of the beams, placing in the region of heaven, or lasting, produceth what kind of effects.

THERE is a toy, which I have heard, and I would not have it given over, but waited upon a little. They say it is observed in the *Low Countries*, (I know not in what part) that every five and thirty years, the same kind and suite of years and weathers, comes about again: as great frost, great wet, great droughts, warm winters, summers with little heat, and the like; and they call it the prime. It is a thing I do the rather mention, because, computing backwards, I have found some concurrence.

BUT to leave these points of nature, and to come to men. The greatest vicissitude of things amongst men, is the vicissitude of sects and religions: for those orbs rule in mens minds most. The true religion is built upon the rock; the rest are toss'd upon the waves of time. To speak therefore of the causes of new sects, and to give some counsel concerning them, as far as the weakness of human judgment can give stay to so great revolutions:

WHEN the religion formerly received is rent by discords; and when the holiness of the professors of religion is decayed and full of scandal; and withal the times be stupid, ignorant, and barbarous, you may doubt the springing up of a new sect; if then also there should arise any extravagant and strange spirit to make himself author thereof: all which points held when *Mahomet* published his Law. If a new sect have not two properties, fear it not; for it will not spread. The one is the supplanting, or the opposing of authority established: for nothing is more popular than that. The other is the giving licence to pleasures and a voluptuous life. For as for speculative heresies (such as were in ancient times the *Arians*, and now the *Arminians*) though they work mightily upon mens wits, yet they do not produce any great alterations in states; except it be by the help of civil occasions. There be three manner of plantations of new sects: by the power of signs and miracles; by the eloquence and wisdom of speech and persuasion; and by the sword. For martyrdoms, I reckon them amongst miracles; because they seem to exceed the strength of human nature: and I may do the like of superlative and admirable holiness of life. Surely there is no better way to stop the rising of new sects and schisms; than to reform abuses; to compound the smaller differences; to proceed mildly, and not with sanguinary persecutions; and rather to take off the principal authors, by winning and advancing them, than to enrage them by violence and bitterness.

THE changes and vicissitude in wars are many: but chiefly in three things; in the seats or stages of the war; in the weapons; and in the manner of the conduct. Wars, in ancient time, seemed more to move from east to west: for the *Persians*, *Assyrians*, *Arabians*, *Tartars*, (which were the invaders) were all eastern people. It is true, the *Gauls* were western; but we read but of two incursions of theirs; the one to *Gallo-Graecia*, the other to *Rome*. But east and west have no certain points of heaven, and no more have the wars, either from the east or west, any certainty of observation; but north and south are fixed: and it hath seldom or never been seen, that the far southern people have invaded the northern, but contrariwise; whereby it is manifest, that the northern tract of the world, is in nature the more martial region: be it in respect of the stars of that hemisphere, or of the great continents that are upon the north; whereas the south part, for aught that is known, is almost all sea; or (which is most apparent)

of

of the cold of the northern parts, which is that, which without aid of discipline, doth make the bodies hardest, and the courage warmest.

UPON the breaking and shivering of a great state and empire, you may be sure to have wars. For great empires, while they stand, do enervate and destroy the forces of the natives, which they have subdued, resting upon their own protecting forces: and then when they fail also, all goes to ruin, and they become a prey. So was it in the decay of the *Roman* empire, and likewise in the empire of *Almaigne*, after *Charles* the Great, every bird taking a feather; and were not unlike to befall to *Spain*, if it should break. The great accessions and unions of kingdoms, do likewise stir up wars. For when a state grows to an over-power, it is like a great flood, that will be sure to overflow. As it hath been seen in the states of *Rome*, *Turkey*, *Spain*, and others. Look when the world hath fewest barbarous people, but such as commonly will not marry or generate, except they know means to live; (as it is almost every where at this day, except *Tartary*,) there is no danger of inundations of people: but when there be great shoals of people, which go on to populate, without foreseeing means of life and sustentation, it is of necessity, that once in an age or two, they discharge a portion of their people upon other nations; which the ancient northern people were wont to do by lot; casting lots, what part should stay at home, and what should seek their fortunes. When a warlike state grows soft and effeminate, they may be sure of a war. For commonly such states are grown rich in the time of their degenerating; and so the prey inviteth, and their decay in valour encourageth a war.

As for the weapons, it hardly falleth under rule and observation: yet we see, even they have returns and vicissitudes. For certain it is, that ordnance was known in the city of the *Oxidraces* in *India*; and was that which the *Macedonians* called thunder and lightening, and magick. And it is well known, that the use of ordnance hath been in *China* above two thousand years. The conditions of weapons, and their improvement are, first, the fetching afar off; for that outruns the danger; as it is seen in ordnance and muskets. Secondly, the strength of the percussion; wherein likewise ordnance do exceed all arietations, and ancient inventions. The third is, the commodious use of them; as that they may serve in all weathers; that the carriage may be light and manageable; and the like.

FOR the conduct of the war: at the first, men rested extremely upon number: they did put the wars likewise upon main force and valour, pointing days for pitched fields, and so trying it out, upon an even match: and they were more ignorant in ranging and arraying their battles. After they grew to rest upon number, rather competent than vast; they grew to advantages of place, cunning diversions, and the like: and they grew more skilful in the ordering of their battles.

IN the youth of a state, arms do flourish; in the middle age of a state, learning; and then both of them together for a time: in the declining age of a state, mechanical arts and merchandize. Learning hath its infancy, when it is but beginning, and almost childish: then its youth, when it is luxuriant and juvenile: then its strength of years, when it is solid and reduced: and lastly, its old age, when it waxeth dry and exhaust. But it is not good to look too long upon these turning wheels of vicissitude, lest we become giddy. As for the philology of them, that is but a circle of tales, and therefore not fit for this writing.

LX. *A fragment of an essay on fame.*

THE poets make fame a monster. They describe her in part finely and elegantly; and in part gravely and sententious. They say, look how many feathers she hath, so many eyes she hath underneath; so many tongues; so many voices; she pricks up so many ears.

THIS is a flourish: there follow excellent parables; as that she gathereth strength in going; that she goeth upon the ground, and yet hideth her head in the clouds. That in the day-time she sitteth in a watch-tower, and flieth most by night: that she mingleth things done, with things not done: and that she is a terror to great cities. But that which passeth all the rest is, they do recount that the earth, mother of the giants, that made war against *Jupiter*, and were by him destroyed, thereupon in anger brought forth fame; for certain it is, that rebels figured by the giants and seditious fames and libels, are but brothers and sisters; masculine and feminine. But now if a man can tame this monster, and bring her to feed at the hand, and govern her, and with her fly other ravening fowl, and kill them, it is somewhat worth. But we are infected with the style of the poets. To speak now in a sad and serious manner; there is not in all the politicks a place less handled, and more worthy to be handled, than this of fame. We will therefore speak of these points: What are false fames; and what are true fames; and how they may be best discerned; how fames may be sown and raised; how they may be spread and multiplied; and how they may be checked and laid dead. And other things concerning the nature of fame. Fame is of that force, as there is scarcely any great action wherein it hath not a great part, especially in the war. *Mucianus* undid *Vitellius* by a fame that he scattered; that *Vitellius* had in purpose to remove the legions of *Syria* into *Germany*, and the legions of *Germany* into *Syria*; whereupon the legions of *Syria* were infinitely inflamed. *Julius Caesar* took *Pompey* unprovided, and laid asleep his industry and preparations, by a fame that he cunningly gave out; how *Caesar's* own soldiers loved him not; and being wearied with the wars, and laden with the spoils of *Gaul*, would forsake him as soon as he came into *Italy*. *Livia* settled all things for the succession of her son *Tiberius*, by continual giving out, that her husband *Augustus* was upon recovery and amendment. And it is an usual thing with the bashaws, to conceal the death of the Great *Turk* from the janizaries and men of war, to save the sacking of *Constantinople*, and other towns, as their manner is. *Themistocles* made *Xerxes*, king of *Persia*, post apace out of *Graecia*, by giving out that the *Graecians* had a purpose to break his bridge of ships which he had made athwart the *Hellepont*. There be a thousand such like examples, and the more they are, the less they need to be repeated, because a man meeteth with them every where: therefore let all wise governours have as great a watch and care over fames, as they have of the actions and designs themselves.

The rest was not finished.

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G O O D and E V I L.

IN deliberatives, the point is, what is good, and what is evil ; and of good, what is greater, and of evil, what is less.

So that the persuader's labour is, to make things appear good or evil, and that in higher or lower degree, which as it may be performed by true and solid reasons, so it may be represented also by colours, popularities and circumstances, which are of such force, as they sway the ordinary judgment either of a weak man, or of a wise man, not fully and considerately attending and pondering the matter. Besides their power to alter the nature of the subject in appearance, and so to lead to error, they are of no less use to quicken and strengthen the opinions and persuasions which are true ; for reasons plainly delivered, and always after one manner, especially with fine and fastidious minds, enter but heavily and dully : whereas if they be varied, and have more life and vigour put into them by these forms and insinuations, they cause a stronger apprehension, and many times suddenly win the mind to a resolution. Lastly, to make a true and safe judgment, nothing can be of greater use and defence to the mind, than the discovering and reprehension of these colours, shewing in what cases they hold, and in what they deceive : which as it cannot be done but out of a very universal knowledge of the nature of things, so being performed, it so cleareth man's judgment and election, as it is the less apt to slide into any error.

A table of the colours, or appearances of good and evil, and their degrees, as places of persuation and dissuasion, and their several fallacies, and the elenches of them.

1. *Cui caeterae partes vel sectae secundas unanimiter deferunt, cum singulae principatum sibi vindicent, melior reliquis videtur. Nam primas quaeque ex zelo videtur sumere, secundas autem ex vero & merito tribuere.*

SO Cicero went about to prove the sect of Academicks, which suspended all asseveration, for to be the best; for, saith he, ask a Stoick which philosophy is true, he will prefer his own. Then ask him, which approacheth next the truth, he will confess the Academicks. So deal with the Epicure, that will scarce endure the Stoick to be in sight of him, so soon as he hath placed himself, he will place the Academicks next him.

So if a prince took divers competitors to a place, and examined them severally, whom next themselves they would rarest commend, it were like the ablest man should have the most second voices.

THE fallax of this colour happeneth oft in respect of envy, for men are accustomed after themselves and their own fashion, to incline unto them which are softest, and are least in their way, in despight and derogation of them that hold them hardest to it. So that this colour of meliority and preheminance is a sign of enervation and weakness.

2. *Cujus excellentia vel exuperantia melior, id toto genere melius.*

APPERTAINING to this, are the forms: let us not wander in generalities: let us compare particular with particular, &c. This appearance, though it seem of strength, and rather logical than rhetorical, yet is very oft a fallax.

SOMETIME because some things are in kind very casual, which if they escape prove excellent; so that the kind is inferior, because it is so subject to peril, but that which is excellent being proved is superior, as the blossom of *March*, and the blossom of *May*, whereof the *French* verse goeth:

*Burgeon de Mars enfans de Paris,
Si un eschape, il en vaut dix.*

So that the blossom of *May* is generally better than the blossom of *March*; and yet the best blossom of *March* is better than the best blossom of *May*. Sometimes because the nature of some kinds is to be more equal, and more indifferent, and not to have very distant degrees, as hath been noted in the warmer climates, the people are generally more wise, but in the northern climate, the wits of chief are greater. So in many armies, if the matter should be tried by duel between two champions, the victory should go on the one side, and yet if it be tried by the gross, it would go on the other side: for excellencies go as it were by chance, but kinds go by a more certain nature; as by discipline in war.

LASTLY; Many kinds have much refuse, which countervail that which they have excellent, and therefore generally metal is more precious than stone; and yet a diamond is more precious than gold.

3. *Quod ad veritatem refertur majus est quam quod ad opinionem. Modus autem & probatio ejus quod ad opinionem pertinet hæc est: quod quis si clam putaret fore facturum non esset.*

So the Epicures say of the Stoicks felicity placed in virtue: That it is like the felicity of a player, who if he were left of his auditory and their applause, he would straight be out of heart and countenance; and therefore they call virtue *bonum theatrale*: but of riches the poet saith;

*Populus me sibilat,
At mihi plaudo.*

And of pleasure,

*Grata sub imo
Gaudia corde premens, vultu simulante pudorem.*

The fallax of this colour is somewhat subtle, though the answer to the example be ready, for virtue is not chosen *propter auram popularem*. But contrariwise, *maxime omnium teipsum reverere*; so as a virtuous man will be virtuous *in solitudine*, and not only *in theatro*, though perchance it will be more strong by glory and fame, as an heat which is doubled by reflexion: but that denieth the supposition, it doth not reprehend the fallax, whereof the reprehension is a law, that virtue (such as is joined with labour and conflict) would not be chosen but for fame and opinion, yet it followeth not that the chief motive of the election should not be real and for itself, for fame may be only *causa impulsiva*, and not *causa constituens*, or *efficiens*. As if there were two horses, and the one would do better without the spur than the other: but again, the other with the spur would far exceed the doing of the former, giving him the spur also; yet the latter will be judged to be the better horse, and the former as to say, tush, the life of this horse is but in the spur, will not serve as to a wise judgment: for since the ordinary instrument of horsemanship is the spur, and that it is no matter of impediment or burden, the horse is not to be recounted the less of, which will not do well without the spur, but rather the other is to be reckoned a delicacy than a virtue; so glory and honour are the spurs to virtue: and although virtue would languish without them, yet since they be always at hand to attend virtue, virtue is not to be said the less chosen for itself, because it needeth the spur of fame and reputation: and therefore that position, *nota ejus rei quod propter opinionem & non propter veritatem eligitur, hæc est; quod quis si clam putaret fore facturum non esset*, is reprehended.

4. *Quod rem integram servat bonum, quod sine receptu est malum: Nam se recipere non posse impotentiae genus est, potentia autem bonum.*

HEREOF *Æsop* framed the fable of the two frogs, that consulted together in the time of drought, (when many plasht that they had repaired to were dry) what was to be done; and the one propounded to go down into a deep well, because it was like the water would not fail there; but the other answered, yea, but if it do fail, how shall we get up again? And the reason is, that human actions are so uncertain and subject to perils, as that seemeth the best course which hath most passages out of it. Appertaining to this persuasion, the forms are: you shall engage yourself on the other side, *non tantum, quantum voles fumes ex fortuna*, &c. you shall keep the matter in your own hand. The reprehension of it is, that proceeding and resolving in all actions

actions is necessary. For as he saith well, not to resolve, is to resolve ; and many times it breeds as many necessities, and engageth as far in some other sort, as to resolve. So it is but the covetous man's disease, translated in power, for the covetous man will enjoy nothing, because he will have his full store and possibility to enjoy the more ; so by this reason a man should execute nothing, because he should be still indifferent, and at liberty to execute any thing. Besides, necessity and this same *jacta est alea*, hath many times an advantage, because it awaketh the powers of the mind, and strengtheneth endeavour ; *caeteris pares necessitate certe superiores estis*.

5. *Quod ex pluribus constat & divisibilibus est majus quam quod ex paucioribus, & magis unum : nam omnia per partes considerata majora videntur : quare & pluralitas partium magnitudinem prae se fert : fortius autem operatur pluralitas partium si ordo absit ; nam inducit similitudinem infiniti, & impedit comprehensionem.*

THIS colour seemeth palpable, for it is not plurality of parts without majority of parts, that maketh the total greater ; yet nevertheless it often carries the mind away, yea, it deceiveth the sense ; as it seemeth to the eye a shorter distance of way, if it be all dead and continued, than if it have trees or buildings, or any other marks whereby the eye may divide it. So when a great moneyed man hath divided his chests, and coins, and bags, he seemeth to himself richer than he was ; and therefore a way to amplify any thing is, to break it, and to make anatomy of it in several parts, and to examine it according to several circumstances. And this maketh the greater shew if it be done without order, for confusion maketh things muster more ; and besides, what is set down by order and division, doth demonstrate that nothing is left out or omitted, but all is there ; whereas if it be without order, both the mind comprehendeth less that which is set down ; and besides, it leaveth a suspicion, as if more might be said than is expressed. This colour deceiveth, if the mind of him that is to be persuaded, do of itself over-conceive, or prejudge of the greatness of any thing ; for then the breaking of it will make it seem less, because it maketh it to appear more according to the truth : and therefore if a man be in sickness or pain, the time will seem longer without a clock or hour-glass, than with it ; for the mind doth value every moment, and then the hour doth rather sum up the moments, than divide the day. So in a dead plain the way seemeth the longer, because the eye hath preconceived it shorter than the truth ; and the frustrating of that maketh it seem longer than the truth. Therefore if any man have an over-great opinion of any thing, then if another think by breaking it into several considerations, he shall make it seem greater to him, he will be deceived ; and therefore in such cases it is not safe to divide, but to extol the entire still in general. Another case wherein this colour deceiveth, is, when the matter broken or divided is not comprehended by the sense, or made at once in respect of the distracting or scattering of it ; and being entire, and not divided, is comprehended : as an hundred pounds in heaps of five pounds, will shew more than in one gross heap, so as the heaps be all upon one table to be seen at once, otherwise not : as flowers growing scattered in divers beds, will shew more than if they did grow in one bed, so as all those beds be within a plot, that they be object to view at once, otherwise not : And therefore men, whose living lieth together in one shire, are commonly counted greater landed than those whose livings are dispersed, though it be more, because of the notice and comprehension. A third case

wherein this colour deceiveth, and it is not so properly a case or reprehension, as it is a counter colour, being in effect as large as the colour itself; and that is, *omnis compositio indigentiae cujusdam in singulis videtur esse particeps*, because if one thing would serve the turn, it were ever best, but the defect and imperfections of things hath brought in that help to piece them up; as it is said, *Martha, Martha, attendis ad plurima, unum sufficit*. So likewise hereupon *Æsop* framed the fable of the fox and the cat; whereas the fox bragged what a number of shifts and devices he had to get from the hounds, and the cat said he had but one, which was to climb a tree, which in proof was better worth than all the rest; whereof the proverb grew, *multa novit vulpes, sed felis unum magnum*. And in the moral of this fable it comes likewise to pass, that a good sure friend is a better help at a pinch, than all the stratagems and policies of a man's own wit. So it falleth out to be a common error in negotiating, whereas men have many reasons to induce or persuade, they strive commonly to utter and use them all at once, which weakneth them. For it argueth, as was said, a neediness in every of the reasons by itself, as if one did not trust to any of them, but fled from one to another, helping himself only with that: *Et quae non profunt singula, multa juvant*. Indeed in a set speech in an assembly, it is expected a man should use all his reasons in the case he handleth, but in private persuasions it is always a great error. A fourth case wherein this colour may be reprehended, is in respect of that same *vis unita fortior*, according to the tale of the *French* king, that when the emperor's embassador had recited his master's style at large, which consisteth of many countries and dominions; the *French* king willed his chancellor, or other minister, to repeat over *France* as many times as the other had recited the several dominions; intending it was equivalent with them all, and more compacted and united. There is also appertaining to this colour another point, why breaking of a thing doth help it, not by way of adding a shew of magnitude unto it, but a note of excellency and rarity; whereof the forms are, where shall you find such a concurrence? Great, but not compleat; for it seems a less work of nature or fortune, to make any thing in his kind greater than ordinary, than to make a strange composition. Yet if it be narrowly considered, this colour will be reprehended or encountred, by imputing to all excellencies in compositions a kind of poverty, or at least a casualty or jeopardy; for from that which is excellent in greatness, somewhat may be taken, or there may be a decay, and yet sufficiently left; but from that which hath his price in composition if you take away any thing, or any part do fail, all is disgrace.

6. *Cujus privatio bona, malum; cujus privatio mala, bonum.*

THE forms to make it conceived, that that was evil which is changed for the better, are, he that is in hell thinks there is no other heaven. *Satis quercus*, Acorns were good till bread was found, &c. And of the other side, the forms to make it conceived, that that was good which was changed for the worse are, *bona magis carendo quam fruendo sentimus: bona a tergo formosissima*: good things never appear in their full beauty, till they turn their back, and be going away, &c. The reprehension of this colour is, that the good or evil which is removed, may be esteemed good or evil comparatively, and not positively or simply. So that if the privation be good, it follows not the former condition was evil, but less good; for the flower or blossom is a positive good, although the remove of it to give place to the fruit, be a comparative good. So in the tale of *Æsop*, when the old fainting

fainting man in the heat of the day cast down his burden, and called for death; and when death came to know his will with him, said, it was for nothing but to help him up with his burden again. It doth not follow, that because death, which was the privation of the burden, was ill, therefore the burden was good. And in this part, the ordinary form of *malum necessarium* aptly reprehendeth this colour; for *privatio mali necessarii est mala*, and yet that doth not convert the nature of the necessary evil, but it is evil.

AGAIN, it cometh sometimes to pass, that there is an equality in the change of privation, and as it were a *dilemma boni*, or a *dilemma mali*: so that the corruption of the one good, is a generation of the other. *Sorti pater aequus utrique est*: and contrary, the remedy of the one evil, is the occasion and commencement of another, as in *Scylla* and *Charybdis*.

7. *Quod bono vicinum bonum, quod a bono remotum, malum.*

SUCH is the nature of things, that things contrary, and distant in nature and quality, are also sever'd and disjoined in place; and things like and consenting in quality, are placed, and as it were quartered together: for partly in regard of the nature, to spread, multiply, and infect in similitude; and partly in regard of nature to break, expel, and alter that which is disagreeable and contrary, most things do either associate, and draw near to themselves the like, or at least assimilate to themselves that which approacheth near them, and do also drive away, chase and exterminate their contraries. And that is the reason commonly yielded, why the middle region of the air should be coldest, because the sun and stars are either hot by direct beams, or by reflection. The direct beams heat the upper region, the reflected beams from the earth and seas, heat the lower region. That which is in the midst, being farthest distant in place from these two regions of heat, are most distant in nature, that is coldest, which is that they term cold or hot *per antiperistasin*; that is, environing by contraries: which was pleasantly taken hold of by him that said, that an honest man in these days, must needs be more honest than in ages heretofore, *propter antiperistasin*, because the shutting of him in the midst of contraries, must needs make the honesty stronger and more compact in itself. The reprehension of this colour is: first many things of amplitude in their kind, do as it were engross to themselves all, and leave that which is next them most destitute, as the shoots or underwood, that grow near a great and spread tree, is the most pined and shrubby wood of the field, because the great tree doth deprive and deceive them of sap and nourishment; so he saith well, *divitis servi maxime servi*: and the comparison was pleasant of him, that compared courtiers attendant in the courts of princes without great place or office, to fasting-days, which were next the holy-days, but otherwise were the leanest days in all the week.

ANOTHER reprehension is, that things of greatness and predominancy, though they do not extenuate the things adjoining in substance, yet they drown them and obscure them in shew and appearance; and therefore the astronomers say, that whereas in all other planets conjunction is the perfectest amity; the sun contrariwise is good by aspect, but evil by conjunction.

A third reprehension is, because evil approacheth to good sometimes for concealment, sometimes for protection; and good to evil for conversion and reformation. So hypocrisy draweth near to religion for covert, and hiding
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COLOURS OF GOOD AND EVIL.

it self; *saepe latet vitium proximitate boni*; and sanctuary men, which were commonly inordinate men and malefactors, were wont to be nearest to priests and prelates, and holy men; for the majesty of good things is such, as the confines of them are reverend. On the other side, our Saviour charged with nearness of publicans and rioters, said, *the physician approacheth the sick, rather than the whole.*

8. *Quod quis culpa sua contraxit, majus malum: quod ab externis imponitur, minus malum.*

THE reason is, because the sting and remorse of the mind accusing it self, doubleth all adversity: contrariwise, the considering and recording inwardly, that a man is clear and free from fault, and just imputation, doth attemper outward calamities. For if the will be in the sense, and in the conscience both, there is a gemination of it; but if evil be in the one, and comfort in the other, it is a kind of compensation: so the poets in tragedies do make the most passionate lamentation, and those that forerun final despair, to be accusing, questioning, and torturing of a man's life.

Seque unum clamat causamque caputque malorum.

AND contrariwise, the extremities of worthy persons have been annihilated in the consideration of their own good deserving. Besides, when the evil cometh from without, there is left a kind of evaporation of grief, if it come by human injury, either by indignation, and meditating of revenge from our selves, or by expecting of fore-conceiving, that *Nemesis* and retribution will take hold of the authors of our hurt; or if it be by fortune or accident, yet there is left a kind of expostulation against the divine powers.

Atque deos atque astra vocat crudelia mater.

BUT where the evil is derived from a man's own fault, there all strikes deadly inwards, and suffocateth. The reprehension of this colour is, first in respect of hope, for reformation of our faults is *in nostra potestate*; but amendment of our fortune simply, is not. Therefore *Demosthenes*, in many of his orations, saith thus to the people of *Athens*: That which having regard to the time past, is the worse point and circumstance of all the rest; that as to the time to come is the best: what is that? Even this, that by your sloth, irresolution and misgovernment, your affairs are grown to this declination and decay. For had you used and ordered your means and forces to the best, and done your parts every way to the full, and notwithstanding your matters should have gone backward in this manner as they do, there had been no hope left of recovery or reparation; but since it hath been only by our own errors, &c. So *Epietetus* in his degrees saith, the worst state of man is to accuse external things, better than that to accuse a man's self, and best of all to accuse neither.

ANOTHER reprehension of this colour, is in respect of the well bearing of evils, wherewith a man can charge no body but himself, which maketh them the less.

Leve fit quod bene fertur onus.

AND therefore many natures that are either extremely proud, and will take no fault to themselves, or else very true, and cleaving to themselves (when they see the blame of any thing that falls out ill must light upon themselves) have no other shift but to bear it out well, and to make the least of it; for as we see when sometimes a fault is committed, and before
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it be known who is to blame, much ado is made of it; but after, if it appear to be done by a son, or by a wife, or by a near friend, then it is light made of: so much more when a man must take it upon himself. And therefore it is commonly seen, that women that marry husbands of their own chusing against their friends consents, if they be never so ill used, yet you shall seldom see them complain, but set a good face on it.

9. *Quod opera & virtute nostra partum est, majus bonum; quod ab alieno beneficio vel ab indulgentia fortunae delatum est, minus bonum.*

THE reasons are first the future hope, because in the favours of others, or the good winds of fortune, we have no state or certainty; in our endeavours or abilities we have. So as when they have purchased us one good fortune, we have them as ready and better edged, and inured to procure another.

THE forms be: you have won this by play, you have not only the watter, but you have the receipt, you can make it again if it be lost, &c. Next, because these properties which we enjoy by the benefit of others, carry with them an obligation which seemeth a kind of burden, whereas the other which derive from ourselves are like the freest patents, *absque aliquo inde reddendo*; and if they proceed from fortune or providence, yet they seem to touch us secretly with the reverence of the divine powers, whose favours we taste, and therefore work a kind of religious fear and restraint; whereas in the other kind, that comes to pass which the prophet speaketh, *laetantur & exultant, immolant plagis suis, & sacrificant reti suo.*

THIRDLY, Because that which cometh unto us without our own virtue, yielded not that commendation and reputation; for actions of great felicity may draw wonder, but praise less; as *Cicero* said to *Caesar*, *Quae mirerur, habemus; quae laudemus, expectamus.*

FOURTHLY, Because the purchases of our own industry are joined commonly with labour and strife, which gives an edge and appetite, and makes the fruition of our desires more pleasant. *Suavis cibus a venatu.*

ON the other side, there be four counter colours to this colour, rather than reprehensions, because they be as large as the colour itself; first because felicity seemeth to be a character of the favour and love of the divine powers, and accordingly worketh both confidence in ourselves, and respect and authority from others. And this felicity extendeth to many casual things, whereunto the care or virtue of man cannot extend, and therefore seemeth to be a larger good; as when *Caesar* said to the sailor, *Caesarem portas & fortunam ejus*; if he had said, *& virtutem ejus*, it had been small comfort against a tempest, otherwise than if it might seem upon merit to induce fortune.

NEXT, whatsoever is done by virtue and industry, seems to be done by a kind of habit and art, and therefore open to be imitated and followed; whereas felicity is imitable: so we generally see, that things of nature seem more excellent than things of art, because they be imitable: for, *quod imitabile est, potentia quadam vulgatum est.*

THIRDLY, Felicity commendeth those things which come without our own labour; for they seem gifts, and the other seems penniworths: whereupon *Plutarch* saith elegantly of the acts of *Timoleon*, who was so fortunate, compared with the acts of *Agefilas* and *Epaminondas*; that they were like *Homer's* verses, they ran so easily and so well. And therefore it is the word

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we give unto poesy, terming it a happy vein, because facility seemeth ever to come from happiness.

FOURTHLY, This same *praeter spem, vel praeter expectatum*, doth increase the price and pleasure of many things, and this cannot be incident to those things that proceed from our own care and compass.

10. *Gradus privationis major videtur quam gradus diminutionis; & rursus gradus inceptionis major videtur, quam gradus incrementi.*

IT is a position in the mathematicks, that there is no proportion between somewhat and nothing, therefore the degree of nullity and quiddity or act, seemeth larger than the degrees of increase and decrease; as to a *monoculus* it is more to lose one eye, than to a man that hath two eyes. So if one have lost divers children, it is more grief to him to lose the last, than all the rest; because he is *spes gregis*. And therefore *Sibylla* when she brought her three books, and had burned two, did double the whole price of both the other, because the burning of that had been *gradus privationis*, and not *diminutionis*. This colour is reprehended first in those things, the use and service whereof, resteth in sufficiency, competency, or determinate quantity: as if a man be to pay one hundred pounds upon a penalty, it is more to him to want twelve pence, than after that twelve pence supposed to be wanting, to want ten shillings more; so the decay of a man's estate seems to be most touched in the degree, when he first grows behind, more than afterwards, when he proves nothing worth. And hereof the common forms are, *sera in fundo parsimonia*, and as good never a whit, as never the better, &c. It is reprehended also in respect of that notion, *corruptio unius generatio alterius*: so that *gradus privationis* is many times less matter, because it gives the cause and motive to some new course. As when *Demosthenes* reprehended the people, for hearkening to the conditions offered by king *Philip*, being not honourable nor equal, he saith they were but elements of their sloth and weakness, which if they were taken away, necessity would teach them stronger resolutions. So doctor *Hector* was wont to say to the dames of *London*, when they complained they were they could not tell how, but yet they could not endure to take any medicine, he would tell them, their way was only to be sick, for then they would be glad to take any medicine.

THIRDLY, This colour may be reprehended, in respect that the degree of decrease is more sensitive than the degree of privation, for in the mind of man *gradus diminutionis* may work a wavering between hope and fear, and so keep the mind in suspense, from settling and accommodating in patience and resolution; hereof the common forms are, better eye out, than always ake; make or mar, &c.

FOR the second branch of this colour, it depends upon the same general reason: hence grew the common place of extolling the beginning of every thing: *dimidium facti qui bene coepit habet*. This made the astrologers so idle as to judge of a man's nature and destiny, by the constellation of the moment of his nativity, or conception. This colour is reprehended, because many inceptions are but as *Epicurus* termeth them, *tentamenta*, that is, imperfect offers and essays, which vanish and come to no substance without an iteration; so as in such cases the second degree seems the worthiest, as the body-horse in the cart, that draweth more than the fore-horse: hereof the common forms are, the second blow makes the fray, the second word makes

makes the bargain; *alter malo principium dedit, alter modum abstulit, &c.* Another reprehension of this colour is in respect of defatigation, which makes perseverance of greater dignity than inception, for chance or instinct of nature may cause inception; but settled affection, or judgment, maketh the continuance.

THIRDLY, this colour is reprehended in such things, which have a natural course and inclination, contrary to an inception. So that the inception is continually evacuated and gets no start, but there behoveth *prima inceptio*, as in the common form, *non progredi est regredi, qui non proficit deficit*, running against the hill; rowing against the stream, &c. For if it be with the stream or with the hill, then the degree of inception is more than all the rest.

FOURTHLY, this colour is to be understood of *gradus inceptiois a potentia ad actum, comparatus cum gradu ab actu ad incrementum*. For otherwise, *major videtur gradus ab impotentia, ad potentiam; quam a potentia ad actum*.



THE
HISTORY
OF THE
REIGN
OF
KING *HENRY* VII.

VOL. III.

D d d 2

T O T H E

Most Illustrious and most Excellent

P R I N C E

C H A R L E S,

Prince of *Wales*, Duke of *Cornwall*,
Earl of *Chester*, &c.

IT MAY PLEASE YOUR HIGHNESS,

IN part of my acknowledgment to your highness, I have endeavour-
ed to do honour to the memory of the last king of *England*, that was
ancestor to the king your father, and your self; and was that king
to whom both unions may in a sort refer: that of the roses being in
him consummate, and that of the kingdoms by him begun: besides, his
times deserve it. For he was a wise man, and an excellent king; and yet
the times were rough, and full of mutations, and rare accidents. And it
is with times, as it is with ways: Some are more up-hill and down-hill,
and some are more flat and plain; and the one is better for the liver, and
the other for the writer. I have not flattered him, but took him to life as
well as I could, sitting so far off, and having no better light. It is true, your
highness hath a living pattern, incomparable, of the king your father: But
it is not amiss for you also to see one of these ancient pieces. God preserve
your highness.

Your highness most humble

and devoted servant,

FRANCIS ST. ALBAN.

T H E

T H E
H I S T O R Y
O F T H E
R E I G N
O F
K I N G *H E N R Y* V I I.

AFTER that *Richard* the third of that name, king in fact only, but tyrant both in title and regiment, and so commonly termed and reputed in all times since, was by the divine revenge, favouring the design of an exile-man, overthrown and slain at *Bosworth-field*: There succeeded in the kingdom the earl of *Richmond*, thence-forth styled *Henry* the seventh. The king immediately after the victory, as one that had been bred under a devout mother, and was in his nature a great observer of religious forms, caused *Te Deum laudamus* to be solemnly sung in the presence of the whole army upon the place, and was himself with general applause, and great cries of joy, in a kind of military election, or recognition, saluted king. Mean while the body of *Richard*, after many indignities and reproaches, (the *diriges* and obsequies of the common people towards tyrants) was obscurely buried. For though the king of his nobleness gave charge unto the friars of *Leicester* to see an honourable interment to be given to it, yet the religious people themselves (being not free from the humours of the vulgar) neglected it; wherein nevertheless they did not then incur any man's blame or censure: No man thinking any ignominy or contumely unworthy of him, that had been the executioner of king *Henry* the sixth (that innocent prince) with his own hands; the contriver of the death of the duke of *Clarence* his brother; the murderer of his two nephews, (one of them his lawful king in the present, and the other in the future, failing of him) and vehemently suspected to have been the poisoner of his wife, thereby to make vacant his bed, for a marriage within the degrees forbidden. And although he were a prince in military virtue approved, jealous of the honour of the *English* nation, and likewise a good law-maker, for the ease and solace of the common people;

people; yet his cruelties and parricides, in the opinion of all men, weighed down his virtues and merits; and in the opinion of wise men, even those virtues themselves were conceived to be rather feigned and affected things to serve his ambition, than true qualities ingenerate in his judgment or nature. And therefore it was noted by men of great understanding (who seeing his after-acts, looked back upon his former proceedings) that even in the time of king *Edward* his brother, he was not without secret trains and mines to turn envy and hatred upon his brother's government; as having an expectation and a kind of divination, that the king, by reason of his many disorders, could not be of long life, but was like to leave his sons of tender years; and then he knew well, how easy a step it was, from the place of a protector, and first prince of the blood, to the crown. And that out of this deep root of ambition it sprung, that as well at the treaty of peace that passed between *Edward* the fourth, and *Lewis* the eleventh of *France*, concluded by interview of both kings at *Piqueny*, as upon all other occasions, *Richard* then duke of *Gloucester* stood ever upon the side of honour, raising his own reputation to the disadvantage of the king his brother, and drawing the eyes of all (especially of the nobles and soldiers) upon himself; as if the king by his voluptuous life and mean marriage, were become effeminate and less sensible of honour, and reason of state, than was fit for a king. And as for the politick and wholesome laws which were enacted in his time, they were interpreted to be but the brocade of an usurper, thereby to woo and win the hearts of the people, as being conscious to himself, that the true obligations of sovereignty in him failed, and were wanting. But king *Henry*, in the very entrance of his reign, and the instant of time when the kingdom was cast into his arms, met with a point of great difficulty, and knotty to solve, able to trouble and confound the wisest king in the newness of his estate; and so much the more, because it could not endure a deliberation, but must be at once deliberated and determined. There were fallen to his lot, and concurrent in his person, three several titles to the imperial crown. The first, the title of the lady *Elizabeth*, with whom, by precedent pact with the party that brought him in, he was to marry. The second, the ancient and long disputed title (both by plea and arms) of the house of *Lancaster*, to which he was inheritor in his own person. The third, the title of the sword or conquest, for that he came in by victory of battel, and that the king in possession was slain in the field. The first of these was fairest, and most like to give contentment to the people, who by two and twenty years reign of king *Edward* the fourth, had been fully made capable of the clearness of the title of the white rose or house of *York*; and by the mild and plausible reign of the same king toward his latter time, were become affectionate to that line. But then it lay plain before his eyes, that if he relied upon that title, he could be but a king at courtesy, and have rather a matrimonial than a regal power; the right remaining in his queen, upon whose decease, either with issue or without issue, he was to give place, and be removed. And though he should obtain by parliament to be continued, yet he knew there was a very great difference between a king that holdeth his crown by a civil act of estates, and one that holdeth it originally by the law of nature, and descent of blood. Neither wanted there even at that time secret rumours and whisperings (which afterwards gathered strength and turned to great troubles) that the two young sons of king *Edward* the fourth, or one of them, (which were said to be destroyed in the *Tower*,) were not indeed murdered, but conveyed secretly away,
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and were yet living : which if it had been true, had prevented the title of the lady *Elizabeth*. On the other side, if he stood upon his own title of the house of *Lancaster*, inherent in his person, he knew it was a title condemned by parliament, and generally prejudged in the common opinion of the realm, and that it tended directly to the disinherison of the line of *York*, held then the indubitate heirs of the crown. So that if he should have no issue by the lady *Elizabeth*, which should be descendents of the double line, then the ancient flames of discord and intestine wars upon the competition of both houses, would again return and revive.

As for conquest, notwithstanding sir *William Stanley*, after some acclamations of the soldiers in the field, had put a crown of ornament (which *Richard* wore in the battel, and was found amongst the spoils) upon king *Henry's* head, as if there were his chief title ; yet he remembered well upon what conditions and agreements he was brought in ; and that to claim as conqueror, was to put as well his own party as the rest, into terror and fear ; as that which gave him power of disannulling of laws, and disposing of mens fortunes and estates, and the like points of absolute power, being in themselves so harsh and odious, as that *William* himself, commonly called the conqueror, howsoever he used and exercised the power of a conqueror to reward his *Normans*, yet he forbore to use that claim in the beginning, but mixed it with a titular pretence, grounded upon the will and designation of *Edward* the Confessor. But the king, out of the greatness of his own mind, presently cast the die ; and the inconveniences appearing unto him on all parts, and knowing there could not be any interreign, or suspension of title, and preferring his affection to his own line and blood, and liking that title best which made him independent ; and being in his nature and constitution of mind not very apprehensive or forecasting of future events afar off, but an entertainer of fortune by the day ; resolved to rest upon the title of *Lancaster* as the main, and to use the other two, that of marriage, and that of battel, but as supporters the one to appease secret discontents, and the other to beat down open murmur and dispute ; not forgetting that the same title of *Lancaster* had formerly maintained a possession of three descents in the crown ; and might have proved a perpetuity, had it not ended in the weakness and inability of the last prince. Whereupon the king presently that very day, being the two and twentieth of *August*, assumed the stile of king in his own name, without mention of the lady *Elizabeth* at all, or any relation thereunto. In which course he ever after persisted ; which did spin him a thread of many seditions and troubles. The king full of these thoughts, before his departure from *Leicester*, dispatch'd sir *Robert Willoughby* to the castle of *Sheriff-Hutton* in *Yorkshire*, where were kept in safe custody, by king *Richard's* commandment, both the lady *Elizabeth*, daughter of king *Edward*, and *Edward Plantagenet*, son and heir to *George* duke of *Clarence*. This *Edward* was by the king's warrant delivered from the constable of the castle, to the hand of sir *Robert Willoughby* ; and by him with all safety and diligence conveyed to the tower of *London*, where he was shut up close prisoner. Which act of the king's (being an act merely of policy and power) proceeded not so much from any apprehension he had of doctor *Shaw's* tale at *Paul's* cross, for the bastarding of *Edward* the fourth's issue ; in which case this young gentleman was to succeed, (for that fable was ever exploded) but upon a settled disposition to depress all eminent persons of the line of *York*. Wherein still
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the king, out of strength of will, or weakness of judgment, did use to shew a little more of the party, than of the king.

For the lady *Elizabeth*, she received also a direction to repair with all convenient speed to *London*, and there to remain with the queen dowager her mother; which accordingly she soon after did, accompanied with many noblemen and ladies of honour. In the mean season the king set forwards by easy journeys to the city of *London*, receiving the acclamations and applauses of the people as he went, which indeed were true and unfeigned, as might well appear in the very demonstrations and fulness of the cry. For they thought generally, that he was a prince as ordained and sent down from heaven, to unite and put to an end the long dissensions of the two houses; which although they had had in the times of *Henry* the fourth, *Henry* the fifth, and a part of *Henry* the sixth, on the one side, and the times of *Edward* the fourth on the other, lucid intervals and happy pauses; yet they did ever hang over the kingdom, ready to break forth into new perturbations and calamities: And as his victory gave him the knee, so his purpose of marriage with the lady *Elizabeth*, gave him the heart; so that both knee and heart did truly bow before him.

HE on the other side with great wisdom, (not ignorant of the affections and fears of the people) to disperse the conceit and terror of a conquest, had given order, that there should be nothing in his journey like unto a warlike march or manner; but rather like unto the progress of a king in full peace and assurance.

HE entered the city upon a saturday, as he had also obtained the victory upon a saturday; which day of the week, first upon an observation, and after upon memory and fancy, he accounted and chose as a day prosperous unto him.

THE mayor and companies of the city received him at *Shoreditch*; whence with great and honourable attendance, and troops of noblemen, and persons of quality, he entered the city; himself not being on horseback, or in any open chair, or throne, but in a close chariot, as one that having been sometime an enemy to the whole state, and a proscribed person, chose rather to keep state, and strike a reverence into the people, than to fawn upon them.

HE went first into saint *Paul's* church, where not meaning that the people should forget too soon that he came in by battle, he made offertory of his standards; and had orisons and *Te Deum* again sung, and went to his lodging prepared in the bishop of *London's* palace, where he stayed for a time.

DURING his abode there, he assembled his council, and other principal persons, in presence of whom he did renew again his promise, to marry with the lady *Elizabeth*. This he did the rather, because having at his coming out of *Britain* given artificially, for serving of his own turn, some hopes, in case he obtained the kingdom, to marry *Anne*, inheritress to the duchy of *Britain*, whom *Charles* the eighth of *France* soon after married; it bred some doubt and suspicion amongst divers that he was not sincere, or at least not fixed in going on with the match of *England* so much desired: which conceit also, though it were but talk and discourse, did much afflict the poor lady *Elizabeth* herself. But howsoever he both truly intended it, and desired also it should be so believed, (the better to extinguish envy and contradiction to his other purposes;) yet was he resolved in himself not to proceed to the consummation thereof, till his coronation, and a

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parliament were past. The one, left a joint coronation of himself and his queen might give any countenance of participation of title ; the other, left in the entailing of the crown to himself, which he hoped to obtain by parliament, the votes of the parliament might any ways reflect upon her.

ABOUT this time in autumn, towards the end of *September*, there began and reigned in the city and other parts of the kingdom, a disease then new : which of the accidents and manner thereof, they called the sweating sickness. This disease had a swift course, both in the sick body, and in the time and period of the lasting thereof ; for they that were taken with it, upon four and twenty hours escaping, were thought almost assured. And as to the time of the malice and reign of the disease ere it ceased ; it began about the one and twentieth of *September*, and cleared up before the end of *October*, inasmuch as it was no hinderance to the king's coronation, which was the last of *October* ; nor (which was more) to the holding of the parliament, which began but seven days after. It was a pestilent fever, but (as it seemeth) not seated in the veins or humours, for that there followed no carbuncle, no purple or livid spots, or the like, the mass of the body being not tainted ; only a malign vapour flew to the heart, and seized the vital spirits ; which stirred nature to strive to send it forth by an extreme sweat. And it appeared by experience, that this disease was rather a surprize of nature, than obstinate to remedies, if it were in time looked unto. For if the patient were kept in an equal temper, both for clothes, fire, and drink, moderately warm, with temperate cordials, whereby nature's work was neither irritated by heat, nor turned back by cold, he commonly recovered. But infinite persons died suddenly of it, before the manner of the cure and attendance was known. It was conceived not to be an epidemick disease, but to proceed from a malignity in the constitution of the air, gathered by the predispositions of seasons ; and the speedy cessation declared as much.

ON *Simon* and *Jude's* eve, the king dined with *Thomas Bourchier*, archbishop of *Canterbury* and cardinal ; and from *Lambeth* went by land over the bridge to the tower, where the morrow after he made twelve knights bannerets. But for creations he dispensed them with a sparing hand. For notwithstanding a field so lately fought, and a coronation so near at hand, he only created three : *Jasper* earl of *Pembroke*, (the king's uncle) was created duke of *Bedford* ; *Thomas* the lord *Stanley*, (the king's father in law) earl of *Derby* ; and *Edward Courtney* earl of *Devon* ; though the king had then nevertheless a purpose in himself to make more in time of parliament ; bearing a wife and decent respect to distribute his creations, some to honour his coronation, and some his parliament.

THE coronation followed two days after, upon the thirtieth day of *October*, in the year of our Lord 1485 ; at which time *Innocent* the eighth was pope of *Rome* ; *Frederick* the third emperor of *Almain* ; and *Maximilian* his son newly chosen king of the *Romans* ; *Charles* the eighth king of *France* ; *Ferdinando* and *Isabella* king and queen of *Spain* ; and *James* the third king of *Scotland* : with all which kings and states, the king was at that time in good peace and amity. At which day also (as if the crown upon his head had put perils into his thoughts) he did institute, for the better security of his person, a band of fifty archers, under a captain, to attend him, by the name of yeomen of his guard : and yet that it might be thought to be rather a matter of dignity, after the imitation of that he had known abroad, than any matter of diffidence appropriate to his own case, he made it to be

be understood for an ordinance not temporary, but to hold in succession for ever after.

THE seventh of *November* the king held his parliament at *Westminster*, which he had summoned immediately after his coming to *London*. His ends in calling a parliament, (and that so speedily) were chiefly three; first, to procure the crown to be entailed upon himself. Next, to have the attainders of all his party (which were in no small number) reversed, and all acts of hostility by them done in his quarrel, remitted and discharged; and on the other side, to attain by parliament the heads and principals of his enemies. The third, to calm and quiet the fears of the rest of that party by a general pardon; not being ignorant in how great danger a king stands from his subjects, when most of his subjects are conscious in themselves, that they stand in his danger. Unto these three special motives of a parliament was added, that he as a prudent and moderate prince made this judgment, that it was fit for him to hasten to let his people see, that he meant to govern by law, howsoever he came in by the sword; and fit also to reclaim them to know him for their king, whom they had so lately talked of as an enemy, or banished man. For that which concerned the entailing of the crown; (more than that he was true to his own will, that he would not endure any mention of the lady *Elizabeth*, no not in the nature of special entail;) he carried it otherwise with great wisdom and measure. For he did not press to have the act penned by way of declaration or recognition of right; as on the other side, he avoided to have it by new law or ordinance, but chose rather a kind of middle way, by way of establishment, and that under covert and indifferent words; that the inheritance of the crown should rest, remain, and abide in the king, &c. which words might equally be applied; that the crown should continue to him: but whether as having former right to it, (which was doubtful) or having it then in fact and possession (which no man denied) was left fair to interpretation either way. And again, for the limitation of the entail, he did not press it to go farther than to himself and to the heirs of his body, not speaking of his right heirs; but leaving that to the law to decide: so as the entail might seem rather a personal favour to him and his children, than a total disinherison to the house of *York*. And in this form was the law drawn and passed. Which statute he procured to be confirmed by the pope's bull the year following, with mention nevertheless (by way of recital) of his other titles, both of descent and conquest. So as now the wreath of three, was made a wreath of five; for to the three first titles of the two houses, or lines, and conquest, were added two more, the authorities parliamentary and papal.

THE king likewise in the reversal of the attainders of his partakers, and discharging them of all offences incident to his service and succour, had his will; and acts did pass accordingly. In the passage whereof, exception was taken to divers persons in the house of commons, for that they were attainted, and thereby not legal, nor habilitate to serve in parliament, being disabled in the highest degree; and that it should be a great incongruity to have them to make laws, who themselves were not inlawed. The truth was, that divers of those which had in the time of king *Richard* been strongest, and most declared for the king's party, were returned knights and burgesses for the parliament; whether by care or recommendation from the state, or the voluntary inclination of the people: many of which had been by *Richard* the third attainted by outlawries, or otherwise. The king was somewhat troubled with this: For though it had a grave and specious

shew, yet it reflected upon his party. But wisely not shewing himself at all moved therewith, he would not understand it but as a case in law, and wished the judges to be advised thereupon; who for that purpose were forthwith assembled in the exchequer-chamber (which is the counsel-chamber of the judges :) and upon deliberation they gave a grave and safe opinion and advice, mixed with law and convenience; which was, that the knights and burgeses attainted by the course of law, should forbear to come into the house, till a law were passed for the reversal of their attainders.

It was at that time incidently moved amongst the judges in their consultation, what should be done for the king himself, who likewise was attainted? But it was with unanimous consent resolved, that the crown takes away all defects and stops in blood: and that from the time the king did assume the crown, the fountain was cleared, and all attainders and corruption of blood discharged. But nevertheless, for honour's sake, it was ordained by parliament, that all records wherein there was any memory, or mention of the king's attainder, should be defaced, cancelled, and taken off the file.

BUT on the part of the king's enemies there were by parliament attainted, the late duke of *Gloucester*, calling himself *Richard* the third; the duke of *Norfolk*, the earl of *Surrey*, viscount *Lovel*, the lord *Ferrars*, the lord *Zouch*, *Richard Ratcliffe*, *William Catesby*, and many others of degree and quality. In which bills of attainders, nevertheless there were contained many just and temperate clauses, savings and provisoes, well shewing and fore-tokening the wisdom, stay, and moderation of the king's spirit of government. And for the pardon of the rest, that had stood against the king, the king, upon a second advice, thought it not fit it should pass by parliament, the better (being matter of grace) to impropriate the thanks to himself: using only the opportunity of a parliament time, the better to disperse it into the veins of the kingdom. Therefore during the parliament, he published his royal proclamation, offering pardon and grace of restitution, to all such as had taken arms, or been participant of any attempts against him; so as they submitted themselves to his mercy by a day, and took the oath of allegiance and fidelity to him. Whereupon many came out of sanctuary, and many more came out of fear, no less guilty than those that had taken sanctuary.

As for money or treasure, the king thought it not seasonable, or fit to demand any of his subjects at this parliament; both because he had received satisfaction from them in matters of so great importance, and because he could not remunerate them with any general pardon, being prevented therein by the coronation pardon, passed immediately before: but chiefly, for that it was in every man's eye, what great forfeitures and confiscations he had at that present to help himself; whereby those casualties of the crown might in reason spare the purses of the subjects; especially in a time when he was in peace with all his neighbours. Some few laws passed at that parliament, almost for form sake: amongst which there was one, to reduce aliens, being made denizens, to pay strangers customs; and another, to draw to himself the seizures and compositions of *Italians* goods, for not employment, being points of profit to his coffers, whereof from the very beginning he was not forgetful; and had been more happy at the latter end, if his early providence (which kept him from all necessity of exacting upon his people) could likewise have attempered his nature therein. He added, during parliament, to his former creations, the innoblement or advancement
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in nobility of a few others; the lord *Chandois* of *Britain*, was made earl of *Bath*; sir *Giles Daubeney*, was made lord *Daubeney*; and sir *Robert Willoughby*, lord *Brook*.

THE king did also with great nobleness and bounty (which virtues at that time had their turns in his nature) restore *Edward Stafford* (eldest son to *Henry* duke of *Buckingham*, attainted in the time of king *Richard*) not only to his dignities, but to his fortunes and possessions, which were great: to which he was moved also by a kind of gratitude, for that the duke was the man that moved the first stone against the tyranny of king *Richard*, and indeed made the king a bridge to the crown upon his own ruins. Thus the parliament broke up.

THE parliament being dissolved, the king sent forthwith money to redeem the marquis *Dorset*, and sir *John Bourchier*, whom he had left as his pledges at *Paris*, for money which he had borrowed, when he made his expedition for *England*. And therefore he took a fit occasion to send the lord treasurer and master *Bray* (whom he used as counsellor) to the lord mayor of *London*, requiring of the city a prest of six thousand marks: but after many parleys, he could obtain but two thousand pounds; which nevertheless the king took in good part, as men use to do, that practise to borrow money when they have no need. About this time, the king called unto his privy-council *John Morton* and *Richard Fox*, the one bishop of *Ely*, the other bishop of *Exeter*; vigilant men and secret, and such as kept watch with him almost upon all men else. They had been both versed in his affairs, before he came to the crown, and were partakers of his adverse fortune. This *Morton* soon after, upon the death of *Bourchier*, he made archbishop of *Canterbury*. And for *Fox*, he made him lord keeper of his privy-seal, and afterwards advanced him by degrees, from *Exeter* to *Bath* and *Wells*, thence to *Durham*, and at last, to *Winchester*. For although the king loved to employ and advance bishops, because having rich bishopricks, they carried their reward upon themselves; yet he did use to raise them by steps, that he might not lose the profit of the first fruits, which by that course of gradation was multiplied.

AT last, upon the eighteenth of *January*, was solemnized the so long expected and so much desired marriage, between the king and the lady *Elizabeth*: which day of marriage was celebrated with greater triumph and demonstrations (especially on the people's part) of joy and gladness, than the days either of his entry or coronation; which the king rather noted, than liked. And it is true, that all his life time, while the lady *Elizabeth* lived with him, (for she died before him) he shewed himself no very indulgent husband towards her, though she was beautiful, gentle, and fruitful. But his aversion towards the house of *York* was so predominant in him, as it found place, not only in his wars and councils, but in his chamber and bed.

TOWARDS the middle of the spring, the king, full of confidence and assurance, as a prince that had been victorious in battle, and had prevailed with his parliament in all that he desired, and had the ring of acclamations fresh in his ears, thought the rest of his reign should be but play, and the enjoying of a kingdom: Yet as a wise and watchful king, he would not neglect any thing for his safety; thinking nevertheless to perform all things now, rather as an exercise, than as a labour. So he being truly informed, that the northern parts were not only affectionate to the house of *York*, but particularly had been devoted to king *Richard* the third; thought it would
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be a summer well spent to visit those parts, and by his presence and application of himself, to reclaim and rectify those humours. But the king, in his account of peace and calms, did much over-cast his fortunes, which proved for many years together full of broken seas, tides and tempests. For he was no sooner come to *Lincoln*, where he kept his *Easter*, but he received news, that the lord *Lovel*, *Humphrey Stafford*, and *Thomas Stafford*, (who had formerly taken sanctuary at *Colchester*) were departed out of sanctuary, but to what place, no man could tell: Which advertisement the king despised, and continued his journey to *York*. At *York* there came fresh and more certain advertisement, that the lord *Lovel* was at hand with a great power of men, and that the *Staffords* were in arms in *Worcestershire*, and had made their approaches to the city of *Worcester*, to assail it. The king, as a prince of great and profound judgment, was not much moved with it; for that he thought it was but a rag or remnant of *Bosworth-field*, and had nothing in it of the main party of the house of *York*. But he was more doubtful of the raising of forces to resist the rebels, than of the resistance itself; for that he was in a core of people, whose affections he suspected. But the action enduring no delay, he did speedily levy and send against the lord *Lovel*, to the number of three thousand men, ill armed, but well assured, (being taken some few out of his own train, and the rest out of the tenants and followers of such as were safe to be trusted) under the conduct of the duke of *Bedford*. And as his manner was to send his pardons rather before the sword than after, he gave commission to the duke to proclaim pardon to all that would come in: which the duke, upon his approach to the lord *Lovel's* camp, did perform. And it fell out as the king expected; the heralds were the great ordnance. For the lord *Lovel*, upon proclamation of pardon, mistrusting his men, fled into *Lancashire*, and lurking for a time with sir *Thomas Broughton*, after sailed over into *Flanders* to the lady *Margaret*. And his men, forsaken of their captain, did presently submit themselves to the duke. The *Staffords* likewise, and their forces, hearing what had happen'd to the lord *Lovel* (in whose success their chief trust was) despaired, and dispersed. The two brothers taking sanctuary at *Colnham*, a village near *Abingdon*; which place, upon view of their privilege in the king's bench, being judged no sufficient sanctuary for traytors, *Humphrey* was executed at *Tyburn*; and *Thomas*, as being led by his elder brother, was pardoned. So this rebellion proved but a blast, and the king having by this journey purged a little the dregs and leaven of the northern people, that were before in no good affection towards him, returned to *London*.

IN *September* following, the queen was delivered of her first son, whom the king (in honour of the *British* race, of which himself was) named *Arthur*, according to the name of that ancient worthy king of the *Britains*, in whose acts there is truth enough to make him famous, besides that which is fabulous. The child was strong and able, though he was born in the eighth month, which the physicians do prejudice.

THERE followed this year, being the second of the king's reign, a strange accident of state, whereof the relations which we have are so naked, as they leave it scarce credible; not for the nature of it, (for it hath fallen out often) but for the manner and circumstance of it, especially in the beginnings. Therefore we shall make our judgment upon the things themselves, as they give light one to another, and (as we can) dig truth out of the mine. The king was green in his estate; and contrary to his own opinion and desert

fert both, was not without much hatred throughout the realm. The root of all, was the discountenancing of the house of *York*, which the general body of the realm still affected. This did alienate the hearts of the subjects from him daily more and more, especially when they saw, that after his marriage, and after a son born, the king did nevertheless not so much as proceed to the coronation of the queen, not vouchsafing her the honour of a matrimonial crown; for the coronation of her was not till almost two years after, when danger had taught him what to do. But much more when it was spread abroad, (whether by error, or the cunning of malecontents) that the king had a purpose to put to death *Edward Plantagenet* closely in the tower: whose case was so nearly parallel'd with that of *Edward* the fourth's children, in respect of the blood, like age, and the very place of the tower, as it did refresh and reflect upon the king a most odious resemblance, as if he would be another king *Richard*. And all this time it was still whispered every where, that at least one of the children of *Edward* the fourth was living: Which bruit was cunningly fomented by such as desired innovation. Neither was the king's nature and customs greatly fit to disperse these mists; but contrariwise, he had a fashion rather to create doubts than assurance. Thus was fuel prepared for the spark: The spark that afterwards kindled such a fire and combustion, was at the first contemptible.

THERE was a subtle priest called (a) *Richard Simon*, that lived in *Oxford*, and had to his pupil a baker's son, named *Lambert Simnell*, of the age of some fifteen years, a comely youth, and well favoured, not without some extraordinary dignity, and grace of aspect. It came into this priest's fancy, (hearing what men talked, and in hope to raise himself to some great bishoprick) to cause this lad to counterfeit and personate the second son of *Edward* the fourth, supposed to be murdered; and afterward (for he changed his intention in the manage) the lord *Edward Plantagenet*, then prisoner in the tower, and accordingly to frame him and instruct him in the part he was to play. This is that which (as was touched before) seemeth scarcely credible; not that a false person should be assumed to gain a kingdom, for it hath been seen in ancient and late times; nor that it should come into the mind of such an abject fellow, to enterprize so great a matter; for high conceits do sometimes come streaming into the imaginations of base persons; especially when they are drunk with news, and talk of the people. But here is that which hath no appearance: That this priest being utterly unacquainted with the true person, according to whose pattern he should shape his counterfeit, should think it possible for him to instruct his player, either in gesture and fashions, or in recounting past matters of his life and education; or in fit answers to questions, or the like, any ways to come near the resemblance of him whom he was to represent. For this lad was not to personate one, that had been long before taken out of his cradle, or conveyed away in his infancy, known to few; but a youth, that till the age almost of ten years, had been brought up in a court where infinite eyes had been upon him. For king *Edward* touched with remorse of his brother the duke of *Clarence's* death, would not indeed restore his son (of whom we speak) to be duke of *Clarence*, but yet created him earl of *Warwick*, reviving his honour on the mother's side, and used him honourably

(a) The priest's name was *William Simonds*, and the youth was the son of an organ-maker in *Oxford*, as the priest declared before the whole convocation of the clergy at *Lambeth*, Feb. 17. 1486. Vide *Reg. Morton. f. 34. MS. Sancroft.*

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during his time, though *Richard* the third afterwards confined him. So that it cannot be, but that some great person that knew particularly and familiarly *Edward Plantagenet*, had a hand in the business, from whom the priest might take his aim. That which is most probable, out of the precedent and subsequent acts, is, that it was the queen dowager, from whom this action had the principal source and motion. For certain it is, she was a busy negotiating woman, and in her withdrawing chamber had the fortunate conspiracy for the king against king *Richard* the third been hatched; which the king knew, and remembered perhaps but too well; and was at this time extremely discontent with the king, thinking her daughter (as the king handled the matter) not advanced, but depressed; and none could hold the book so well to prompt and instruct this stage-play, as she could. Nevertheless it was not her meaning, nor no more was it the meaning of any of the better and sager sort that favoured this enterprize, and knew the secret, that this disguised idol should possess the crown; but at his peril to make way to the overthrow of the king; and that done, they had their several hopes and ways. That which doth chiefly fortify this conjecture is, that as soon as the matter brake forth in any strength, it was one of the king's first acts to cloister the queen dowager in the nunnery of *Bermondsey*, and to take away all her lands and estate; and this by a close council, without any legal proceeding, upon far fetch'd pretences; that she had delivered her two daughters out of sanctuary to king *Richard*, contrary to promise. Which proceeding being even at that time taxed for rigorous and undue, both in matter and manner, makes it very probable there was some greater matter against her, which the king upon reason of policy, and to avoid envy, would not publish. It is likewise no small argument that there was some secret in it, and some suppressing of examinations; for that the priest *Simon* himself, after he was taken, was never brought to execution: no not so much as to publick trial (as many clergymen were upon less treasons;) but was only shut up close in a dungeon. Add to this, that after the earl of *Lincoln* (a principal person of the house of *York*) was slain in *Stokefield*, the king opened himself to some of his council, that he was sorry for the earl's death, because by him (he said) he might have known the bottom of his danger.

BUT to return to the narration itself: *Simon* did first instruct his scholar for the part of *Richard* duke of *York*, second son to king *Edward* the fourth; and this was at such time as it was voiced, that the king purposed to put to death *Edward Plantagenet* prisoner in the tower, whereat there was great murmur. But hearing soon after a general bruit, that *Plantagenet* had escaped out of the tower, and thereby finding him so much beloved amongst the people, and such rejoicing at his escape, the cunning priest changed his copy, and chose now *Plantagenet* to be the subject his pupil should personate, because he was more in the present speech and votes of the people; and it pieced better, and followed more close and handsomely, upon the bruit of *Plantagenet's* escape. But yet doubting that there would be too near looking, and too much perspective into his disguise, if he should shew it here in *England*; he thought good (after the manner of scenes in stage-plays and masks) to shew it afar off; and therefore sailed with his scholar into *Ireland*, where the affection to the house of *York* was most in height. The king had been a little improvident in the matters of *Ireland*, and had not removed officers and counsellors, and put in their places, or at least intermingled persons, of whom he stood assured, as he should

should have done, since he knew the strong bent of that country towards the house of *York*; and that it was a ticklish and unsettled state, more easy to receive distempers and mutations, than *England* was. But trusting to the reputation of his victories and successes in *England*, he thought he should have time enough to extend his cares afterwards to that second kingdom.

WHEREFORE through this neglect, upon the coming of *Simon* with his pretended *Plantagenet* into *Ireland*, all things were prepared for revolt and sedition, almost as if they had been set and plotted beforehand. *Simon's* first address was to the lord *Thomas Fitz-Gerard*, earl of *Kildare*, and deputy of *Ireland*; before whose eyes he did cast such a mist (by his own insinuation, and by the carriage of his youth, that expressed a natural princely behaviour) as joined perhaps with some inward vapours of ambition and affection in the earl's own mind, left him fully possessed, that it was the true *Plantagenet*. The earl presently communicated the matter with some of the nobles, and others there, at the first secretly; but finding them of like affection to himself, he suffered it of purpose to vent and pass abroad; because they thought it not safe to resolve, till they had a taste of the people's inclination. But if the great ones were in forwardness, the people were in fury, entertaining this airy body or phantasm with incredible affection; partly, out of their great devotion to the house of *York*; partly out of a proud humour in the nation, to give a king to the realm of *England*. Neither did the party in this heat of affection, much trouble themselves with the attainder of *George* duke of *Clarence*; having newly learned by the king's example, that attainders do not interrupt the conveying of title to the crown. And as for the daughters of king *Edward* the fourth, they thought king *Richard* had said enough for them; and took them to be but as of the king's party, because they were in his power, and at his disposing. So that with marvellous consent and applause, this counterfeit *Plantagenet* was brought with great solemnity, to the castle of *Dublin*, and there saluted, served, and honoured as king; the boy becoming it well, and doing nothing that did bewray the baseness of his condition. And within a few days after he was proclaimed king at *Dublin*, by the name of king *Edward* the sixth; there being not a sword drawn in king *Henry* his quarrel.

THE king was much moved with this unexpected accident when it came to his ears, both because it struck upon that string which ever he most feared, as also because it was stirred in such a place, where, he could not with safety transfer his own person to suppress it. For partly through natural valour, and partly through an universal suspicion, (not knowing whom to trust) he was ever ready to wait upon all his achievements in person. The king therefore first called his counsel together at the charter-house at *Shine*; which counsel was held with great secrecy, but the open decrees thereof, which presently came abroad, were three.

THE first was, that the queen dowager, for that she, contrary to her pact and agreement with those that had concluded with her concerning the marriage of her daughter *Elizabeth* with king *Henry*, had nevertheless delivered her daughters out of sanctuary into king *Richard's* hands, should be cloistered in the nunnery of *Bermondsey*, and forfeit all her lands and goods.

THE next was, that *Edward Plantagenet*, then close prisoner in the tower, should be in the most publick and notorious manner that could be devised, shewed unto the people: in part to discharge the king of the envy of that opinion and bruit, how he had been put to death privily in the

tower; but chiefly to make the people see the levity and imposture of the proceedings of *Ireland*, and that their *Plantagenet* was indeed but a puppet or a counterfeit.

THE third was, that there should be again proclaimed a general pardon to all that would reveal their offences, and submit themselves by a day. And that this pardon should be conceived in so ample and liberal a manner, as no high-treason (no not against the king's own person) should be excepted. Which though it might seem strange, yet was it not so to a wise king, that knew his greatest dangers were not from the least treasons, but from the greatest. These resolutions of the king and the council were immediately put in execution. And first, the queen dowager was put into the monastery of *Bermondsey*, and all her estates seized into the king's hands: whereat there was much wondering; that a weak woman, for the yielding to the menaces and promises of a tyrant, after such a distance of time, (wherein the king had shewed no displeasure nor alteration) but much more after so happy a marriage between the king and her daughter, blessed with issue male, should, upon a sudden mutability or disclosure of the king's mind, be so severely handled.

THIS lady was amongst the examples of great variety of fortune. She had first from a distressed suitor, and desolate widow, been taken to the marriage-bed of a bachelor-king, the goodliest personage of his time; and even in his reign she had endured a strange eclipse by the king's flight, and temporary depriving from the crown. She was also very happy, in that she had by him fair issue; and continued his nuptial love (helping her self by some obsequious bearing and dissembling of his pleasures) to the very end. She was much affectionate to her own kindred, even unto faction; which did stir great envy in the lords of the king's side, who counted her blood a disparagement to be mingled with the king's. With which lords of the king's blood, joined also the king's favourite, the lord *Hastings*; who, notwithstanding the king's great affection to him, was thought at times, through her malice and spleen, not to be out of danger of falling. After her husband's death she was matter of tragedy, having lived to see her brother beheaded, and her two sons deposed from the crown, bastarded in their blood, and cruelly murdered. All this while nevertheless she enjoyed her liberty, state, and fortunes: But afterwards again, upon the rise of the wheel, when she had a king to her son in law, and was made grandmother to a grandchild of the best sex; yet was she (upon dark and unknown reasons, and no less strange pretences) precipitated and banished the world into a nunnery; where it was almost thought dangerous to visit her, or see her; and where not long after she ended her life: but was by the king's commandment buried with the king her husband at *Windsor*. She was foundress of *Queen's college* in *Cambridge*. For this act the king sustained great obloquy, which nevertheless (besides the reason of state) was somewhat sweetened to him by a great confiscation.

ABOUT this time also, *Edward Plantagenet* was upon a Sunday brought throughout all the principal streets of *London*, to be seen of the people. And having passed the view of the streets, was conducted to *Paul's church* in solemn procession, where great store of people were assembled. And it was provided also in good fashion, that divers of the nobility, and others of quality, (especially of those that the king most suspected, and knew the person of *Plantagenet* best) had communication with the young gentleman by the way, and entertained him with speech and discourse; which did in effect

effect mar the pageant in *Ireland* with the subjects here, at least with so many, as out of error, and not out of malice, might be misled. Nevertheless, in *Ireland*, (where it was too late to go back) it wrought little or no effect. But contrariwise, they turned the imposture upon the king; and gave out, that the king to defeat the true inheritor, and to mock the world, and blind the eyes of simple men, had tricked up a boy in the likeness of *Edward Plantagenet*, and shewed him to the people; not sparing to profane the ceremony of a procession, the more to countenance the fable.

THE general pardon likewise near the same time came forth; and the king therewithal omitted no diligence, in giving strait order for the keeping of the ports, that fugitives, malecontents, or suspected persons, might not pass over into *Ireland* and *Flanders*.

MEAN while the rebels in *Ireland* had sent privy messengers both into *England*, and into *Flanders*, who in both places had wrought effects of no small importance. For in *England* they won to their party *John* earl of *Lincoln*, son of *John de la Pool* duke of *Suffolk*, and of *Elizabeth*, king *Edward* the fourth's eldest sister. This earl was a man of great wit and courage, and had his thoughts highly raised by hopes and expectations for a time: for *Richard* the third had a resolution, out of his hatred to both his brethren, king *Edward*, and the duke of *Clarence*, and their lines, (having had his hand in both their bloods) to disable their issues upon false and incompetent pretexts; the one of attainder, the other of illegitimation: and to design this gentleman (in case himself should die without children) for inheritor of the crown. Neither was this unknown to the king, who had secretly an eye upon him. But the king having tasted of the envy of the people for his imprisonment of *Edward Plantagenet*, was doubtful to heap up any more distastes of that kind, by the imprisonment of *de la Pool* also; the rather thinking it policy to conserve him as a corival unto the other. The earl of *Lincoln* was induced to participate with the action of *Ireland*, not lightly upon the strength of the proceedings there, which was but a bubble, but upon letters from the lady *Margaret* of *Burgundy*, in whose succours and declaration for the enterprize, there seemed to be a more solid foundation, both for reputation and forces. Neither did the earl refrain the business, for that he knew the pretended *Plantagenet* to be but an idol. But contrariwise, he was more glad it should be the false *Plantagenet*, than the true; because the false being sure to fall away of himself, and the true to be made sure of by the king, it might open and pave a fair and prepared way to his own title. With this resolution he sailed secretly into *Flanders*, where was a little before arrived the lord *Lovel*, leaving a correspondence here in *England* with sir *Thomas Broughton*, a man of great power and dependances in *Lancashire*. For before this time, when the pretended *Plantagenet* was first received in *Ireland*, secret messengers had been also sent to the lady *Margaret*, advertising her what had passed in *Ireland*, imploring succours in an enterprize (as they said) so pious and just, and that God had so miraculously prospered the beginning thereof; and making offer, that all things should be guided by her will and direction, as the sovereign patroness and protectress of the enterprize. *Margaret* was second sister to king *Edward* the fourth, and had been second wife to *Charles*, surnamed the Hardy, duke of *Burgundy*; by whom, having no children of her own, she did with singular care and tenderness intend the education of *Philip* and *Margaret*, grandchildren to her former husband; which won her great love and authority among the *Dutch*. This princess (having the spirit of a man,

and malice of a woman) abounding in treasure, by the greatness of her dower, and her provident government, and being childless, and without any nearer care, made it her design and enterprize, to see the majesty royal of *England* once again replaced in her house; and had set up king *Henry* as a mark, at whose overthrow all her actions should aim and shoot; insomuch as all the councils of his succeeding troubles came chiefly out of that quiver. And she bare such a mortal hatred to the house of *Lancaster*, and personally to the king, as she was no ways mollified by the conjunction of the houses in her niece's marriage, but rather hated her niece, as the means of the king's ascent to the crown, and assurance therein. Wherefore with great violence of affection she embraced this overture. And upon counsel taken with the earl of *Lincoln*, and the lord *Lovel*, and some other of the party, it was resolved with all speed, the two lords, assisted with a regiment of two thousand *Almains*, being choice and veteran bands, under the command of *Martin Swart*, (a valiant and experimented captain) should pass over into *Ireland* to the new king; hoping, that when the action should have the face of a received and settled regality (with such a second person as the earl of *Lincoln*, and the conjunction and reputation of foreign succours) the fame of it would embolden and prepare all the party of the confederates and malecontents within the realm of *England*, to give them assistance when they should come over there. And for the person of the counterfeit, it was agreed, that if all things succeeded well, he should be put down, and the true *Plantagenet* received; wherein nevertheless the earl of *Lincoln* had his particular hopes. After they were come into *Ireland*, and that the party took courage, by seeing themselves together in a body, they grew very confident of success; conceiving and discoursing amongst themselves, that they went in upon far better cards to overthrow king *Henry*, than king *Henry* had to overthrow king *Richard*. And that if there were not a sword drawn against them in *Ireland*, it was a sign the swords in *England* would be soon sheathed, or beaten down. And first, for a bravery upon this accession of power, they crowned their new king in the cathedral church of *Dublin*; who formerly had been but proclaimed only; and then sat in council what should farther be done. At which council, though it were propounded by some, that it were the best way to establish themselves first in *Ireland*, and to make that the seat of the war, and to draw king *Henry* thither in person, by whose absence they thought there would be great alterations and commotions in *England*; yet because the kingdom there was poor, and they should not be able to keep their army together, nor pay their *German* soldiers, and for that also the sway of the *Irishmen*, and generally of the men of war, which (as in such cases of popular tumults is usual) did in effect govern their leaders, was eager, and in affection to make their fortunes upon *England*; it was concluded with all possible speed to transport their forces into *England*. The king in the mean time, who at the first when he heard what was done in *Ireland*, though it troubled him, yet thought he should be well enough able to scatter the *Irish* as a flight of birds, and rattle away this swarm of bees with their king; when he heard afterwards that the earl of *Lincoln* was embarked in the action, and that the lady *Margaret* was declared for it; he apprehended the danger in a true degree as it was, and saw plainly that his kingdom must again be put to the stake, and that he must fight for it. And first he did conceive, before he understood of the earl of *Lincoln*'s sailing into *Ireland* out of *Flanders*, that he should be assailed both upon the east parts of the kingdom of *England*,

land, by some impression from *Flanders*; and upon the north-west out of *Ireland*. And therefore having ordered musters to be made in both parts, and having provisionally designed two generals, *Jasper* earl of *Bedford*, and *John* earl of *Oxford*, (meaning himself also to go in person where the affairs should most require it) and nevertheless not expecting any actual invasion at that time, (the winter being far on) he took his journey himself towards *Suffolk* and *Norfolk*, for the confirming of those parts. And being come to *St. Edmond's-bury*, he understood, that *Thomas* marquis *Dorset* (who had been one of the pledges in *France*) was hastening towards him, to purge himself of some accusations which had been made against him. But the king, though he kept an ear for him, yet was the time so doubtful, that he sent the earl of *Oxford* to meet him, and forthwith to carry him to the tower; with a fair message nevertheless, that he should bear that disgrace with patience, for that the king meant not his hurt, but only to preserve him from doing hurt, either to the king's service, or to himself; and that the king should always be able (when he had cleared himself) to make him reparation.

FROM *St. Edmond's-bury* he went to *Norwich*, where he kept his *Christmas*. And from thence he went (in a manner of pilgrimage) to *Walsingham*, where he visited our lady's church, famous for miracles, and made his prayers and vows for help and deliverance. And from thence he returned by *Cambridge*, to *London*. Not long after the rebels, with their king, (under the leading of the earl of *Lincoln*, the earl of *Kildare*, the lord *Lovel*, and colonel *Swart*) landed at *Fouldrey* in *Lancashire*; whither there repaired to them sir *Thomas Broughton*, with some small company of *English*. The king by that time (knowing now the storm would not divide, but fall in one place) had levied forces in good number; and in person (taking with him his two designed generals, the duke of *Bedford*, and the earl of *Oxford*) was come on his way towards them as far as *Coventry*, whence he sent forth a troop of light horsemen for discovery, and to intercept some stragglers of the enemies, by whom he might the better understand the particulars of their progress and purposes, which was accordingly done; though the king otherwise was not without intelligence from espials in the camp.

THE rebels took their way toward *York*, without spoiling the countrey, or any act of hostility, the better to put themselves into favour of the people, and to personate their king: who (no doubt, out of a princely feeling) was sparing, and compassionate towards his subjects; but their snow-ball did not gather as it went: for the people came not in to them; neither did any rise or declare themselves in other parts of the kingdom for them, which was caused partly by the good taste that the king had given his people of his government, joined with the reputation of his felicity; and partly for that it was an odious thing to the people of *England*, to have a king brought in to them upon the shoulders of *Irish* and *Dutch*, of which their army was in substance compounded. Neither was it a thing done with any great judgment on the party of the rebels, for them to take their way towards *York*: considering that howsoever those parts had formerly been a nursery of their friends; yet it was there, where the lord *Lovel* had so lately disbanded, and where the king's presence had a little before qualified discontents. The earl of *Lincoln* deceived of his hopes of the countries concurrence unto him, (in which case he would have temporized) and seeing the business past retract, resolved to make on where the king was, and to give him battle, and thereupon marched towards *Newark*, thinking to have
surprized

surprized the town. But the king was somewhat before this time come to *Nottingham*, where he called a council of war, at which was consulted whether it were best to protract time, or speedily to set upon the rebels. In which council the king himself (whose continual vigilancy did suck in sometimes causeless suspicions, which few else knew) inclined to the accelerating a battel: but this was presently put out of doubt, by the great aids that came in to him in the instant of this consultation, partly upon missives, and partly voluntaries, from many parts of the kingdom.

THE principal persons that came then to the king's aid, were the earl of *Shrewsbury*, and the lord *Strange* of the nobility; and of knights and gentlemen, to the number of at least threescore and ten persons, with their companies, making in the whole, at the least, six thousand fighting men, besides the forces that were with the king before. Whereupon the king, finding his army so bravely re-inforced, and a great alacrity in all his men to fight, was confirmed in his former resolution, and marched speedily, so as he put himself between the enemies camp and *Newark*; being loth their army should get the commodity of that town. The earl nothing dismay'd, came forwards that day unto a little village called *Stoke*, and there encamped that night, upon the brow or hanging of a hill. The king the next day presented him battel upon the plain, the fields there being open and champion. The earl courageously came down and joined battel with him. Concerning which battel, the relations that are left unto us are so naked and negligent, (though it be an action of so recent memory) as they rather declare the success of the day, than the manner of the fight. They say, that the king divided his army into three battails; whereof the vant-guard only, well strengthened with wings, came to fight. That the fight was fierce and obstinate, and lasted three hours, before the victory inclined either way; save that judgment might be made, but that the king's vant-guard of it self maintained fight against the whole power of the enemies; (the other two battails remaining out of action) what the success was like to be in the end. That *Martin Swart* with his *Germans* perform'd bravely, and so did those few *English* that were on that side; neither did the *Irish* fail in courage or fierceness; but being almost naked men, only armed with darts and skains, it was rather an execution than a fight upon them; insomuch as the furious slaughter of them was a great discouragement and appalement to the rest; that there died upon the place all the chieftains; that is, the earl of *Lincoln*, the earl of *Kildare*, *Frances* lord *Lovel*, *Martin Swart*, and sir *Thomas Broughton*; all making good the fight, without any ground given. Only of the lord *Lovel* there went a report, that he fled and swam over *Trent* on horseback, but could not recover the farther side, by reason of the steepness of the bank, and so was drowned in the river. But another report leaves him not there, but that he lived long after in a cave or vault. The number that was slain in the field, was of the enemies part four thousand at the least; and of the king's part, one half of his vant-guard, besides many hurt, but none of name. There were taken prisoners, amongst others, the counterfeit *Plantagenet*, (now *Lambert Simnell* again) and the crafty priest his tutor. For *Lambert*, the king would not take his life, both out of magnanimity, taking him but as an image of wax, that others had tempered and moulded: and likewise out of wisdom, thinking that if he suffer'd death, he would be forgotten too soon; but being kept alive, he would be a continual spectacle, and a kind of remedy against the like enchantments of people in time to come. For which cause he was taken into service in his court

court to a base office in his kitchen; so that (in a kind of *mattacina* of human fortune) he turned a broach, that had worn a crown; whereas fortune commonly doth not bring in a comedy or farce after a tragedy. And afterwards he was preferred to be one of the king's falconers. As to the priest, he was committed close prisoner, and heard of no more; the king loving to seal up his own dangers.

AFTER the battel the king went to *Lincoln*, where he caused supplications and thanksgivings to be made for his deliverance and victory. And that his devotions might go round in circle, he sent his banner to be offered to our lady of *Walsingham*, where before he made his vows. And thus delivered of this so strange an engine, and new invention of fortune, he returned to his former confidence of mind; thinking now, that all his misfortunes had come at once. But it fell out unto him according to the speech of the common people in the beginning of his reign, that said, it was a token he should reign in labour; because his reign began with a sickness of sweat. But howsoever the king thought himself now in a haven, yet such was his wisdom, as his confidence did seldom darken his foresight, especially in things near hand. And therefore awakened by so fresh and unexpected dangers, he enter'd into due consideration, as well how to weed out the partakers of the former rebellion, as to kill the seeds of the like in time to come: and withal to take away all shelters and harbours for discontented persons, where they might hatch and foster rebellions, which afterwards might gather strength and motion. And first, he did yet again make a progress from *Lincoln* to the northern parts, though it were indeed rather an itinerary circuit of justice, than a progress. For all along as he went, with much severity and strict inquisition, partly by martial law, and partly by commission, were punished, the adherents and aiders of the late rebels. Not all by death, (for the field had drawn much blood) but by fines and ransoms, which spared life, and raised treasure. Amongst other crimes of this nature, there was diligent enquiry made of such as had raised and dispersed a bruit and rumour, a little before the field fight, that the rebels had the day; and that the king's army was overthrown, and the king fled. Whereby it was supposed that many succours, which otherwise would have come to the king, were cunningly put off, and kept back. Which charge and accusation, though it had some ground, yet it was industriously embraced and put on by divers, who having been in themselves not the best affected unto the king's part, nor forward to come to his aid, were glad to apprehend this colour to cover their neglect and coldness, under the pretence of such discouragements. Which cunning nevertheless the king would not understand, though he lodged it, and noted it in some particulars, as his manner was.

BUT for the extirpating of the roots and causes of the like commotions in time to come, the king began to find where his shoe did wring him, and that it was his depressing of the house of *York* that did rankle and fester the affections of his people. And therefore being now too wise to disdain perils any longer, and willing to give some contentment in that kind, (at least in ceremony) he resolved at last to proceed to the coronation of his queen. And therefore at his coming to *London*, where he enter'd in state, and in a kind of triumph, and celebrated his victory with two days of devotion, (for the first day he repaired to *Paul's*, and had the hymn of *Te Deum* sung, and the morrow after he went in procession, and heard the sermon at the cross) the queen was with great solemnity crowned at *Westminster*,

minster, the five and twentieth of *November*, in the third year of his reign, which was about two years after the marriage; like an old christening, that had stayed long for godfathers. Which strange and unusual distance of time, made it subject to every man's note, that it was an act against his stomach, and put upon him by necessity and reason of state. Soon after, to shew that it was now fair weather again, and that the imprisonment of *Thomas* marquis of *Dorset*, was rather upon suspicion of the time, than of the man, he, the said marquis, was set at liberty, without examination, or other circumstance. At that time also the king sent an ambassador unto pope *Innocent*, signifying unto him this his marriage; and that now (like another *Æneas*) he had passed through the floods of his former troubles and travels, and was arrived unto a safe haven: and thanking his holiness that he had honoured the celebration of his marriage with the presence of his ambassador; and offering both his person, and the forces of his kingdom, upon all occasions, to do him service.

THE ambassador making his oration to the pope, in the presence of the cardinals, did so magnify the king and queen, as was enough to glut the hearers. But then he did again so extol and deify the pope, as made all that he had said in praise of his master and mistress seem temperate and passable. But he was very honourably entertained, and extremely much made on by the pope: Who knowing himself to be lazy and unprofitable to the Christian world, was wonderfully glad to hear that there were such echoes of him sounding in remote parts. He obtained also of the pope a very just and honourable bull, qualifying the privileges of sanctuary (where-with the king had been extremely galled) in three points.

THE first, that if any sanctuary man did by night, or otherwise, get out of sanctuary privily, and commit mischief and trespass, and then come in again, he should lose the benefit of sanctuary for ever after. The second, that howsoever the person of the sanctuary man was protected from his creditors, yet his goods out of sanctuary should not. The third, that if any took sanctuary for cause of treason, the king might appoint him keepers to look to him in sanctuary.

THE king also for the better securing of his estate against mutinous and malecontented subjects, (whereof he saw the realm was full) who might have their refuge into *Scotland*, which was not under key as the ports were; for that cause rather than for any doubt of hostility from those parts, before his coming to *London* (when he was at *Newcastle*) had sent a solemn embassy unto *James* the third king of *Scotland*, to treat and conclude a peace with him. The ambassadors were, *Richard Fox* bishop of *Exeter*, and sir *Richard Edgcomb* comptroller of the king's house, who were honourably received and entertained there. But the king of *Scotland* labouring of the same disease that king *Henry* did (though more mortal, as afterwards appeared) that is, discontented subjects, apt to rise and raise tumult, although in his own affection he did much desire to make a peace with the king; yet finding his nobles averse, and not daring to displease them, concluded only a truce for seven years; giving nevertheless promise in private, that it should be renewed from time to time during the two kings' lives.

HITHERTO the king had been exercised in settling his affairs at home. But about this time brake forth an occasion that drew him to look abroad, and to hearken to foreign business. *Charles* the eighth the *French* king, by the virtue and good fortune of his two immediate predecessors, *Charles* the seventh his grandfather, and *Lewis* the eleventh his father, received the
kingdom

kingdom of *France* in more flourishing and spread estate, than it had been of many years before; being redintegrate in those principal members, which anciently had been portions of the crown of *France*, and were afterward dissevered, so as they remained only in homage, and not in sovereignty, (being governed by absolute princes of their own,) *Anjou*, *Normandy*, *Provence*, and *Burgundy*. There remained only *Britain* to be reunited, and so the monarchy of *France* to be reduced to the ancient terms and bounds.

KING *Charles* was not a little inflamed with an ambition to repurchase and reannex that duchy: Which his ambition was a wise and well weighed ambition; not like unto the ambitions of his succeeding enterprizes of *Italy*. For at that time being newly come to the crown, he was somewhat guided by his father's counsels, (counsels, not counsellors) for his father was his own counsel, and had few able men about him. And that king (he knew well) had ever distasted the designs of *Italy*, and in particular had an eye upon *Britain*. There were many circumstances that did feed the ambition of *Charles*, with pregnant and apparent hopes of success. The duke of *Britain* old, and entred into a lethargy, and served with mercenary counsellors, father of two only daughters, the one sickly and not like to continue. King *Charles* himself in the flower of his age, and the subjects of *France* at that time well trained for war, both for leaders and soldiers; men of service being not yet worn out, since the wars of *Lewis* against *Burgundy*. He found himself also in peace with all his neighbour princes. As for those that might oppose to his enterprize, *Maximilian* king of the *Romans*, his rival in the same desires, (as well for the duchy, as the daughter) feeble in means; and king *Henry* of *England* as well somewhat obnoxious to him for his favours and benefits, as busied in his particular troubles at home. There was also a fair and specious occasion offered him to hide his ambition, and to justify his warring upon *Britain*; for that the duke had received and succoured *Lewis* duke of *Orleans*, and other of the *French* nobility, which had taken arms against their king. Wherefore king *Charles* being resolved upon that war, knew well he could not receive any opposition so potent, as if king *Henry* should either upon policy of state, in preventing the growing greatness of *France*; or upon gratitude unto the duke of *Britain*, for his former favours in the time of his distress, espouse that quarrel, and declare himself in aid of the duke. Therefore he no sooner heard that king *Henry* was settled by his victory, but forthwith he sent embassadors unto him to pray his assistance, or at the least that he would stand neutral. Which embassadors found the king at *Leicester*, and delivered their embassy to this effect: they first imparted unto the king the success that their master had had a little before against *Maximilian*, in recovery of certain towns from him: which was done in a kind of privacy, and inwardness towards the king; as if the *French* king did not esteem him for an outward or formal confederate, but as one that had part in his affections and fortunes, and with whom he took pleasure to communicate his business. After this complement, and some gratulation for the king's victory, they fell to their errand; declaring to the king, that their master was enforced to enter into a just and necessary war with the duke of *Britain*, for that he had received and succoured those that were traitors, and declared enemies unto his person and state. That they were no mean, distressed, and calamitous persons that fled to him for refuge, but of so great quality, as it was apparent that they came not thither to protect their own fortune, but to infect and invade his; the head of them being the duke of *Orleans*, the first prince

of the blood, and the second person of *France*. That therefore rightly to understand it, it was rather on their master's part a defensive war, than an offensive; as that that could not be omitted or forborn, if he tendred the conservation of his own estate; and that it was not the first blow that made the war invasive, (for that no wise prince would stay for) but the first provocation, or at least the first preparation. Nay, that this war was rather a suppression of rebels, than a war with a just enemy; where the case is, that his subjects, traitors, are received by the duke of *Britain* his homager. That king *Henry* knew well what went upon it in example, if neighbour princes should patronize and comfort rebels, against the law of nations and of leagues. Nevertheless that their master was not ignorant, that the king had been beholden to the duke of *Britain* in his adversity; as on the other side, they knew he would not forget also the readiness of their king, in aiding him when the duke of *Britain*, or his mercenary counsellors, failed him, and would have betrayed him; and that there was a great difference between the courtesies received from their master, and the duke of *Britain*: for that the duke's might have ends of utility and bargain; whereas their master's could not have proceeded but out of entire affection. For that if it had been measured by a politick line, it had been better for his affairs, that a tyrant should have reigned in *England*, troubled and hated, than such a prince, whose virtues could not fail to make him great and potent, whenever he was come to be master of his affairs. But howsoever it stood for the point of obligation, which the king might owe to the duke of *Britain*, yet their master was well assured, it would not divert king *Henry* of *England* from doing that that was just, nor ever embark him in so ill-grounded a quarrel. Therefore, since this war, which their master was now to make, was but to deliver himself from imminent dangers, their king hoped the king would shew the like affection to the conservation of their master's estate, as their master had (when time was) shewed to the king's acquisition of his kingdom. At the least, that according to the inclination which the king had ever professed of peace, he would look on, and stand neutral; for that their master could not with reason press him to undertake part in the war, being so newly settled, and recovered from intestine seditions. But touching the mystery of reannexing of the duchy of *Britain* to the crown of *France*, either by war or by marriage with the daughter of *Britain*; the embassadors bare aloof from it as from a rock, knowing that it made most against them. And therefore by all means declined any mention thereof, but contrariwise interlaced in their conference with the king, the assured purpose of their master to match with the daughter of *Maximilian*; and entertained the king also with some wandring discourses of their king's purpose, to recover by arms his right to the kingdom of *Naples*, by an expedition in person; all to remove the king from all jealousy of any design in these hither parts upon *Britain*, otherwise than for quenching of the fire, which he feared might be kindled in his own estate.

THE king, after advice taken with his council, made answer to the embassadors: and first returned their complement, shewing he was right glad of the *French* king's reception of those towns from *Maximilian*. Then he familiarly related some particular passages of his own adventures and victory passed. As to the business of *Britain*, the king answered in few words; that the *French* king and the duke of *Britain*, were the two persons to whom he was most obliged of all men; and that he should think himself very unhappy, if things should go so between them, as he should not be able to
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acquit himself in gratitude towards them both ; and that there was no means for him as a Christian king, and a common friend to them, to satisfy all obligations both to God and man, but to offer himself for a mediator of an accord and peace between them ; by which course he doubted not but their king's estate and honour both, would be preserved with more safety and less envy than by a war ; and that he would spare no cost or pains, no if it were to go on pilgrimage, for so good an effect : and concluded, that in this great affair, which he took so much to heart, he would express himself more fully by an embassy, which he would speedily dispatch unto the *French* king for that purpose. And in this sort the *French* ambassadors were dismissed : the king avoiding to understand any thing touching the reannexing of *Britain*, as the ambassadors had avoided to mention it ; save that he gave a little touch of it in the word envy. And so it was, that the king was neither so shallow, nor so ill advertised, as not to perceive the intention of the *French* for the investing himself of *Britain*. But first, he was utterly unwilling (howsoever he gave out) to enter into war with *France*. A fame of a war he liked well, but not an achievement ; for the one he thought would make him richer, and the other poorer ; and he was possessed with many secret fears touching his own people, which he was therefore loth to arm, and put weapons into their hands. Yet notwithstanding (as a prudent and courageous prince) he was not so averse from a war, but that he was resolved to chuse it, rather than to have *Britain* carried by *France*, being so great and opulent a duchy, and situate so opportunely to annoy *England*, either for coast or trade. But the king's hopes were, that partly by negligence, commonly imputed to the *French* (especially in the court of a young king) and partly by the native power of *Britain* it self, which was not small ; but chiefly in respect of the great party that the duke of *Orleans* had in the kingdom of *France*, and thereby means to stir up civil troubles, to divert the *French* king from the enterprize of *Britain*. And lastly, in regard of the power of *Maximilian*, who was corival to the *French* king in that pursuit, the enterprize would either bow to a peace, or break in it self. In all which the king measured and valued things amiss, as afterwards appeared. He sent therefore forthwith to the *French* king, *Christopher Urswick*, his chaplain, a person by him much trusted and employed : chusing him the rather, because he was a churchman, as best sorting with an embassy of pacification : and giving him also a commission, that if the *French* king consented to treat, he would thence repair to the duke of *Britain*, and ripen the treaty on both parts. *Urswick* made declaration to the *French* king, much to the purpose of the king's answer to the *French* ambassadors here, instilling also tenderly some overture of receiving to grace the duke of *Orleans*, and some taste of conditions of accord. But the *French* king on the other side proceeded not sincerely, but with a great deal of art and dissimulation, in this treaty ; having for his end to gain time, and so put off the *English* succours under hope of peace, till he had got good footing in *Britain* by force of arms. Wherefore he answered the ambassador, that he would put himself into the king's hands, and make him arbiter of the peace ; and willingly consented, that the ambassador should straightways pass into *Britain*, to signify this his consent, and to know the duke's mind likewise ; well foreseeing, that the duke of *Orleans*, by whom the duke of *Britain* was wholly led, taking himself to be upon terms irreconcilable with him, would admit of no treaty of peace. Whereby he should in one, both generally abroad veil over his ambition, and win the

reputation of just and moderate proceedings; and should withal endear himself in the affections of the king of *England*, as one that had committed all to his will: nay, and (which was yet more fine) make faith in him, that although he went on with the war, yet it should be but with his sword in his hand, to bend the stiffness of the other party to accept of peace; and so the king should take no umbrage of his arming and prosecution; but the treaty to be kept on foot to the very last instant, till he were master of the field.

WHICH grounds being by the *French* king wisely laid, all things fell out as he expected. For when the *English* ambassador came to the court of *Britain*, the duke was then scarcely perfect in his memory, and all things were directed by the duke of *Orleans*, who gave audience to the chaplain *Urswick*, and upon his embassy delivered, made answer in somewhat high terms: that the duke of *Britain* having been an host, and a kind of parent or foster-father to the king, in his tenderness of age, and weakness of fortune, did look for at this time from king *Henry*, (the renowned king of *England*) rather brave troops for his succours, than a vain treaty of peace. And if the king could forget the good offices of the duke done unto him aforetime; yet he knew well, he would in his wisdom consider of the future, how much it imported his own safety and reputation, both in foreign parts, and with his own people, not to suffer *Britain* (the old confederates of *England*) to be swallowed up by *France*, and so many good ports and strong towns upon the coast, be in the command of so potent a neighbour king, and so ancient an enemy. And therefore humbly desired the king to think of this business as his own; and therewith broke off, and denied any farther conference for treaty.

Urswick returned first to the *French* king, and related to him what had passed. Who finding things to sort to his desire, took hold of them, and said; that the ambassador might perceive now, that which he for his part partly imagined before. That considering in what hands the duke of *Britain* was, there would be no peace, but by a mix'd treaty of force and persuasion: and therefore he would go on with the one, and desired the king not to desist from the other. But for his own part, he did faithfully promise to be still in the king's power, to rule him in the matter of peace. This was accordingly represented unto the king by *Urswick* at his return, and in such a fashion, as if the treaty was in no sort desperate, but rather stayed for a better hour, till the hammer had wrought, and beat the party of *Britain* more pliant. Whereupon there passed continually packets and dispatches between the two kings, from the one out of desire, and from the other out of dissimulation, about the negotiation of peace. The *French* king mean while invaded *Britain* with great forces, and distressed the city of *Nantz* with a straight siege, and (as one, who though he had no great judgment, yet had that, that he could dissemble home) the more he did urge the prosecution of the war, the more he did at the same time, urge the solicitation of the peace. Inasmuch as during the siege of *Nantz*, after many letters and particular messages, the better to maintain his dissimulation, and to refresh the treaty; he sent *Bernard D' Aubigny* (a person of good quality) to the king, earnestly to desire him, to make an end of the business howsoever.

THE king was no less ready to revive and quicken the treaty; and thereupon sent three commissioners, the abbot of *Abingdon*, sir *Richard Tunstall*,

Ital, and chaplain *Urfwick* formerly employed, to do their utmost endeavours to manage the treaty roundly and strongly.

ABOUT this time the lord *Woodville* (uncle to the queen) a valiant gentleman, and desirous of honour, sued to the king that he might raise some power of voluntiers under-hand, and without licence or passport, (wherein the king might any ways appear) go to the aid of the duke of *Britain*. The king denied his request, (or at least seemed so to do) and laid strait commandment upon him, that he should not stir, for that the king thought his honour would suffer therein, during a treaty, to better a party. Nevertheless this lord (either being unruly, or out of conceit that the king would not inwardly dislike that, which he would not openly avow) sailed secretly over into the isle of *Wight*, whereof he was governour, and levied a fair troop of four hundred men, and with them passed over into *Britain*, and joined himself with the duke's forces. The news whereof, when it came to the *French* court, put divers young bloods into such a fury, as the *English* ambassadors were not without peril to be outraged. But the *French* king, both to preserve the privilege of ambassadors, and being conscious to himself, that in the business of peace, he himself was the greater dissembler of the two, forbade all injuries of fact or word, against their persons or followers. And presently came an agent from the king, to purge himself touching the lord *Woodville's* going over; using for a principal argument, to demonstrate that it was without his privity, for that the troops were so small, as neither had the face of a succour by authority, nor could much advance the *Britain* affairs. To which message, although the *French* king gave no full credit, yet he made fair weather with the king, and seemed satisfied. Soon after the *English* ambassadors returned, having two of them been likewise with the duke of *Britain*, and found things in no other terms than they were before. Upon their return, they informed the king of the state of the affairs, and how far the *French* king was from any true meaning of peace; and therefore he was now to advise of some other course: Neither was the king himself led all this while with credulity merely, as was generally supposed: but his error was not so much facility of belief, as an ill measuring of the forces of the other party.

FOR (as was partly touched before) the king had cast the business thus with himself. He took it for granted in his own judgment, that the war of *Britain*, in respect of the strength of the towns, and of the party, could not speedily come to a period. For he conceived, that the councils of a war, that was undertaken by the *French* king, then childless, against an heir apparent of *France*, would be very faint and slow. And besides, that it was not possible, but that the state of *France* should be embroiled with some troubles and alterations in favour of the duke of *Orleans*. He conceived likewise, that *Maximilian*, king of the *Romans*, was a prince war-like and potent; who (he made account) would give succours to the *Britains* roundly. So then judging it would be a work of time, he laid his plot, how he might best make use of that time, for his own affairs. Wherein first he thought to make his vantage upon his parliament; knowing that they being affectionate unto the quarrel of *Britain*, would give treasure largely: Which treasure, as a noise of war might draw forth; so a peace succeeding might coffer up. And because he knew his people were hot upon the business, he chose rather to seem to be deceived, and lulled asleep by the *French*, than to be backward in himself; considering his subjects were not so fully capable of the reasons of state, which made him hold back. Wherefore

fore to all these purposes he saw no other expedient, than to set and keep on foot a continual treaty of peace, laying it down, and taking it up again, as the occurrence required. Besides, he had in consideration the point of honour, in bearing the blessed person of a pacificator. He thought likewise to make use of the envy that the *French* king met with, by occasion of this war of *Britain*, in strengthening himself with new alliances; as namely, that of *Ferdinando* of *Spain*, with whom he had ever a consent even in nature and customs; and likewise with *Maximilian*, who was particularly interested. So that in substance he promised himself money, honour, friends, and peace in the end. But those things were too fine to be fortunate, and succeed in all parts; for that great affairs are commonly too rough and stubborn to be wrought upon by the finer edges, or points of wit. The king was likewise deceived in his two main grounds. For although he had reason to conceive that the council of *France* would be wary to put the king into a war against the heir apparent of *France*; yet he did not consider that *Charles* was not guided by any of the principal of the blood or nobility, but by mean men, who would make it their master-piece of credit and favour, to give venturous councils, which no great or wise man durst, or would. And for *Maximilian*, he was thought then a greater matter than he was; his unstable and necessitous courses being not then known.

AFTER consultation with the ambassadors, who brought him no other news than he expected before, (though he would not seem to know it till then,) he presently summoned his parliament, and in open parliament propounded the cause of *Britain* to both houses, by his chancellor *Morton* archbishop of *Canterbury*, who spoke to this effect.

My lords and masters, the king's grace, our sovereign lord, hath commanded me to declare unto you the causes that have moved him at this time to summon this his parliament; which I shall do in few words, craving pardon of his grace, and you all, if I perform it not as I would.

HIS grace doth first of all let you know, that he retaineth in thankful memory the love and loyalty shewed to him by you, at your last meeting, in establishment of his royalty; freeing and discharging of his partakers, and confiscation of his traitors and rebels; more than which could not come from subjects to their sovereign, in one action. This he taketh so well at your hands, as he hath made it a resolution to himself, to communicate with so loving and well approved subjects, in all affairs that are of publick nature, at home and abroad.

Two therefore are the causes of your present assembling: the one, a foreign business; the other, matter of government at home.

THE *French* king (as no doubt ye have heard) maketh at this present hot war upon the duke of *Britain*. His army is now before *Nantz*, and holdeth it straitly besieged, being the principal city (if not in ceremony and preheminance, yet in strength and wealth) of that duchy. Ye may guess at his hopes, by his attempting of the hardest part of the war first. The cause of this war he knoweth best. He allegeth the entertaining and succouring of the duke of *Orleans*, and some other *French* lords, whom the king taketh for his enemies. Others divine of other matters. Both parts have, by their ambassadors, divers times prayed the king's aids: the *French* king's aids, or neutrality; the *Britains* aids simply; for so their case requireth. The king, as a Christian prince, and blessed son of the holy church, hath offered himself as a mediator, to treat of peace between them. The

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French king yielded to treat, but will not stay the prosecution of the war. The *Britains*, that desire peace most, harken to it least; not upon confidence or stiffness, but upon distrust of true meaning, seeing the war goes on. So as the king, after as much pains and care to effect a peace, as ever he took in any business, not being able to remove the prosecution on the one side, nor the distrust on the other, caused by that prosecution, hath let fall the treaty; not repenting of it, but despairing of it now, as not likely to succeed. Therefore by this narrative you now understand the state of the question, whereupon the king prayeth your advice; which is no other, but whether he shall enter into an auxiliary and defensive war for the *Britains* against *France*?

AND the better to open your understandings in this affair, the king hath commanded me to say somewhat to you from him, of the persons that do intervene in this business; and somewhat of the consequence thereof, as it hath relation to this kingdom, and somewhat of the example of it in general: making nevertheless no conclusion or judgment of any point, until his grace hath received your faithful and politick advices.

FIRST, for the king our sovereign himself, who is the principal person you are to eye in this business; his grace doth profess, that he truly and constantly desireth to reign in peace. But his grace saith, he will neither buy peace with dishonour, nor take it up at interest of danger to ensue; but shall think it a good change, if it please God to change the inward troubles and seditions, wherewith he hath been hitherto exercised, into an honourable foreign war. And for the other two persons in this action, the *French* king, and the duke of *Britain*, his grace doth declare unto you, that they be the men unto whom he is of all other friends and allies most bounden: the one having held over him his hand of protection from the tyrant; the other having reach'd forth unto him his hand of help, for the recovery of his kingdom. So that his affection toward them in his natural person, is upon equal terms. And whereas you may have heard, that his grace was enforced to fly out of *Britain* into *France*, for doubts of being betrayed; his grace would not in any sort have that reflect upon the duke of *Britain*, in defacement of his former benefits; for that he is thoroughly informed, that it was but the practice of some corrupt Persons about him, during the time of his sickness, altogether without his consent or privity.

BUT howsoever these things do interest his grace in his particular, yet he knoweth well, that the higher bond that tyeth him to procure by all means the safety and welfare of his loving subjects, doth disinterest him of these obligations of gratitude, otherwise than thus; that if his grace be forced to make a war, he do it without passion or ambition.

FOR the consequence of this action towards this kingdom, it is much as the *French* king's intention is. For if it be no more, but to range his subjects to reason, who bear themselves stout upon the strength of the duke of *Britain*, it is nothing to us. But if it be in the *French* king's purpose, or if it should not be in his purpose, yet if it shall follow all one, as if it were fought, that the *French* king shall make a province of *Britain*, and join it to the crown of *France*: then it is worthy the consideration, how this may import *England*, as well in the increasement of the greatness of *France*, by the addition of such a countrey, that stretcheth his boughs unto our seas, as in depriving this nation, and leaving it naked of so firm and assured confederates, as the *Britains* have always been. For then it will come to pass, that whereas not long since this realm was mighty upon the continent, first
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in territory, and after in alliance, in respect of *Burgundy* and *Britain*, which were confederates indeed, but dependent confederates; now the one being already cast, partly into the greatness of *France*, and partly into that of *Austria*, the other is like wholly to be cast into the greatness of *France*; and this island shall remain confined in effect within the salt waters, and girt about with the coast countries of two mighty monarchs.

FOR the example, it resteth likewise upon the same question, upon the *French* king's intent. For if *Britain* be carried and swallowed up by *France*, as the world abroad (apt to impute and construe the actions of princes to ambition) conceive it will; then it is an example very dangerous and universal, that the lesser neighbour estate should be devoured of the greater. For this may be the case of *Scotland* towards *England*; of *Portugal* towards *Spain*; of the smaller estates of *Italy* towards the greater; and so of *Germany*; or as if some of you of the commons, might not live and dwell safely besides some of these great lords. And the bringing in of this example will be chiefly laid to the king's charge, as to him that was most interested, and most able to forbid it. But then on the other side, there is so fair a pretext on the *French* king's part, (and yet pretext is never wanting to power,) in regard the danger imminent to his own estate is such, as may make this enterprize seem rather a work of necessity than of ambition, as doth in reason correct the danger of the example. For that the example of that which is done in a man's own defence, cannot be dangerous; because it is in another's power to avoid it. But in all this business, the king remits himself to your grave and mature advice, whereupon he purposeth to rely.

THIS was the effect of the lord chancellor's speech touching the cause of *Britain*; for the king had commanded him to carry it so, as to effect the parliament towards the business; but without engaging the king in any express declaration.

THE chancellor went on:

FOR that which may concern the government at home, the king hath commanded me to say unto you; that he thinketh there was never any king (for the small time that he hath reigned) had greater and juster cause of the two contrary passions of joy and sorrow, than his grace hath. Joy, in respect of the rare and visible favours of Almighty God, in girding the imperial sword upon his side, and assisting the same his sword against all his enemies; and likewise in blessing him with so many good and loving servants and subjects, which have never failed to give him faithful council, ready obedience, and courageous defence. Sorrow, for that it hath not pleased God to suffer him to sheath his sword, (as he greatly desired, otherwise than for administration of justice) but that he hath been forced to draw it so oft, to cut off traitorous, and disloyal subjects, whom (it seems) God hath left (a few amongst many good) as the *Canaanites* amongst the people of *Israel*, to be thorns in their sides, to tempt and try them; though the end hath been always, (God's name be blessed therefore) that the destruction hath fallen upon their own heads.

WHEREFORE his grace saith; that he seeth that it is not the blood spilt in the field that will save the blood in the city; nor the marshal's sword that will set this kingdom in perfect peace: but that the true way is, to stop the seeds of sedition and rebellion in their beginnings; and for that purpose

purpose to devise, confirm and quicken good and wholesome laws against riots, and unlawful assemblies of people, and all combinations and confederacies of them; by liveries, tokens, and other badges of factious dependence; that the peace of the land may by these ordinances, as by bars of iron, be soundly bound in and strengthened, and all force both in court, countrey, and private houses, be suppressed. The care hereof, which so much concerneth your selves, and which the nature of the times doth instantly call for, his grace commends to your wisdoms.

AND because it is the king's desire, that this peace, wherein he hopeth to govern and maintain you, do not bear only unto you leaves, for you to sit under the shade of them in safety; but also should bear you fruit of riches, wealth and plenty: Therefore his grace prays you to take into consideration matter of trade, as also the manufactures of the kingdom, and to repress the bastard and barren employment of moneys to usury and unlawful exchanges; that they may be (as their natural use is) turned upon commerce, and lawful and royal trading. And likewise, that our people be set on work in arts and handicrafts; that the realm may subsist more of it self; that idleness be avoided, and the draining out of our treasure for foreign manufactures, stopped. But you are not to rest here only, but to provide farther, that whatsoever merchandize shall be brought in from beyond the seas, may be employed upon the commodities of this land; whereby the kingdom's stock of treasure may be sure to be kept from being diminished, by any over-trading of the foreigner.

AND lastly, because the king is well assured, that you would not have him poor, that wishes you rich; he doubteth not but that you will have care, as well to maintain his revenues of customs, and all other natures, as also to supply him with your loving aids, if the case shall so require. The rather, for that you know the king is a good husband, and but a steward in effect for the publick; and that what comes from you, is but as moisture drawn from the earth, which gathers into a cloud, and falls back upon the earth again. And you know well, how the kingdoms about you grow more and more in greatness, and the times are stirring; and therefore not fit to find the king with an empty purse. More I have not to say to you; and wish, that what hath been said, had been better express'd: but that your wisdoms and good affections will supply. God bless your doings.

IT was no hard matter to dispose and affect the parliament in this business; as well in respect of the emulation between the nations, and the envy at the late growth of the *French* monarchy; as in regard of the danger to suffer the *French* to make their approaches upon *England*, by obtaining so goodly a maritime province, full of sea-towns, and havens, that might do mischief to the *English*, either by invasion, or by interruption of traffick. The parliament was also moved with the point of oppression; for although the *French* seemed to speak reason, yet arguments are ever with multitudes too weak for suspicions. Wherefore they did advise the king, roundly to embrace the *Britains* quarrel, and to send them speedy aids; and with much alacrity and forwardness granted to the king a great rate of subsidy, in contemplation of these aids. But the king, both to keep a decency towards the *French* king, to whom he profest himself to be obliged, and indeed desirous rather to shew war, than to make it; sent new solemn ambassadors to intimate unto him the decree of his estates, and to iterate his motion, that the *French* would desist from hostility; or if war must follow, to desire

him to take it in good part, if at the motion of his people, who were sensible of the cause of the *Britains* as their ancient friends and confederates, he did send them succours; with protestation nevertheless, that to save all treaties and laws of friendship, he had limited his forces to proceed in aid of the *Britains*, but in no wise to war upon the *French*, otherwise than as they maintained the possession of *Britain*. But before this formal embassy arrived, the party of the duke had received a great blow, and grew to manifest declination. For near the town of *St. Alban* in *Britain*, a battel had been given, where the *Britains* were overthrown, and the duke of *Orleans*, and the prince of *Orange* taken prisoners, there being slain on the *Britains* part six thousand men, and amongst them the lord *Woodville*, and almost all his soldiers, valiantly fighting. And of the *French* part, one thousand two hundred, with their leader *James Galeot* a great commander.

WHEN the news of this battel came over into *England*, it was time for the king (who now had no subterfuge to continue farther treaty, and saw before his eyes that *Britain* went so speedily for lost, contrary to his hopes; knowing also that with his people and foreigners both, he sustained no small envy and disreputation for his former delays) to dispatch with all possible speed his succours into *Britain*; which he did under the conduct of *Robert* lord *Brook*, to the number of eight thousand choice men, and well armed; who having a fair wind, in few hours landed in *Britain*, and joined themselves forthwith to those *Britain* forces that remained after the defeat, and marched straight on to find the enemy, and encamped fast by them. The *French* wisely husbanding the possession of a victory, and well acquainted with the courage of the *English*, especially when they are fresh, kept themselves within their trenches, being strongly lodged, and resolved not to give battel. But mean while, to harass and weary the *English*, they did upon all advantages set upon them with their light horse; wherein nevertheless they received commonly loss, especially by means of the *English* archers.

BUT upon these achievements *Francis* duke of *Britain* deceased; an accident that the king might easily have foreseen, and ought to have reckoned upon and provided for, but that the point of reputation, when news first came of the battle lost (that somewhat must be done) did overbear the reason of war.

AFTER the duke's decease, the principal persons of *Britain*, partly bought, partly through faction, put all things into confusion; so as the *English* not finding head or body with whom to join their forces, and being in jealousy of friends, as well as in danger of enemies, and the winter begun, returned home five months after their landing. So the battel of *St. Alban*, the death of the duke, and the retire of the *English* succours, were (after some time) the causes of the loss of that duchy; which action some accounted as a blemish of the king's judgment, but most but as the misfortune of his times.

BUT howsoever the temporary fruit of the parliament, in their aid and advice given for *Britain*, took not, nor prospered not; yet the lasting fruit of parliament, which is good and wholesome laws, did prosper, and doth yet continue to this day. For according to the lord chancellor's admonition, there were that parliament divers excellent laws ordained, concerning the points which the king recommended.

FIRST, the authority of the star-chamber, which before subsisted by the ancient common laws of the realm, was confirmed in certain cases by act

of parliament. This court is one of the sagest and noblest institutions of this kingdom. For in the distribution of courts of ordinary justice, (besides the high court of parliament) in which distribution the king's-bench holdeth the pleas of the crown, the common-pleas pleas civil, the exchequer pleas concerning the king's revenue, and the chancery the Pretorian power for mitigating the rigour of law, in case of extremity, by the conscience of a good man; there was nevertheless always reserved a high and preheminent power to the king's counsel, in causes that might in example or consequence concern the state of the common-wealth; which if they were criminal, the council used to sit in the chamber called the star-chamber; if civil, in the white-chamber, or white-hall. And as the chancery had the Pretorian power for equity; so the star-chamber had the Cenforian power for offences under the degree of capital. This court of star-chamber is compounded of good elements, for it consisteth of four kinds of persons, counsellors, peers, prelates, and chief judges. It discerneth also principally of four kinds of causes, forces, frauds, crimes various of stellionate, and the inchoations or middle acts towards crimes capital or heinous, not actually committed or perpetrated. But that which was principally aimed at by this act was force, and the two chief supports of force, combination of multitudes, and maintenance or headship of great persons.

FROM the general peace of the country, the king's care went on to the peace of the king's house, and the security of his great officers and counsellors. But this law was somewhat of a strange composition and temper. That if any of the king's servants under the degree of a lord, do conspire the death of any of the king's council, or lord of the realm, it is made capital. This law was thought to be procured by the lord chancellor, who being a stern and haughty man, and finding he had some mortal enemies in court, provided for his own safety; drowning the envy of it in a general law, by communicating the privilege with all other counsellors and peers, and yet not daring to extend it farther than to the king's servants in check-roll, lest it should have been too harsh to the gentlemen, and other commons of the kingdom; who might have thought their ancient liberty, and the clemency of the laws of *England* invaded, if the will in any case of felony should be made the deed. And yet the reason which the act yieldeth, (that is to say, that he that conspireth the death of counsellors, may be thought indirectly, and by a mean, to conspire the death of the king himself) is indifferent to all subjects, as well as to servants in court. But it seemeth this sufficed to serve the lord chancellor's turn at this time. But yet he lived to need a general law, for that he grew afterwards as odious to the country, as he was then to the court.

FROM the peace of the king's house, the king's care extended to the peace of private houses and families. For there was an excellent moral law moulded thus; the taking and carrying away women forcibly, and against their will, (except female-wards and bond-women) was made capital. The parliament wisely and justly conceiving, that the obtaining of women by force into possession, (howsoever afterwards assent might follow by allurements) was but a rape drawn forth in length, because the first force drew on all the rest.

THERE was made also another law for peace in general, and repressing of murders and manslaughters, and was in amendment of the common laws of the realm; being this: that whereas by the common law the king's suit in case of homicide, did expect the year and the day, allowed to the

party's suit by way of appeal ; and that it was found by experience, that the party was many times compounded with, and many times wearied with the suit, so that in the end such suit was let fall, and by that time the matter was in a manner forgotten, and thereby prosecution at the king's suit by indictment (which is ever best, *flagrante crimine*) neglected ; it was ordained, that the suit by indictment might be taken as well at any time within the year and the day, as after ; not prejudicing nevertheless the party's suit.

THE king began also then, as well in wisdom as in justice, to pare a little the privilege of clergy, ordaining, that clerks convict should be burned in the hand ; both because they might taste of some corporal punishment, and that they might carry a brand of infamy. But for this good act's sake, the king himself was after branded by *Perkin's* proclamation, for an execrable breaker of the rites of holy church.

ANOTHER law was made for the better peace of the countrey ; by which law the king's officers and farmers were to forfeit their places and holds, in case of unlawful retainer, or partaking in riots and unlawful assemblies.

THESE were the laws that were made for repressing of force, which those times did chiefly require ; and were so prudently framed, as they are found fit for all succeeding times, and so continue to this day.

THERE were also made good and politick laws that parliament, against usury, which is the bastard use of money ; and against unlawful chievances and exchanges, which is bastard usury ; and also for the security of the king's customs ; and for the employment of the procedures of foreign commodities, brought in by merchant-strangers upon the native commodities of the realm ; together with some other laws of less importance.

BUT howsoever the laws made in that parliament did bear good and wholesome fruit ; yet the subsidy granted at the same time, bare a fruit that proved harsh and bitter. All was inned at last into the king's barn, but it was after a storm. For when the commissioners enter'd into the taxation of the subsidy in *Yorkshire*, and the bishoprick of *Duresm* ; the people upon a sudden grew into great mutiny, and said openly, that they had endured of late years a thousand miseries, and neither could nor would pay the subsidy. This (no doubt) proceeded not simply of any present necessity, but much by reason of the old humour of those countries, where the memory of king *Richard* was so strong, that it lay like lees in the bottom of mens hearts ; and if the vessel was but stirred, it would come up. And (no doubt) it was partly also by the instigation of some factious male-contents, that bare principal stroke amongst them. Hereupon the commissioners being somewhat astonished, deferred the matter unto the earl of *Northumberland*, who was the principal man of authority in those parts. The earl forthwith wrote unto the court, signifying to the king plainly enough in what flame he found the people in those countries, and praying the king's direction. The king wrote back peremptorily, that he would not have one penny abated, of that which had been granted to him by parliament ; both because it might encourage other countries, to pray the like release or mitigation ; and chiefly, because he would never endure that the base multitude should frustrate the authority of the parliament, wherein their votes and consents were concluded. Upon this dispatch from court, the earl assembled the principal justices and freeholders of the countrey ; and speaking to them in that imperious language, wherein the king had written to him, which needed not (save that an harsh business was unfortunately fallen into the hands of a
harsh

harsh man) did not only irritate the people, but make them conceive, by the stoutness and haughtiness of delivery of the king's errand, that himself was the author or principal persuader of that council: whereupon the meaner sort routed together, and suddenly assailing the earl in his house, slew him, and divers of his servants. And rested not there, but creating for their leader sir *John Egremont*, a factious person, and one that had of a long time born an ill talent towards the king; and being animated also by a base fellow, called *John a Chamber*, a very *boutefeu*, who bore much sway amongst the vulgar and popular, enter'd into open rebellion; and gave out in flat terms, that they would go against king *Henry*, and fight with him for the maintenance of their liberties.

WHEN the king was advertised of this new insurrection, (being almost a fever, that took him every year;) after his manner, little troubled therewith, he sent *Thomas* earl of *Surrey* (whom he had a little before not only released out of the tower, and pardoned, but also received to special favour) with a competent power against the rebels, who fought with the principal band of them, and defeated them, and took alive *John a Chamber*, their firebrand. As for sir *John Egremont*, he fled into *Flanders* to the lady *Margaret* of *Burgundy*, whose palace was the sanctuary and receptacle of all traitors against the king. *John a Chamber* was executed at *York* in great state; for he was hanged upon a gibbet raised a stage higher in the midst of a square gallows, as a traitor paramount; and a number of his men that were his chief complices, were hanged upon the lower story round about him; and the rest were generally pardoned. Neither did the king himself omit his custom, to be first or second in all his war-like exploits, making good his word, which was usual with him when he heard of rebels, that he desired but to see them. For immediately after he had sent down the earl of *Surrey*, he marched towards them himself in person. And although in his journey he heard news of the victory, yet he went on as far as *York*, to pacify and settle those Countries: and that done, returned to *London*, leaving the earl of *Surrey* for his lieutenant in the northern parts, and sir *Richard Tunstall* for his principal commissioner, to levy the subsidy, whereof he did not remit a denier.

ABOUT the same time that the king lost so good a servant as the earl of *Northumberland*, he lost likewise a faithful friend and ally of *James* the third, king of *Scotland*, by a miserable disaster. For this unfortunate prince, after a long smother of discontent, and hatred of many of his nobility and people, breaking forth at times into seditions and alterations of court, was at last distressed by them, having taken arms, and surprized the person of prince *James* his son, partly by force, partly by threats, that they would otherwise deliver up the kingdom to the king of *England*, to shadow their rebellion, and to be the titular and painted head of those arms. Whereupon the king (finding himself too weak) sought unto king *Henry*, as also unto the pope, and the king of *France*, to compose those troubles between him and his subjects. The kings accordingly interposed their mediation in a round and princely manner: not only by way of request and persuasion, but also by way of protestation and menace; declaring, that they thought it to be the common cause of all kings, if subjects should be suffered to give laws unto their sovereign; and that they would accordingly resent it, and revenge it. But the Rebels that had shaken off the greater yoke of obedience, had likewise cast away the lesser tie of respect. And fury prevailing above fear, made answer; that there was no talking of peace, except the king would

would resign his crown. Whereupon (treaty of accord taking no place) it came to a battel at *Bannocksbourn* by *Strivelin*: in which battel the king transported with wrath and just indignation, inconsiderately fighting and precipitating the charge, before his whole numbers came up to him, was (notwithstanding the contrary exprefs and strait commandment of the prince his son) slain in the purfuit, being fled to a mill, situate in the field, where the battel was fought.

As for the pope's embaffy, which was fent by *Adrian de Castello* an *Italian* legate, (and perhaps as thofe times were, might have prevailed more) it came too late for the embaffy, but not for the embaffador. For paffing through *England*, and being honourably entertained, and received of king *Henry*, (who ever applied himfelf with much refpect to the fee of *Rome*,) he fell into great grace with the king, and great familiarity and friendship with *Morton* the chancellor: infomuch as the king taking a liking to him, and finding him to his mind, preferred him to the bifhoprick of *Hereford*, and afterwards to that of *Bath* and *Wells*, and employed him in many of his affairs of ftate, that had relation to *Rome*. He was a man of great learning, wifdom, and dexterity in bufinefs of ftate; and having not long after afcended to the degree of cardinal, paid the king large tribute of his gratitude, in diligent and judicious advertifement of the occurrents of *Italy*. Nevertheless in the end of his time, he was partaker of the confpiracy, which cardinal *Alphonfo Petrucci*, and fome other cardinals, had plotted againft the life of pope *Leo*. And this offence in itfelf fo heinous, was yet in him aggravated by the motive thereof, which was not malice or difcontent, but an aspiring mind to the papacy. And in this height of impiety there wanted not an intermixture of levity and folly; for that (as was generally believed) he was animated to expect the papacy, by a fatal mockery, the prediction of a fouth-fayer, which was, that one fhould fucceed pope *Leo*, whose name fhould be *Adrian*, an aged man of mean birth, and of great learning and wifdom. By which character and figure he took himfelf to be defcribed, though it were fulfilled of *Adrian the Fleming*, fon of a *Dutch* brewer, cardinal of *Tortofa*, and preceptor unto *Charles* the fifth; the fame that not changing his christian-name, was afterwards called *Adrian* the fixth.

BUT thefe things happened in the year following, which was the fifth of this king. But in the end of the fourth year the king had called again his parliament, not as it feemeth for any particular occafion of ftate: But the former parliament being ended fomewhat fuddenly, in regard of the preparation for *Britain*, the king thought he had not remunerated his people fufficiently with good laws, which evermore was his retribution for treasure. And finding by the infurrection in the north, there was difcontentment abroad, in refpect of the fubfidy, he thought it good to give his fubjects yet farther contentment and comfort in that kind. Certainly his times for good commonwealths laws did excel. So as he may juftly be celebrated for the beft law-giver to this nation; after king *Edward* the firft: for his laws (whofo marks them well) are deep, and not vulgar; not made upon the fpur of a particular occafion for the prefent, but out of providence of the future, to make the eftate of his people ftill more and more happy; after the manner of the legiflators in ancient and heroical times.

FIRST therefore he made a law, fuitable to his own acts and times: for as himfelf had in his perfon and marriage made a final concord, in the great fuit and title for the crown; fo by this law he fettled the like peace and quiet in the private poffeffions of the fubjects: ordaining, that fines thence-

forth should be final, to conclude all strangers rights; and that upon fines levied, and solemnly proclaimed, the subject should have his time of watch for five years after his title accrued; which if he forepassed, his right should be bound for ever after; with some exception nevertheless of minors, married women, and such incompetent persons.

THIS statute did in effect but restore an ancient statute of the realm, which was it self also made but in affirmance of the common law. The alteration had been by a statute, commonly called the statute of *non-claim*, made in the time of *Edward* the third. And surely this law was a kind of prognostick of the good peace, which since his time hath (for the most part) continued in this kingdom until this day: for statutes of *non-claim* are fit for times of war, when mens heads are troubled, that they cannot intend their estate; but statutes, that quiet possessions, are fittest for times of peace, to extinguish suits and contentions, which is one of the banes of peace.

ANOTHER statute was made of singular policy, for the population apparently, and (if it be thoroughly considered) for the soldiery, and military forces of the realm.

ENCLOSURES at that time began to be more frequent, whereby arable land (which could not be manured without people and families) was turned into pasture, which was easily rid by a few herdsmen, and tenances for years, lives, and at will (whereupon much of the yeomanry lived) were turned into demesns. This bred a decay of people, and (by consequence) a decay of towns, churches, tithes, and the like. The king likewise knew full well, and in no wise forgot, that there ensued withal upon this a decay and diminution of subsidies and taxes; for the more gentlemen, ever the lower books of subsidies. In remedying of this inconvenience, the king's wisdom was admirable, and the parliament's at that time. Enclosures they would not forbid, for that had been to forbid the improvement of the patrimony of the kingdom; nor tillage they would not compel, for that was to strive with nature and utility: but they took a course to take away depopulating enclosures, and depopulating pasturage, and yet not by that name, or by any imperious express prohibition, but by consequence. The ordinance was, that all houses of husbandry, that were used with twenty acres of ground and upwards, should be maintain'd and kept up for ever; together with a competent proportion of land to be used and occupied with them; and in no wise to be severed from them, as by another statute made afterwards in his successor's time, was more fully declared: this upon forfeiture to be taken, not by way of popular action, but by seizure of the land it self, by the king and lords of the fee, as to half the profits, till the houses and land were restored. By this means the houses being kept up, did of necessity enforce a dweller; and the proportion of land for occupation being kept up, did of necessity enforce that dweller not to be a beggar or cottager, but a man of some substance, that might keep hinds and servants, and set the plough on going. This did wonderfully concern the might and mannerhood of the kingdom, to have farms as it were of a standard, sufficient to maintain an able body out of penury, and did in effect amortize a great part of the lands of the kingdom unto the hold and occupation of the yeomanry or middle people, of a condition between gentlemen and cottagers or peasants. Now, how much this did advance the military power of the kingdom, is apparent by the true principles of war, and the examples of other kingdoms. For it hath been held by the general opinion of men of best judgment

ment in the wars, (howsoever some few have varied, and that it may receive some distinction of case,) that the principal strength of an army consisteth in the infantry or foot. And to make good infantry, it requireth men bred, not in a servile or indigent fashion, but in some free and plentiful manner. Therefore if a state run most to noblemen and gentlemen, and that the husbandmen and ploughmen be but as their workfolks and labourers, or else mere cottagers, (which are but housed beggars) you may have a good cavalry, but never good stable bands of foot; like to coppice woods, that if you leave in them staddles too thick, they will run to bushes and briars, and have little clean under-wood. And this is to be seen in *France* and *Italy*, and some other parts abroad, where in effect all is nobles or peasantry. I speak of people out of towns, and no middle people; and therefore no good forces of foot: insomuch as they are enforced to employ mercenary bands of *Switzers*, and the like, for their battalions of foot. Whereby also it comes to pass, that those nations have much people, and few soldiers. Whereas the king saw, that contrariwise it would follow, that *England*, though much less in territory, yet should have infinitely more soldiers of their native forces, than those other nations have. Thus did the king secretly sow *Hydra's* teeth; whereupon (according to the poet's fiction) should rise up armed men for the service of this kingdom.

THE king also (having care to make his realm potent, as well by sea as by land) for the better maintenance of the navy, ordained; that wines and woads from the parts of *Gascoign* and *Languedock*, should not be brought but in *English* bottoms; bowing the ancient policy of this estate, from consideration of plenty to consideration of power. For that almost all the ancient statutes incite by all means merchant-strangers, to bring in all sorts of commodities; having for end cheapness, and not looking to the point of state concerning the naval power.

THE king also made a statute in that parliament, monitory and minatory, towards justices of peace, that they should duly execute their office, inviting complaints against them, first to their fellow-justices, then to the justices of assize, then to the king or chancellor; and that a proclamation which he had published of that tenor, should be read in open sessions four times a year, to keep them awake. Meaning also to have his laws executed, and thereby to reap either obedience or forfeitures; (wherein towards his latter times he did decline too much to the left hand :) he did ordain remedy against the practice that was grown in use, to stop and damp informations upon penal laws, by procuring informations by collusion to be put in by the confederates of the delinquents, to be faintly prosecuted, and let fall at pleasure; and pleading them in bar of the informations, which were prosecuted with effect.

HE made also laws for the correction of the mint, and counterfeiting of foreign coin current. And that no payment in gold should be made to any merchant stranger, the better to keep treasure within the realm, for that gold was the metal that lay in the least room.

HE made also statutes for the maintenance of drapery, and the keeping of wool within the realm; and not only so, but for stinting and limiting the prices of cloth, one for the finer, and another for the coarser sort. Which I note, both because it was a rare thing to set prices by statute, especially upon our home commodities; and because of the wise model of this act, not prescribing prices, but stinting them not to exceed a rate; that the clothier might drape accordingly as he might afford.

DIVERS

DIVERS other good statutes were made that parliament, but these were the principal. And here I do desire those into whose hands this work shall fall, that they do take in good part my long insisting upon the laws that were made in this king's reign. Whereof I have these reasons; both because it was the preheminent virtue and merit of this king, to whose memory I do honour; and because it hath some correspondence to my person; but chiefly, because (in my judgment) it is some defect even in the best writers of history, that they do not often enough summarily deliver and set down the most memorable laws that passed in the times whereof they writ, being indeed the principal acts of peace. For though they may be had in original books of law themselves; yet that informeth not the judgment of kings and counsellors, and persons of estate, so well as to see them described, and entered in the table and pourtrait of the times.

ABOUT the same time, the king had a loan from the city of four thousand pounds; which was double to that they lent before, and was duly and orderly paid back at the day, as the former likewise had been: The king ever chusing rather to borrow too soon, than to pay too late, and so keeping up his credit.

NEITHER had the king yet cast off his cares and hopes touching *Britain*, but thought to master the occasion by policy, though his arms had been unfortunate; and to bereave the *French* king of the fruit of his victory. The sum of his design was, to encourage *Maximilian* to go on with his suit, for the marriage of *Anne*, the heir of *Britain*, and to aid him to the consummation thereof. But the affairs of *Maximilian* were at that time in great trouble and combustion, by a rebellion of his subjects in *Flanders*; especially those of *Bruges* and *Gaunt*, whereof the town of *Bruges* (at such time as *Maximilian* was there in person) had suddenly armed in tumult, and slain some of his principal officers, and taken himself prisoner, and held him in durance, till they had enforced him and some of his counsellors, to take a solemn oath to pardon all their offences, and never to question and revenge the same in time to come. Nevertheless *Frederick* the emperor would not suffer this reproach and indignity offered to his son, to pass, but made sharp wars upon *Flanders*, to reclaim and chastise the rebels. But the lord *Ravenstein*, a principal person about *Maximilian*, and one that had taken the oath of abolition with his master, pretending the religion thereof, but indeed upon private ambition, and (as it was thought) instigated and corrupted from *France*, forsook the emperor and *Maximilian* his lord, and made himself an head of the popular party, and seized upon the towns of *Ipres* and *Sluice*, with both the castles: And forthwith sent to the lord *Cordes*, governour of *Picardy* under the *French* king, to desire aid; and to move him, that he, on the behalf of the *French* king, would be protector of the united towns, and by force of arms reduce the rest. The lord *Cordes* was ready to embrace the occasion, which was partly of his own setting, and sent forthwith greater forces, than it had been possible for him to raise on the sudden, if he had not looked for such a summons before in aid of the lord *Ravenstein* and the *Flemings*, with instructions to invest the towns between *France* and *Bruges*. The *French* forces besieged a little town called *Dixmude*, where part of the *Flemish* forces joined with them. While they lay at this siege, the king of *England*, upon pretence of the safety of the *English* pale about *Calais*, but in truth being loth that *Maximilian* should become contemptible, and thereby be shaken off by the states of *Britain* about this marriage, sent over the lord *Morley* with a thousand men, unto

the lord *D'Aubigny*, then deputy of *Calice*, with secret instructions to aid *Maximilian*, and to raise the Siege of *Dixmude*. The lord *D'Aubigny* (giving it out that all was for the strengthening of the *English* marches) drew out of the garrisons of *Calice*, *Hammes* and *Guines*, to the number of a thousand men more. So that with the fresh succours that came under the conduct of the lord *Morley*, they made up to the number of two thousand, or better. Which forces joining with some companies of *Almains*, put themselves into *Dixmude*, not perceived by the enemies; and passing through the town with some reinforcement, (from the forces that were in the town) assailed the enemies camp negligently guarded, as being out of fear; where there was a bloody fight, in which the *English* and their partakers obtained the victory, and slew to the number of eight thousand men, with the loss on the *English* part of a hundred or thereabouts; amongst whom was the lord *Morley*. They took also their great ordnance, with much rich spoils, which they carried to *Newport*; whence the lord *D'Aubigny* returned to *Calice*, leaving the hurt men and some other voluntaries in *Newport*. But the lord *Cordes* being at *Ipres* with a great power of men, thinking to recover the loss and disgrace of the fight at *Dixmude*, came presently on, and sat down before *Newport*, and besieged it; and after some days siege, he resolved to try the fortune of an assault. Which he did one day, and succeeded therein so far, that he had taken the principal tower and fort in that city, and planted upon it the *French* banner. Whence nevertheless they were presently beaten forth by the *English*, by the help of some fresh succours of archers, arriving by good fortune (at the instant) in the haven of *Newport*. Whereupon the lord *Cordes* discouraged, and measuring the new succours (which were small) by the success, (which was great) levied his siege. By this means matters grew more exasperate between the two kings of *England* and *France*, for that in the war of *Flanders*, the auxiliary forces of *French* and *English* were much blooded one against another. Which blood rankled the more, by the vain words of the lord *Cordes*, that declared himself an open enemy of the *English*, beyond that that appertained to the present service; making it a common by-word of his, that he would be content to lie in hell seven years, so he might win *Calice* from the *English*.

THE king having thus upheld the Reputation of *Maximilian*, advised him now to press on his marriage with *Britain* to a conclusion. Which *Maximilian* accordingly did, and so far forth prevailed, both with the young lady, and with the principal persons about her, as the marriage was consummated by proxy, with a ceremony at that time in these parts new. For she was not only publicly contracted, but stated as a bride, and solemnly bedded; and after she was laid, there came in *Maximilian's* ambassador with letters of procuration, and in the presence of sundry noble personages, men and women, put his leg (stript naked to the knee) between the espousal sheets; to the end, that that ceremony might be thought to amount to a consummation and actual knowledge. This done, *Maximilian* (whose property was to leave things then when they were almost come to perfection, and to end them by imagination; like ill archers, that draw not their arrows up to the head; and who might as easily have bedded the lady himself, as to have made a play and disguise of it) thinking now all assured, neglected for a time his farther proceeding, and intended his wars. Mean while the *French* king (consulting with his divines, and finding that this pretended consummation was rather an invention of court, than any ways valid by the laws of the church) went more really to work, and by secret instruments
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and cunning agents, as well matrons about the young lady as counsellors, first sought to remove the point of religion and honour out of the mind of the lady her self, wherein there was a double labour. For *Maximilian* was not only contracted unto the lady, but *Maximilian's* daughter was likewise contracted to king *Charles*. So as the marriage halted upon both feet, and was not clear on either side. But for the contract with king *Charles*, the exception lay plain and fair; for that *Maximilian's* daughter was under years of consent, and so not bound by law, but a power of disagreement left to either part. But for the contract made by *Maximilian* with the lady her self, they were harder driven: having nothing to allege, but that it was done without the consent of her sovereign lord king *Charles*, whose ward and client she was, and he to her in place of a father; and therefore it was void and of no force for want of such consent. Which defect (they said) though it would not evacuate a marriage after cohabitation, and actual consummation; yet it was enough to make void a contract. For as for the pretended consummation, they made sport with it, and said: that it was an argument that *Maximilian* was a widower, and a cold woer, that could content himself to be a bridegroom by deputy, and would not make a little journey to put all out of question. So that the young lady, wrought upon by these reasons, finely instilled by such as the *French* king (who spared for no rewards or promises) had made on his side; and allured likewise by the present glory and greatness of king *Charles*, (being also a young king and a bachelor) and loth to make her countrey the seat of a long and miserable war; secretly yielded to accept of king *Charles*. But during this secret treaty with the lady, the better to save it from blasts of opposition and interruption, king *Charles* resorting to his wonted arts, and thinking to carry the marriage as he had carried the wars, by entertaining the king of *England* in vain belief, sent a solemn embassy by *Francis* lord of *Luxemburgh*, *Charles Marignian*, and *Robert Gaguien*, general of the order of the *bonnes-hommes* of the Trinity, to treat a peace and league with the king; accoupling it with an article in the nature of a request, that the *French* king might with the king's good-will (according unto his right of feigniory and tutelage) dispose of the marriage of the young duchess of *Britain*, as he should think good; offering by a judicial proceeding, to make void the marriage of *Maximilian* by proxy. Also all this while the better to amuse the world, he did continue in his court and custody the daughter of *Maximilian*, who formerly had been sent unto him, to be bred and educated in *France*; not dismissing or renvoying her, but contrariwise professing and giving out strongly, that he meant to proceed with that match. And that for the duchess of *Britain*, he desired only to preserve his right of feigniory, and to give her in marriage to some such ally as might depend upon him.

WHEN the three commissioners came to the court of *England*, they delivered their embassy unto the king, who remitted them to his council; where some days after they had audience, and made their proposition by the prior of the Trinity (who though he were third in place, yet was held the best speaker of them) to this effect.

MY lords, the king our master, the greatest and mightiest king that reigned in *France* since *Charles* the Great, (whose name he beareth) hath nevertheless thought it no disparagement to his greatness at this time to propound a peace; yea, and to pray a peace with the king of *England*. For which purpose he hath sent us his commissioners, instructed and enabled with full

and ample power to treat and conclude ; giving us farther in charge, to open in some other business the secrets of his own intentions. These be indeed the precious love tokens between great kings, to communicate one with another the true state of their affairs, and to pass by nice points of honour, which ought not to give law unto affection. This I do assure your lordships ; it is not possible for you to imagine the true and cordial love that the king our master beareth to your sovereign, except you were near him as we are. He useth his name with so great respect ; he remembreth their first acquaintance at *Paris* with so great contentment ; nay, he never speaks of him, but that presently he falls into discourse of the miseries of great kings, in that they cannot converse with their equals, but with servants. This affection to your king's person and virtues, God hath put into the heart of our master, no doubt for the good of *Christendom*, and for purposes yet unknown to us all. For other root it cannot have, since it was the same to the earl of *Richmond*, that it is now to the king of *England*. This is therefore the first motive that makes our king to desire peace and league with your sovereign : good affection, and somewhat that he finds in his own heart. This affection is also armed with reason of estate. For our king doth in all candor and frankness of dealing open himself unto you ; that having an honourable, yea, and an holy purpose, to make a voyage and war in remote parts, he considereth that it will be of no small effect, in point of reputation to his enterprize, if it be known abroad that he is in good peace with all his neighbour princes, and especially with the king of *England*, whom for good causes he esteemeth most.

BUT now (my lords) give me leave to use a few words to remove all scruples and misunderstandings, between your sovereign and ours, concerning some late actions ; which if they be not cleared, may perhaps hinder this peace. To the end, that for matters past, neither king may conceive unkindness of other, nor think the other conceiveth unkindness of him. The late actions are two ; that of *Britain*, and that of *Flanders*. In both which it is true, that the subjects swords of both kings have encounter'd and stricken, and the ways and inclinations also of the two kings, in respect of their confederates and allies, have severed.

FOR that of *Britain*, the king your sovereign knoweth best what hath passed. It was a war of necessity on our master's part. And though the motives of it were sharp and piquant as could be, yet did he make that war rather with an olive-branch, than a laurel-branch in his hand, more desiring peace than victory. Besides, from time to time he sent (as it were) blank papers to your king, to write the conditions of peace. For though both his honour and safety went upon it, yet he thought neither of them too precious to put into the king of *England's* hands. Neither doth our king on the other side make any unfriendly interpretation, of your king's sending of succours to the duke of *Britain* ; for the king knoweth well, that many things must be done of kings for satisfaction of their people ; and it is not hard to discern what is a king's own. But this matter of *Britain* is now (by the act of God) ended and passed ; and (as the king hopeth) like the way of a ship in the sea, without leaving any impression in either of the kings minds ; as he is sure for his part it hath not done in his.

FOR the action of *Flanders* : as the former of *Britain* was a war of necessity, so this was a war of justice ; which with a good king is of equal necessity with danger of estate, for else he should leave to be a king. The subjects of *Burgundy* are subjects in chief to the crown of *France*, and their duke

duke the homager and vassal of *France*. They had wont to be good subjects, howsoever *Maximilian* hath of late distemper'd them. They fled to the king for justice and deliverance from oppression. Justice he could not deny; purchase he did not seek. This was good for *Maximilian*, if he could have seen it in people mutinied, to arrest fury, and prevent despair. My lords, it may be this I have said is needless, save that the king our master is tender in any thing, that may but glance upon the friendship of *England*. The amity between the two kings (no doubt) stands entire and inviolate: and that their subjects swords have clashed, it is nothing unto the publick peace of the crowns; it being a thing very usual in auxiliary forces of the best and straitest confederates, to meet and draw blood in the field. Nay, many times there be aids of the same nation on both sides, and yet it is not (for all that) a kingdom divided in it self.

It resteth (my lords) that I impart unto you a matter, that I know your lordships all will much rejoice to hear; as that which importeth the Christian commonweal more, than any action that hath happened of long time. The king our master hath a purpose and determination, to make war upon the kingdom of *Naples*; being now in the possession of a bastard slip of *Aragon*, but appertaining unto his majesty, by clear and undoubted right; which if he should not by just arms seek to recover, he could neither acquit his honour nor answer it to his people. But his noble and christian thoughts rest not here: for his resolution and hope is, to make the reconquest of *Naples*, but as a bridge to transport his forces into *Graecia*; and not to spare blood or treasure (if it were to the impawning of his crown, and dispeopling of *France*) till either he hath overthrown the empire of the *Ottomans*, or taken it in his way to paradise. The king knoweth well, that this is a design that could not arise in the mind of any king, that did not stedfastly look up unto God, whose quarrel this is, and from whom cometh both the will and the deed. But yet it is agreeable to the person that he beareth (though unworthy) of the thrice Christian king, and the eldest son of the church. Whereunto he is also invited by the example (in more ancient time) of king *Henry* the fourth of *England*, (the first renowned king of the house of *Lancaster*; ancestor, though not progenitor to your king) who had a purpose towards the end of his time, as you know better, to make an expedition into the *Holy-land*; and by the example also (present before his eyes) of that honourable and religious war which the king of *Spain* now maketh, and hath almost brought to perfection, for the recovery of the realm of *Granada* from the *Moors*. And although this enterprize may seem vast and unmeasured, for the king to attempt that by his own forces, wherein heretofore a conjunction of most of the Christian princes hath found work enough; yet his majesty wisely considereth, that sometimes smaller forces being united under one command, are more effectual in proof, (though not so promising in opinion and fame,) than much greater forces, variously compounded by associations and leagues, which commonly in a short time after their beginnings, turn to dissociations and divisions. But, my lords, that which is as a voice from heaven, that calleth the king to this enterprize, is a rent at this time in the house of the *Ottomans*. I do not say but there hath been brother against brother in that house before, but never any that had refuge to the arms of the Christians, as now hath *Gemes*, (brother unto *Bajazet* that reigneth) the far braver man of the two, the other being between a monk and a philosopher, and better read in the *Alcoran* and *Averroes*, than able to wield the scepter of so war-like an empire. This therefore is the
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king our master's memorable and heroical resolution for an holy war. And because he carrieth in this the person of a Christian soldier, as well as of a great temporal monarch, he beginneth with humility, and is content for this cause, to beg peace at the hands of other Christian kings. There remaineth only rather a civil request, than any essential part of our negotiation, which the king maketh to the king your sovereign. The king (as all the world knoweth) is lord in chief of the duchy of *Britain*. The marriage of the heir belongeth to him as guardian. This is a private patrimonial right, and no business of estate: yet nevertheless (to run a fair course with your king, whom he desires to make another himself, and to be one and the same thing with him) his request is, that with the king's favour and consent, he may dispose of her in marriage, as he thinketh good, and make void the intruded and pretended marriage of *Maximilian*, according to justice. This (my lords) is all that I have to say, desiring your pardon for my weakness in the delivery.

THUS did the *French* ambassadors, with great shew of their king's affection, and many sugar'd words, seek to addulce all matters between the two kings, having two things for their ends; the one to keep the king quiet till the marriage of *Britain* was past; and this was but a summer fruit, which they thought was almost ripe, and would be soon gathered. The other was more lasting; and that was to put him into such a temper, as he might be no disturbance or impediment to the voyage for *Italy*. The lords of the council were silent; and said only, that they knew the ambassadors would look for no answer, till they had reported to the king; and so they rose from council. The king could not well tell what to think of the marriage of *Britain*. He saw plainly the ambition of the *French* king was, to impatronize himself of the duchy; but he wonder'd he would bring into his house a litigious marriage, especially considering who was his successor. But weighing one thing with another he gave *Britain* for lost; but resolved to make his profit of this business of *Britain*, as a quarrel for war; and that of *Naples*, as a wrench and mean for peace; being well advertised, how strongly the king was bent upon that action. Having therefore conferred divers times with his council, and keeping himself somewhat close, he gave direction to the chancellor, for a formal answer to the ambassadors, and that he did in the presence of his council. And after calling the chancellor to him apart, bid him speak in such language, as was fit for a treaty that was to end in a breach; and gave him also a special *caveat*, that he should not use any words to discourage the voyage of *Italy*. Soon after the ambassadors were sent for to the council, and the lord chancellor spake to them in this sort:

My lords ambassadors, I shall make answer by the king's commandment, unto the eloquent declaration of you my lord prior, in a brief and plain manner. The king forgetteth not his former love and acquaintance with the king your master: but of this there needeth no repetition. For if it be between them as it was, it is well; if there be any alteration, it is not words that will make it up.

FOR the business of *Britain*, the king findeth it a little strange, that the *French* king maketh mention of it as matter of well-deserving at his hand: for that deserving was no more, but to make him his instrument to surprize one of his best confederates. And for the marriage the king would not

not meddle in it, if your master would marry by the book, and not by the sword.

FOR that of *Flanders*, if the subjects of *Burgundy* had appealed to your king as their chief lord, at first by way of supplication, it might have had a shew of justice: but it was a new form of process, for subjects to imprison their prince first, and to slay his officers, and then to be complainants. The king saith, that sure he is, when the *French* king and himself sent to the subjects of *Scotland*, (that had taken arms against their king) they both spake in another style, and did in princely manner signify their detestation of popular attentates upon the person or authority of princes. But my lords embassadors, the king leaveth these two actions thus: that on the one side, he hath not received any manner of satisfaction from you concerning them; and on the other, that he doth not apprehend them so deeply, as in respect of them, to refuse to treat of peace, if other things may go hand in hand. As for the war of *Naples*, and the design against the *Turk*; the king hath commanded me expressly to say, that he doth wish with all his heart, to his good brother the *French* king, that his fortunes may succeed, according to his hopes, and honourable intentions. And whensoever he shall hear that he is prepared for *Graecia*, as your master is pleased now to say, that he beggeth a peace of the king, so the king will then beg of him a part in that war.

BUT now my lords embassadors, I am to propound unto you somewhat on the king's part: the king your master hath taught our king what to say and demand. You say (my lord prior) that your king is resolved to recover his right to *Naples*, wrongfully detained from him. And that if he should not thus do, he could not acquit his honour, nor answer it to his people. Think (my lords) that the king our master saith the same thing over again to you, touching *Normandy*, *Guienne*, *Anjou*, yea, and the kingdom of *France* it self. I cannot express it better than in your own words. If therefore the *French* king shall consent, that the king our master's title to *France*, (at least tribute for the same) be handled in the treaty, the king is content to go on with the rest, otherwise he refuseth to treat.

THE embassadors being somewhat abashed with this demand, answered in some heat; that they doubted not, but the king their sovereign's sword would be able to maintain his scepter: and they assured themselves, he neither could nor would yield to any diminution of the crown of *France*, either in territory or regality: but howsoever they were too great matters for them to speak of, having no commission. It was replied, that the king looked for no other answer from them, but would forthwith send his own embassadors to the *French* king. There was a question also asked at the table; whether the *French* king would agree to have the disposing of the marriage of *Britain* with an exception and exclusion, that he should not marry her himself? To which the embassadors answered; that it was so far out of their king's thoughts, as they had received no instructions touching the same. Thus were the embassadors dismissed, all save the prior; and were followed immediately by *Thomas* earl of *Ormond*, and *Thomas Goldenston* prior of *Christ-church* in *Canterbury*, who were presently sent over into *France*. In the mean space *Lionel* bishop of *Concordia* was sent as nuncio from pope *Alexander* the sixth to both kings, to move a peace between them. For pope *Alexander* finding himself pent and lock'd up, by a league and association of the principal states of *Italy*, that he could not make his way for the advancement

advancement of his own house, (which he immoderately thirsted after) was desirous to trouble the waters in *Italy*, that he might fish the better ; casting the net, not out of saint *Peter's*, but out of *Borgia's* bark. And doubting lest the fears from *England* might stay the *French* king's voyage into *Italy*, dispatched this bishop, to compose all matters between the two kings, if he could : who first repaired to the *French* king, and finding him well inclined, (as he conceived) took on his journey towards *England*, and found the *English* embassadors at *Calais*, on their way towards the *French* king. After some conference with them, he was in honourable manner transported over into *England*, where he had audience of the king. But notwithstanding he had a good ominous name to have made a peace, nothing followed : for in the mean time the purpose of the *French* king to marry the duchess, could be no longer dissembled. Wherefore the *English* embassadors (finding how things went) took their leave and returned. And the prior also was warned from hence to depart out of *England*. Who when he turned his back (more like a pedant than an embassador) dispersed a bitter libel, in *Latin* verse, against the king ; unto which the king (though he had nothing of a pedant) was yet content to cause an answer to be made in like verse ; and that as speaking in his own person, but in a style of scorn and sport. About this time also was born the king's second son *Henry*, who afterwards reigned. And soon after followed the solemnization of the marriage between *Charles* and *Anne* duchess of *Britain*, with whom he received the duchy of *Britain* as her dowry, the daughter of *Maximilian* being a little before sent home. Which when it came to the ears of *Maximilian*, (who would never believe it till it was done, being ever the principal in deceiving himself, though in this the *French* king did very handsomly second it,) in tumbling it over and over in his thoughts, that he should at one blow (with such a double scorn) be defeated, both of the marriage of his daughter and his own, (upon both which he had fixed high imaginations,) he lost all patience, and casting off the respects fit to be continued between great kings, even when their blood is hottest, and most risen,) fell to bitter invectives against the person and actions of the *French* king. And (by how much he was the less able to do, talking so much the more) spake all the injuries he could devise of *Charles*, saying ; that he was the most perfidious man upon the earth, and that he had made a marriage compounded between an advowtry and a rape ; which was done (he said) by the just judgment of God ; to the end that (the nullity thereof being so apparent to all the world) the race of so unworthy a Person might not reign in *France*. And forthwith he sent embassadors as well to the king of *England*, as to the king of *Spain*, to incite them to war, and to treat a league offensive against *France*, promising to concur with great forces of his own. Hereupon the king of *England* (going nevertheless his own way,) called a parliament, it being the seventh year of his reign ; and the first day of opening thereof (sitting under his cloth of state) spake himself unto his lords and commons, in this manner :

My lords, and you the commons, when I purposed to make a war in *Britain* by my lieutenant, I made declaration thereof to you by my chancellor. But now that I mean to make a war upon *France* in person, I will declare it to you my self. That war was to defend another man's right, but this is to recover our own ; and that ended by accident, but we hope this shall end in victory.

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THE *French* king troubles the Christian world: that which he hath is not his own, and yet he seeketh more. He hath invested himself of *Britain*: He maintaineth the rebels in *Flanders*; and he threatneth *Italy*. For our selves, he hath proceeded from dissimulation, to neglect; and from neglect, to contumely. He hath assailed our confederates: he denieth our tribute: in a word, he seeks war: so did not his father, but sought peace at our hands; and so perhaps will he, when good counsel or time shall make him see as much as his father did.

MEAN while, let us make his ambition our advantage; and let us not stand upon a few crowns of tribute, or acknowledgment, but (by the favour of Almighty God) try our right for the crown of *France* it self; remembering that there hath been a *French* king prisoner in *England*, and a king of *England* crowned in *France*. Our confederates are not diminished. *Burgundy* is in a mightier hand than ever, and never more provoked. *Britain* cannot help us, but it may hurt them. New acquets are more burthen than strength. The malecontents of his own kingdom have not been base, popular, nor titulary impostors, but of an higher nature. The king of *Spain* (doubt ye not) will join with us, not knowing where the *French* king's ambition will stay. Our holy father the pope likes no *Tramontanes* in *Italy*. But howsoever it be, this matter of confederates, is rather to be thought on, than reckon'd on. For God forbid but *England* should be able to get reason of *France* without a second.

AT the battels of *Cressy*, *Poitiers*, *Agencourt*, we were of our selves. *France* hath much people, and few soldiers. They have no stable bands of foot. Some good horse they have; but those are forces which are least fit for a defensive war, where the actions are in the assailant's choice. It was our discords only that lost *France*; and (by the power of God) it is the good peace which we now enjoy, that will recover it. God hath hitherto blessed my sword. I have in this time that I have reigned, weeded out my bad subjects, and tryed my good. My people and I know one another, which breeds confidence: And if there should be any bad blood left in the kingdom, an honourable foreign war will vent it, or purify it. In this great business, let me have your advice and aid. If any of you were to make his son knight, you might have aid of your tenants by law. This concerns the knighthood and spurs of the kingdom, whereof I am father; and bound not only to seek to maintain it, but to advance it: but for matter of treasure, let it not be taken from the poorest fort, but from those to whom the benefit of the war may redound. *France* is no wilderness; and I, that profess good husbandry, hope to make the war (after the beginnings) to pay it self. Go together in God's name, and lose no time; for I have called this parliament wholly for this cause.

THUS spake the king; but for all this, though he shewed great forwardness for a war, not only to his parliament and court, but to his privy council likewise, (except the two bishops and a few more;) yet nevertheless in his secret intentions, he had no purpose to go through with any war upon *France*. But the truth was, that he did but traffick with that war, to make his return in money. He knew well, that *France* was now entire and at unity with it self, and never so mighty many years before. He saw by the taste that he had of his forces sent into *Britain*, that the *French* knew well enough how to make war with the *English*, by not putting things to the hazard of a battel, but wearing them by long sieges of towns, and strong

fortified encampings. *James* the third of *Scotland*, (his true friend and confederate) gone; and *James* the fourth (that had succeeded) wholly at the devotion of *France*, and ill affected towards him. As for the conjunctions of *Ferdinando* of *Spain*, and *Maximilian*, he could make no foundation upon them. For the one had power, and not will; and the other had will, and not power. Besides that, *Ferdinando* had but newly taken breath from the war with the *Moors*; and merchanded at this time with *France*, for the restoring of the counties of *Russignon* and *Perpignan* oppignorated to the *French*. Neither was he out of fear of the discontents and ill blood within the realm; which having used always to repress and appease in person, he was loth they should find him at a distance beyond sea, and engaged in war. Finding therefore the inconveniencies and difficulties in the prosecution of a war, he cast with himself how to compass two things. The one, how by the declaration and inchoation of a war to make his profit. The other, how to come off from the war with saving of his honour. For profit, it was to be made two ways; upon his subjects for the war, and upon his enemies for the peace; like a good merchant, that maketh his gain both upon the commodities exported, and imported back again. For the point of honour, wherein he might suffer for giving over the war; he considered well, that as he could not trust upon the aids of *Ferdinando* and *Maximilian* for supports of war; so the impuissance of the one, and the double proceeding of the other, lay fair for him for occasions to accept of peace. These things he did wisely foresee, and did as artificially conduct, whereby all things fell into his lap as he desired.

For as for the parliament, it presently took fire, being affectionate (of old) to the war of *France*; and desirous afresh to repair the dishonour they thought the king sustained by the loss of *Britain*. Therefore they advised the king (with great alacrity) to undertake the war of *France*. And although the parliament consisted of the first and second nobility (together with principal citizens and townsmen) yet worthily and justly respecting more the people (whose deputies they were) than their own private persons, and finding by the lord chancellor's speech the king's inclination that way; they consented that commissioners should go forth for the gathering and levying of a benevolence from the more able sort. This tax (called a benevolence) was devised by *Edward* the fourth, for which he sustained much envy. It was abolished by *Richard* the third by act of parliament, to ingratiate himself with the people; and it was now revived by the king, but with consent of parliament, for so it was not in the time of king *Edward* the fourth. But by this way he raised exceeding great sums. Inasmuch as the city of *London* (in those days) contributed nine thousand pounds and better; and that chiefly levied upon the wealthier sort. There is a tradition of a *dilemma*, that bishop *Morton* the chancellor used, to raise up the benevolence to higher rates; and some called it his fork, and some his crotch. For he had couched an article in the instructions to the commissioners who were to levy the benevolence; that if they met with any that were sparing, they should tell them, that they must needs have, because they laid up; and if they were spenders, they must needs have, because it was seen in their port and manner of living. So neither kind came amiss.

THIS parliament was merely a parliament of war; for it was in substance but a declaration of war against *France* and *Scotland*, with some statutes conducing thereunto; as the severe punishing of mort-pays, and keeping back of soldiers wages in captains. The like severity for the departure
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of soldiers without licence; strengthening of the common law in favour of protections, for those that were in the king's service; and the setting the gate open and wide, for men to sell or mortgage their lands without fines for alienation, to furnish themselves with money for the war; and lastly, the voiding of all *Scottish* men out of *England*. There was also a statute for the dispersing of the standard of the exchequer throughout *England*; thereby to fize weights and measures; and two or three more of less importance.

AFTER the Parliament was broken up, (which lasted not long) the king went on with his preparations for the war of *France*; yet neglected not in the mean time the affairs of *Maximilian* for the quieting of *Flanders*, and restoring him to his authority amongst his subjects. For at that time the lord of *Ravenstein*, being not only a subject rebelled, but a servant revolted, (and so much the more malicious and violent, by the aid of *Bruges* and *Gaunt*) had taken the town and both the castles of *Sluice*; as we said before.

AND having (by the commodity of the haven) gotten together certain ships and barks, fell to a kind of piratical trade; robbing and spoiling, and taking prisoners the ships and vessels of all nations that passed along that coast, towards the mart of *Antwerp*, or into any part of *Brabant*, *Zeland*, or *Friezland*; being ever well victualled from *Picardy*, besides the commodity of victuals from *Sluice*, and the countrey adjacent, and the avails of his own Prizes. The *French* assisted him still under-hand; and he likewise (as all men do that have been of both sides) thought himself not safe, except he depended upon a third Person.

THERE was a small town some two miles from *Bruges* towards the sea, called *Dam*; which was a fort and approach to *Bruges*; and had a relation also to *Sluice*. This town the king of the *Romans* had attempted often (not for any worth of the town in it self, but because it might choak *Bruges*, and cut it off from the sea) and ever failed. But therewith the duke of *Saxony* came down into *Flanders*, taking upon him the person of an umpire, to compose things between *Maximilian* and his subjects; but being (indeed) fast and assured to *Maximilian*. Upon this pretext of neutrality and treaty, he repaired to *Bruges*; desiring of the states of *Bruges*, to enter peaceably into their town, with a retinue of some number of men of arms fit for his estate; being somewhat the more (as he said) the better to guard him in a countrey that was up in arms: and bearing them in hand, that he was to communicate with them of divers matters of great importance for their good. Which having obtained of them, he sent his carriages and harbingers before him, to provide his Lodging. So that his men of war entered the city in good array, but in peaceable manner, and he followed. They that went before enquired still for inns and lodgings, as if they would have rested there all night; and so went on till they came to the gate that leadeth directly towards *Dam*; and they of *Bruges* only gazed upon them, and gave them passage. The captains and inhabitants of *Dam* also suspected no harm, from any that passed through *Bruges*; and discovering forces afar off, supposed they had been some succours that were come from their friends, knowing some dangers towards them. And so perceiving nothing but well till it was too late, suffered them to enter their town. By which kind of sleight, rather than stratagem, the town of *Dam* was taken, and the town of *Bruges* shrewdly blockt up, whereby they took great discouragement.

THE duke of *Saxony* having won the town of *Dam*, sent immediately to the king to let him know, that it was *Sluice* chiefly, and the lord *Ravenstein*, that kept the rebellion of *Flanders* in life: and that if it pleased the king to besiege it by sea, he also would besiege it by land, and so cut out the core of those wars.

THE king willing to uphold the authority of *Maximilian*, (the better to hold *France* in awe) and being likewise sued unto by his merchants, for that the seas were much infested by the barks of the lord *Ravenstein*; sent straightways sir *Edward Poynings*, a valiant man, and of good service, with twelve ships, well furnished with soldiers and artillery, to clear the seas, and to besiege *Sluice* on that part. The *Englishmen* did not only coop up the lord *Ravenstein*, that he stirred not, and likewise hold in strait siege the maritime part of the town; but also assailed one of the castles, and renewed the assault so for twenty days space (issuing still out of their ships at the ebb) as they made great slaughter of them of the castle; who continually fought with them to repulse them, though of the *English* part also were slain a brother of the earl of *Oxford's*, and some fifty more.

BUT the siege still continuing more and more strait, and both the castles (which were the principal strength of the town) being distressed, the one by the duke of *Saxony*, and the other by the *English*; and a bridge of boats, which the lord *Ravenstein* had made between both castles, whereby succours and relief might pass from the one to the other, being on a night set on fire by the *English*; he despairing to hold the town, yielded (at the last) the castles to the *English*, and the town to the duke of *Saxony*, by composition. Which done, the duke of *Saxony* and sir *Edward Poynings*, treated with them of *Bruges*, to submit themselves to *Maximilian* their lord; which after some time they did, paying (in some good part) the charge of the war, whereby the *Almains* and foreign succours were dismissed. The example of *Bruges*, other of the revolted towns followed; so that *Maximilian* grew to be out of danger, but (as his manner was to handle matters) never out of necessity. And sir *Edward Poynings* (after he had continued at *Sluice* some good while till all things were settled) returned unto the king, being then before *Boloign*.

SOMEWHAT about this time came letters from *Ferdinando* and *Isabella*, king and queen of *Spain*; signifying the final conquest of *Granada* from the *Moors*; which action in it self so worthy, king *Ferdinando* (whose manner was never to lose any virtue for the shewing) had expressed and displayed in his letters at large, with all the particularities and religious puncto's and ceremonies, that were observed in the reception of that city and kingdom: Shewing amongst other things, that the king would not by any means in person enter the city, until he had first aloof seen the cross set up upon the greater tower of *Granada*, whereby it became Christian ground. That likewise before he would enter, he did homage to God above, pronouncing by an herald from the height of that tower, that he did acknowledge to have recovered that kingdom by the help of God Almighty, and the glorious Virgin, and the virtuous Apostle saint *James*, and the holy father *Innocent* the eighth, together with the aids and services of his prelates, nobles, and commons. That yet he stirred not from his camp, till he had seen a little army of martyrs, to the number of seven hundred and more Christians (that had lived in bonds and servitude, as slaves to the *Moors*) pass before his eyes, singing a psalm for their redemption; and that he had given tribute unto God, by alms and relief extended to them all, for his admission

admission into the city. These things were in the letters, with many more ceremonies of a kind of holy ostentation.

THE king ever willing to put himself into the comfort or quire of all religious actions, and naturally affecting much the king of *Spain*, (as far as one king can affect another) partly for his virtues, and partly for a counterpoise to *France*; upon the receipt of these letters, sent all his nobles and prelates that were about the court, together with the mayor and aldermen of *London*, in great solemnity to the church of *Paul's*; there to hear a declaration from the lord chancellor, now cardinal. When they were assembled, the cardinal standing upon the uppermost step, or half-pace before the quire, and all the nobles, prelates, and governors of the city at the foot of the stairs, made a speech to them; letting them know, that they were assembled in that consecrate place, to sing unto God a new song. For that (said he) these many years the Christians have not gained new ground or territory upon the Infidels, nor enlarged and set farther the bounds of the Christian world. But this is now done by the prowess and devotion of *Ferdinando* and *Isabella*, king and queen of *Spain*; who have (to their immortal honour) recovered the great and rich kingdom of *Granada*, and the populous and mighty city of the same name from the *Moors*, having been in possession thereof by the space of seven hundred Years and more: For which, this assembly and all Christians are to render laud and thanks unto God, and to celebrate this noble act of the king of *Spain*; who in this is not only victorious, but apostolical, in the gaining of new provinces to the Christian faith. And the rather, for that this victory and conquest is obtained without much effusion of blood. Whereby it is to be hoped, that there shall be gained not only new territory, but infinite souls to the church of *Christ*, whom the Almighty (as it seems) would have live to be converted. Herewithal he did relate some of the most memorable particulars of the war and victory. And after his speech ended, the whole assembly went solemnly in procession, and *Te Deum* was sung.

IMMEDIATELY after the solemnity, the king kept his *May* day at his palace of *Shene*, now *Richmond*. Where, to warm the blood of his nobility and gallants against the war, he kept great triumphs of jousting and tourney, during all that month. In which space it fell out, that sir *James Parker*, and *Hugh Vaughan*, (one of the king's gentlemen ushers) having had a controversy touching certain arms that the king at arms had given *Vaughan*, were appointed to run some courses one against another. And by accident of a faulty helmet that *Parker* had on, he was stricken into the mouth at the first course, so that his tongue was born unto the hinder part of his head, in such sort, that he died presently upon the place. Which because of the controversy precedent, and the death that followed, was accounted amongst the vulgar as a combat or trial of right. The king towards the end of this summer, having put his forces, wherewith he meant to invade *France*, in readiness, (but so as they were not yet met or mustered together) sent *Urswick* (now made his Almoner) and sir *John Risley*, to *Maximilian*, to let him know that he was in arms, ready to pass the seas into *France*, and did but expect to hear from him, when and where he did appoint to join with him, according to his promise made unto him by *Countebalt* his ambassador.

THE *English* ambassadors having repaired to *Maximilian*, did find his power and promise at a very great distance; he being utterly unprovided of men, money, and arms, for any such enterprize. For *Maximilian* having
neither

neither wing to fly on, for that his patrimony of *Austria* was not in his hands (his Father being then living:) and on the other side, his matrimonial territories of *Flanders* were partly in dowry to his mother-in-law, and partly not serviceable, in respect of the late rebellions; was thereby destitute of means to enter into war. The embassadors saw this well, but wisely thought fit to advertise the King thereof, rather than to return themselves, till the king's farther pleasure were known. The rather, for that *Maximilian* himself spake as great as ever he did before, and entertained them with dilatory answers; so as the formal part of their embassy might well warrant and require their farther stay. The king hereupon (who doubted as much before, and saw through his business from the beginning) wrote back to the embassadors, commending their discretion in not returning, and willing them to keep the state wherein they found *Maximilian* as a Secret, till they heard farther from him: and mean while went on with his voyage royal for *France*, suppressing for a time this advertisement touching *Maximilian's* poverty and disability.

By this time was drawn together a great and puissant army into the city of *London*; in which were *Thomas* marquis *Dorset*, *Thomas* earl of *Arun-
del*, *Thomas* earl of *Derby*, *George* earl of *Shrewsbury*, *Edmond* earl of *Suffolk*, *Edward* earl of *Devonshire*, *George* earl of *Kent*, the earl of *Essex*, *Thomas* earl of *Ormond*, with a great number of barons, knights, and principal gentlemen; and amongst them *Richard Thomas*, much noted for the brave troops that he brought out of *Wales*. The army rising in the whole to the number of five and twenty thousand foot, and sixteen hundred horse; over which the king (constant in his accustomed trust and employment) made *Jasper* duke of *Bedford*, and *John* Earl of *Oxford*, generals under his own person. The ninth of *September*, in the eighth Year of his reign, he departed from *Greenwich* towards the sea; all men wondring that he took that season (being so near winter) to begin the war; and some thereupon gathering, it was a sign that the war would not be long. Nevertheless the king gave out the contrary, thus; that he intending not to make a summer business of it, but a resolute war (without term prefixed) until he had recovered *France*; it skilled not much when he began it, especially having *Calais* at his back, where he might winter, if the reason of the war so required. The sixth of *October* he embarked at *Sandwich*; and the same day took land at *Calais*, which was the rendezvous, where all his forces were assigned to meet. But in this his journey towards the sea-side, (wherein for the cause that we shall now speak of, he hovered so much the longer) he had received letters from the lord *Cordes*, who the hotter he was against the *English* in time of war, had the more credit in a negociation of peace; and besides was held a man open and of good faith. In which letters there was made an overture of peace from the *French* king, with such conditions as were somewhat to the king's taste; but this was carried at the first with wonderful secrecy. The king was no sooner come to *Calais*, but the calm winds of peace began to blow. For first, the *English* embassadors returned out of *Flanders* from *Maximilian*, and certified the king, that he was not to hope for any aid from *Maximilian*, for that he was altogether unprovided. His will was good, but he lacked money. And this was made known and spread through the army. And although the *English* were therewithal nothing dismayed, and that it be the manner of soldiers, upon bad news to speak the more bravely; yet nevertheless it was a kind of preparative to a peace. Instantly in the neck of this (as the king had laid it) came news,

that

that *Ferdinando* and *Isabella*, king and queen of *Spain*, had concluded a peace with king *Charles*; and that *Charles* had restored unto them the counties of *Ruffignon* and *Perpignan*, which formerly were mortgaged by *John* king of *Aragon* (*Ferdinando's* father) unto *France*, for three hundred thousand crowns; which debt was also upon this peace by *Charles* clearly released. This came also handsomely to put on the peace; both because so potent a confederate was fallen off, and because it was a fair example of a peace bought; so as the king should not be the sole merchant in this peace. Upon these airs of peace, the king was content that the bishop of *Exeter*, and the lord *D'Aubigny* (governour of *Calais*) should give a meeting unto the lord *Cordes*, for the treaty of a peace. But himself nevertheless and his army, the fifteenth of *October*, removed from *Calais*, and in four days march fate him down before *Boloign*.

DURING this siege of *Boloign*, (which continued near a month) there passed no memorable action, nor accident of war; only sir *John Savage*, a valiant captain, was slain, riding about the walls of the town, to take a view. The town was both well fortified, and well manned; yet it was distressed, and ready for an assault. Which if it had been given, (as was thought) would have cost much blood; but yet the town would have been carried in the end. Mean while a peace was concluded by the commissioners, to continue for both the kings lives. Where there was no article of importance; being in effect rather a bargain than a treaty. For all things remained as they were, save that there should be paid to the king seven hundred forty five thousand duckets in present, for his charges in that journey; and five and twenty thousand crowns yearly, for his charges sustained in the aids of the *Britains*. For which annual, though he had *Maximilian* bound before for those charges; yet he counted the alteration of the hand, as much as the principal debt. And besides, it was left somewhat indefinitely when it should determine or expire; which made the *English* esteem it as a tribute carried under fair terms. And the truth is, it was paid both to the king, and to his son king *Henry* the eighth, longer than it could continue upon any computation of charges. There was also assigned by the *French* king, unto all the king's principal counsellors, great pensions, besides rich gifts for the present. Which whether the king did permit, to save his own purse from rewards, or to communicate the envy of a business, that was displeasing to his people, was diversly interpreted. For certainly the king had no great fancy to own this peace. And therefore a little before it was concluded, he had underhand procured some of his best captains and men of war, to advise him to a peace under their hands, in an earnest manner, in the nature of a supplication. But the truth is, this peace was welcome to both kings. To *Charles*, for that it assured unto him the possession of *Britain*, and freed the enterprize of *Naples*. To *Henry*, for that it filled his coffers; and that he foresaw at that time a storm of inward troubles coming upon him, which presently after brake forth. But it gave no less discontent to the nobility, and principal persons of the army, who had many of them sold or engaged their estates upon the hopes of the war. They stuck not to say, that the king cared not to plume his nobility and people, to feather himself. And some made themselves merry with that the king had said in parliament; that after the war was once begun, he doubted not but to make it pay it self; saying, he had kept promise.

HAVING risen from *Boloign*, he went to *Calais*, where he stayed some time. From whence also he wrote letters, (which was a courtesy that he sometimes

sometimes used) to the mayor of *London*, and the aldermen his brethren; half bragging what great fums he had obtained for the peace; knowing well that full coffers of the king is ever good news to *London*. And better news it would have been, if their benevolence had been but a loan. And upon the seventeenth of *December* following he returned to *Westminster*, where he kept his *Christmas*.

SOON after the king's return, he sent the order of the garter to *Alphonso* duke of *Calabria*, eldest son to *Ferdinando* king of *Naples*. An honour fought by that prince to hold him up in the eyes of the *Italians*; who expecting the arms of *Charles*, made great account of the amity of *England* for a bridle to *France*. It was received by *Alphonso* with all the ceremony and pomp that could be devised, as things use to be carried that are intended for opinion. It was sent by *Urswick*; upon whom the king bestowed this embassy to help him after many dry employments.

AT this time the king began again to be haunted with sprites, by the magick and curious arts of the lady *Margaret*; who raised up the ghost of *Richard* duke of *York*, second son to king *Edward* the fourth, to walk and vex the king. This was a finer counterfeit stone than *Lambert Simnel*; better done, and worn upon greater hands; being graced after with the wearing of a king of *France*, and a king of *Scotland*, not of a duchess of *Burgundy* only. And for *Simnel*, there was not much in him, more than that he was a handsome boy, and did not shame his robes. But this youth (of whom we are now to speak) was such a mercurial, as the like hath seldom been known; and could make his own part, if at any time he chanced to be out. Wherefore this being one of the strangest examples of a personation, that ever was in elder or later times; it deserveth to be discovered, and related at the full. Although the king's manner of shewing things by pieces, and by dark lights, hath so muffled it, that it hath left it almost as a mystery to this day.

THE lady *Margaret*, (whom the king's friends called *Juno*, because she was to him as *Juno* was to *Aeneas*, stirring both heaven and hell to do him mischief) for a foundation of her particular practices against him, did continually, by all means possible, nourish, maintain and divulge the flying opinion, that *Richard* duke of *York* (second son to *Edward* the fourth) was not murdered in the tower (as was given out) but saved alive. For that those that were employed in that barbarous fact, having destroyed the elder brother, were stricken with remorse and compassion towards the younger, and set him privily at liberty to seek his fortune. This lure she cast abroad, thinking that this fame and belief (together with the fresh example of *Lambert Simnel*) would draw at one time or other some birds to strike upon it. She used likewise a farther diligence, not committing all to chance: For she had some secret espials (like to the *Turks* commissioners for children of tribute) to look abroad for handsome and graceful youths, to make *Plantagenets*, and dukes of *York*. At the last she did light on one, in whom all things met as one would wish, to serve her turn for a counterfeit of *Richard* duke of *York*.

THIS was *Perkin Warbeck*, whose adventures we shall now describe. For first, the years agreed well. Secondly, he was a youth of fine favour and shape. But more than that, he had such a crafty and bewitching fashion, both to move pity, and to induce belief, as was like a kind of fascination and enchantment to those that saw him or heard him. Thirdly, he had been from his childhood such a wanderer; or (as the king called him) such

a land-loper, as it was extreme hard to hunt out his nest and parents. Neither again could any man, by company or conversing with him, be able to say or detect well what he was, he did so flit from place to place. Lastly, there was a circumstance (which is mentioned by one that wrote in the same time) that is very likely to have made somewhat to the matter; which is, that king *Edward* the fourth was his godfather. Which, as it is somewhat suspicious, for a wanton prince to become gossip in so mean a house, and might make a man think, that he might indeed have in him some base blood of the house of *York*; so at the least (though that were not) it might give the occasion to the boy, in being called king *Edward's* god-son, or perhaps in sport king *Edward's* son, to entertain such thoughts into his head. For tutor he had none (for aught that appears) as *Lambert Simmel* had, until he came unto the lady *Margaret*, who instructed him.

THUS therefore it came to pass: there was a townsmen of *Tournay*, that had born office in that town, whose name was *John Osbeck*, a convert Jew, married to *Katharine de Faro*, whose business drew him to live for a time with his wife at *London*, in king *Edward* the fourth's days. During which time he had a son by her, and being known in court, the king either out of a religious nobleness, because he was a convert, or upon some private acquaintance, did him the honour as to be godfather to his child, and named him *Peter*. But afterwards, proving a dainty and effeminate youth, he was commonly called by the diminutive of his name, *Peter-kin*, or *Perkin*. For as for the name of *Warbeck*, it was given him when they did but guess at it, before examinations had been taken. But yet he had been so much talked on by that name, as it stuck by him after his true name of *Osbeck* was known. While he was a young child, his parents returned with him to *Tournay*. Then was he placed in a house of a kinsman of his, called *John Stanbeck*, at *Antwerp*, and so roved up and down between *Antwerp* and *Tournay*, and other towns of *Flanders*, for a good time; living much in *English* company, and having the *English* tongue perfect. In which time, being grown a comely youth, he was brought by some of the espials of the lady *Margaret*, into her presence. Who viewing him well, and seeing that he had a face and personage that would bear a noble fortune; and finding him otherwise of a fine spirit, and winning behaviour; thought she had now found a curious piece of marble, to carve out an image of a duke of *York*. She kept him by her a great while, but with extremest secrecy. The while she instructed him by many cabinet conferences. First, in princely behaviour and gesture; teaching him how he should keep state, and yet with a modest sense of his misfortunes. Then she informed him of all the circumstances and particulars that concerned the person of *Richard* duke of *York*, which he was to act: describing unto him the personages, lineaments, and features of the king and queen his pretended parents; and of his brother, and sisters, and divers others, that were nearest him in his childhood; together with all passages, some secret, some common, that were fit for a child's memory, until the death of king *Edward*. Then she added the particulars of the time from the king's death, until he and his brother were committed to the tower, as well during the time he was abroad, as while he was in sanctuary. As for the times while he was in the tower, and the manner of his brother's death, and his own escape; she knew they were things that a very few could controul. And therefore she taught him only to tell a smooth and likely tale of those matters; warning him not to vary from it. It was agreed likewise between

them, what account he should give of his peregrination abroad, intermixing many things which were true, and such as they knew others could testify, for the credit of the rest; but still making them to hang together with the part he was to play. She taught him likewise how to avoid sundry captious and tempting questions, which were like to be asked of him. But in this she found him of himself so nimble and shifting, as she trusted much to his own wit and readiness; and therefore laboured the less in it. Lastly, she raised his thoughts with some present rewards, and farther promises; setting before him chiefly the glory and fortune of a crown, if things went well, and a sure refuge to her court, if the worst should fall. After such time as she thought he was perfect in his lesson, she began to cast with her self from what coast this blazing star should first appear, and at what time it must be upon the horizon or *Ireland*; for there had the like meteor strong influence before. The time of the apparition to be, when the king should be engaged into a war with *France*. But well she knew, that whatsoever should come from her, would be held suspected. And therefore, if he should go out of *Flanders* immediately into *Ireland*, she might be thought to have some hand in it. And besides, the time was not yet ripe; for that the two kings were then upon terms of peace. Therefore she wheel'd about; and to put all suspicion afar off, and loth to keep him any longer by her, (for that she knew secrets are not long-liv'd) she sent him unknown into *Portugal*, with the lady *Brampton*, an *English* lady, that embarked for *Portugal* at that time; with some *Privado* of her own, to have an eye upon him, and there he was to remain, and to expect her farther directions. In the mean time, she omitted not to prepare things for his better welcome and accepting, not only in the kingdom of *Ireland*, but in the court of *France*. He continued in *Portugal* about a year; and by that time the king of *England* called his parliament, (as hath been said) and had declared open war against *France*. Now did the sign reign, and the constellation was come, under which *Perkin* should appear. And therefore he was straight sent unto by the duchess to go for *Ireland*, according to the first designment. In *Ireland* he did arrive at the town of *Cork*. When he was thither come, his own tale was, (when he made his confession afterwards) that the *Irishmen* finding him in some good clothes, came flocking about him, and bare him down that he was the duke of *Clarence* that had been there before. And after, that he was *Richard* the third's base son. And lastly, that he was *Richard* duke of *York*, second son to *Edward* the fourth. But that he (for his part) renounced all these things, and offered to swear upon the holy Evangelists, that he was no such man; till at last they forced it upon him, and bad him fear nothing, and so forth. But the truth is, that immediately upon his coming into *Ireland*, he took upon him the said person of the duke of *York*, and drew unto him accomplices and partakers, by all the means he could devise. Inasmuch as he wrote his letters unto the earls of *Desmond* and *Kildare*, to come in to his aid, and be of his party; the originals of which letters are yet extant.

SOMEWHAT before this time, the duchess had also gained unto her a near servant of king *Henry's* own, one *Stephen Frion*, his secretary for the *French* tongue; an active man, but turbulent and discontented. This *Frion* had fled over to *Charles* the *French* king, and put himself into his service, at such time as he began to be in open enmity with the king. Now king *Charles*, when he understood of the person and attempts of *Perkin*, (ready of himself to embrace all advantages against the king of *England*, instigated

gated by *Frion*, and formerly prepared by the Lady *Margaret*) forthwith dispatched one *Lucas*, and this *Frion*, in the nature of embassadors, to *Perkin*; to advertise him of the king's good inclination to him, and that he was resolved to aid him, to recover his right against King *Henry*, an usurper of *England*, and an enemy of *France*; and wished him to come over unto him at *Paris*. *Perkin* thought himself in heaven, now that he was invited by so great a king in so honourable a manner. And imparting unto his friends in *Ireland* for their encouragement, how fortune called him, and what great hopes he had, failed presently into *France*. When he was come to the court of *France*, the king received him with great honour; saluted, and styled him by the name of the duke of *York*; lodged him, and accommodated him in great state. And the better to give him the representation and the countenance of a prince, assigned him a guard for his person, whereof the lord *Congresfall* was captain. The courtiers likewise (though it be ill mocking with the *French*) applied themselves to their king's bent, seeing there was reason of state for it. At the same time there repaired unto *Perkin*, divers *Englishmen* of quality; sir *George Nevile*, sir *John Taylor*, and about one hundred more; and amongst the rest, this *Stephen Frion*, of whom we spake, who followed his fortune both then and for a long time after, and was indeed his principal counsellor and instrument in all his proceedings. But all this on the *French* king's part was but a trick, the better to bow king *Henry* to peace. And therefore upon the first grain of incense, that was sacrificed upon the altar of peace at *Boloign*, *Perkin* was smoaked away. Yet would not the *French* king deliver him up to king *Henry*, (as he was laboured to do) for his honour's sake, but warned him away, and dismissed him. And *Perkin* on his part was as ready to be gone, doubting he might be caught up under hand. He therefore took his way into *Flanders*, unto the duchess of *Burgundy*; pretending that having been variously tossed by fortune, he directed his course thither as to a safe harbour: no ways taking knowledge that he had ever been there before, but as if that had been his first address. The duchess on the other part, made it as new and strange to see him; pretending (at the first) that she was taught and made wise by the example of *Lambert Simnel*, how she did admit of any counterfeit stuff; though even in that (she said) she was not fully satisfied. She pretended at the first (and that was ever in the presence of others) to pose him and sift him, thereby to try whether he were indeed the very duke of *York*, or no. But seeming to receive full satisfaction by his answers, she then feigned her self to be transported with a kind of astonishment, mixt of joy and wonder, at his miraculous deliverance; receiving him as if he were risen from death to life: and inferring, that God, who had in such wonderful manner preserved him from death, did likewise reserve him for some great and prosperous fortune. As for his dismissal out of *France*, they interpreted it not, as if he were detected or neglected for a counterfeit deceiver; but contrariwise that it did shew manifestly unto the world, that he was some great matter; for that it was his abandoning that (in effect) made the peace; being no more but the sacrificing of a poor distressed prince, unto the utility and ambition of two mighty monarchs. Neither was *Perkin* for his part wanting to himself, either in gracious and princely behaviour, or in ready and apposite answers, or in contenting and caressing those that did apply themselves unto him, or in pretty scorn and disdain to those that seemed to doubt of him; but in all things did notably acquit himself; insomuch as it was generally

believed, (as well amongst great persons, as amongst the vulgar) that he was indeed duke *Richard*. Nay, himself, with long and continual counterfeiting, and with oft telling a lye, was turned by habit almost into the thing he seemed to be ; and from a liar, to a believer. The duchess therefore (as in a case out of doubt) did him all princely honour, calling him always by the name of her nephew, and giving him the delicate title of the white rose of *England* ; and appointed him a guard of thirty persons, halberdiers, clad in a party-coloured livery of murrey and blue, to attend his person. Her court likewise, and generally the *Dutch* and strangers, in their usage towards him, expressed no less respect.

THE news hereof came blazing and thundering over into *England*, that the duke of *York* was sure alive. As for the name of *Perkin Warbeck*, it was not at that time come to light, but all the news ran upon the duke of *York* ; that he had been entertained in *Ireland*, bought and sold in *France*, and was now plainly avowed, and in great honour in *Flanders*. These fables took hold of divers ; in some upon discontent ; in some upon ambition ; in some upon levity and desire of change ; and in some few upon conscience and belief, but in most upon simplicity ; and in divers, out of dependence upon some of the better sort, who did in secret favour and nourish these bruits. And it was long e'er these rumours of novelty had begotten others of scandal and murmur against the king, and his government ; taxing him for a great taxer of his People, and discountenancer of his nobility. The loss of *Britain*, and the peace with *France*, were not forgotten. But chiefly they fell upon the wrong that he did his queen, in that he did not reign in her right. Wherefore they said, that God had now brought to light a masculine branch of the house of *York*, that would not be at his courtesy, howsoever he did depress his poor lady. And yet (as it fareth in things which are current with the multitude, and which they affect) these fables grew so general, as the authors were lost in the generality of speakers. They being like running weeds, that have no certain root ; or like footings up and down, impossible to be traced : but after a while these ill humours drew to an head, and settled secretly in some eminent persons ; which were sir *William Stanley* lord chamberlain of the king's household, the lord *Fitzwalter*, sir *Simon Mountfort*, sir *Thomas Thwaites* : these enter'd into a secret conspiracy to favour duke *Richard's* title. Nevertheless none engaged their fortunes in this business openly, but two ; sir *Robert Clifford*, and master *William Barley*, who sailed over into *Flanders*, sent indeed from the party of the conspirators here, to understand the truth of those things that passed there, and not without some help of monies from hence ; provisionally to be delivered, if they found and were satisfied, that there was truth in these pretences. The person of sir *Robert Clifford* (being a gentleman of fame and family) was extremely welcome to the lady *Margaret*. Who after she had conference with him, brought him to the sight of *Perkin*, with whom he had often speech and discourse. So that in the end, won either by the duchess to affect, or by *Perkin* to believe, he wrote back into *England*, that he knew the person of *Richard* duke of *York*, as well as he knew his own ; and that this young man was undoubtedly he. By this means all things grew prepared to revolt and sedition here, and the conspiracy came to have a correspondence between *Flanders* and *England*.

THE king on his part was not asleep ; but to arm or levy forces yet, he thought would but shew fear, and do this idol too much worship. Nevertheless the ports he did shut up, or at least kept a watch on them, that none should

should pass to or fro that was suspected: but for the rest, he chose to work by countermine. His purposes were two; the one, to lay open the abuse; the other, to break the knot of the conspirators. To detect the abuse, there were but two ways; the first, to make it manifest to the world that the duke of *York* was indeed murdered; the other, to prove that were he dead or alive, yet *Perkin* was a counterfeit. For the first, thus it stood. There were but four persons that could speak upon knowledge, to the murder of the duke of *York*; sir *James Tirrel* (the employed man from king *Richard*) *John Dighton*, and *Miles Forrest* his servants (the two butchers or tormentors) and the priest of the tower that buried them. Of which four, *Miles Forrest* and the priest were dead, and there remained alive only sir *James Tirrel* and *John Dighton*. These two the king caused to be committed to the tower, and examined touching the manner of the death of the two innocent princes. They agreed both in a tale, (as the king gave out) to this effect: that king *Richard* having directed his warrant for the putting of them to death, to *Brackenbury* the lieutenant of the tower, was by him refused. Whereupon the king directed his warrant to sir *James Tirrel*, to receive the keys of the tower from the lieutenant (for the space of a night) for the king's special service. That sir *James Tirrel* accordingly repaired to the tower by night, attended by his two servants aforementioned, whom he had chosen for that purpose. That himself stood at the stair-foot, and sent these two villains to execute the murder. That they smothered them in their bed; and that done, called up their master to see their naked dead bodies, which they had laid forth. That they were buried under the stairs, and some stones cast upon them. That when the report was made to king *Richard*, that his will was done, he gave sir *James Tirrel* great thanks, but took exception to the place of their burial, being too base for them that were king's children. Whereupon another night, by the king's warrant renewed, their bodies were removed by the priest of the tower, and buried by him in some place, which (by means of the priest's death soon after) could not be known. Thus much was then delivered abroad, to be the effect of those examinations: but the king, nevertheless, made no use of them in any of his declarations; whereby (as it seems) those examinations left the business somewhat perplexed. And as for sir *James Tirrel*, he was soon after beheaded in the tower yard, for other matters of treason. But *John Dighton* (who it seemeth spake best for the king) was forthwith set at liberty, and was the principal means of divulging this tradition. Therefore this kind of proof being left so naked, the king used the more diligence in the latter, for the tracing of *Perkin*. To this purpose he sent abroad into several parts, and especially into *Flanders*, divers secret and nimble scouts and spies, some feigning themselves to fly over unto *Perkin*, and to adhere unto him; and some under other pretences, to learn, search, and discover all the circumstances and particulars of *Perkin's* parents, birth, person, travels up and down; and in brief, to have a journal (as it were) of his life and doings. He furnished these his employed men liberally with money, to draw on and reward intelligences; giving them also in charge, to advertise continually what they found, and nevertheless still to go on. And ever as one advertisement and discovery called up another, he employed other new men, where the business did require it. Others he employed in a more especial nature and trust, to be his pioneers in the main countermine. These were directed to insinuate themselves into the familiarity and confidence of the principal persons of the party in *Flanders*, and so to learn what

what associates they had, and correspondents, either here in *England*, or abroad; and how far every one engaged, and what new ones they meant afterwards to try or board. And as this for the persons, so for the actions themselves, to discover to the bottom (as they could) the utmost of *Perkin's* and the conspirators, their intentions, hopes, and practices. These latter best-be-trust spies had some of them farther instructions, to practise and draw off the best friends and servants of *Perkin*, by making remonstrance to them, how weakly his enterprize and hopes were built, and with how prudent and potent a king they had to deal; and to reconcile them to the king, with promise of pardon and good conditions of reward. And (above the rest) to assail, sap, and work into the constancy of sir *Robert Clifford*; and to win him (if they could) being the man that knew most of their secrets, and who being won away, would most appall and discourage the rest, and in a manner break the knot.

THERE is a strange tradition; that the king being lost in a wood of suspicions, and not knowing whom to trust, had both intelligence with the confessors and chaplains of divers great men; and for the better credit of his espials abroad with the contrary side, did use to have them cursed at *Paul's*, (by name) amongst the bead-roll of the king's enemies, according to the custom of those times. These espials plied their charge so roundly, as the king had an anatomy of *Perkin* alive; and was likewise well informed of the particular correspondent conspirators in *England*, and many other mysteries were revealed; and sir *Robert Clifford* in especial won to be assured to the king, and industrious and officious for his service. The king therefore (receiving a rich return of his diligence, and great satisfaction touching a number of particulars) first divulged and spread abroad the imposture and juggling of *Perkin's* person and travels, with the circumstances thereof, throughout the realm: not by proclamation, (because things were yet in examination, and so might receive the more or the less) but by court-fables, which commonly print better than printed proclamations. Then he thought it also time to send an embassy unto arch-duke *Philip* into *Flanders*, for the abandoning and dismissing of *Perkin*. Herein he employed sir *Edward Poynings*, and sir *William Warham*, doctor of the canon law. The arch-duke was then young, and governed by his council: before whom the ambassadors had audience; and doctor *Warham* spake in this manner:

My lords, the king our master is very sorry, that *England* and your countrey here of *Flanders*, having been counted as man and wife for so long time; now this countrey of all others should be the stage, where a base counterfeit should play the part of a king of *England*; not only to his grace's disquiet and dishonour, but to the scorn and reproach of all sovereign princes. To counterfeit the dead image of a king in his coin, is an high offence by all laws; but to counterfeit the living image of a king in his person, exceedeth all falsifications, except it should be that of a *Mahomet*, or an *Antichrist*, that counterfeit divine honour. The king hath too great an opinion of this sage council, to think that any of you is caught with this fable, (though way may be given by you to the passion of some) the thing in it self is so improbable. To set testimonies aside of the death of duke *Richard*, which the king hath upon record, plain and infallible, (because they may be thought to be in the king's own power) let the thing testify for it self. Sense and reason no power can command. Is it possible

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(trow you) that king *Richard* should damn his foul, and foul his name with so abominable a murder, and yet not mend his case? Or do you think, that men of blood (that were his instruments) did turn to pity in the midst of their execution? Whereas in cruel and savage beasts, and men also, the first draught of blood doth yet make them more fierce and enraged. Do you not know, that the bloody executioners of tyrants, do go to such errands with an halter about their neck; so that if they perform not, they are sure to die for it? And do you think that these men would hazard their own lives, for sparing another's? Admit they should have saved him; what should they have done with him? Turn him into *London* streets, that the watchmen, or any passenger that should light upon him, might carry him before a justice, and so all come to light? Or should they have kept him by them secretly? That surely would have required a great deal of care, charge, and continual fears. But (my lords) I labour too much in a clear business. The king is so wise, and hath so good friends abroad, as now he knoweth duke *Perkin* from his cradle. And because he is a great prince, if you have any good poet here, he can help him with notes to write his life; and to parallel him with *Lambert Simnel*, now the king's falconer. And therefore (to speak plainly to your lordships) it is the strangest thing in the world, that the lady *Margaret*, (excuse us if we name her, whose malice to the king is both causeless and endless) should now when she is old, at the time when other women give over child-bearing, bring forth two such monsters; being not the births of nine or ten months, but of many years. And whereas other natural mothers bring forth children weak, and not able to help themselves; she bringeth forth tall striplings, able soon after their coming into the world to bid battel to mighty kings. My lords, we stay unwillingly upon this part. We would to God, that lady would once taste the joys which God Almighty doth serve up unto her, in beholding her niece to reign in such honour, and with so much royal issue, which she might be pleased to account as her own. The king's request unto the arch-duke, and your lordships, might be; that according to the example of king *Charles*, who hath already discarded him, you would banish this unworthy fellow out of your dominions. But because the king may justly expect more from an ancient confederate, than from a new reconciled enemy; he maketh his request unto you to deliver him up into his hands: Pirates and impostors of this sort, being fit to be accounted the common enemies of mankind, and no ways to be protected by the law of nations.

AFTER some time of deliberation, the ambassadors received this short answer:

THAT the arch-duke, for the love of king *Henry*, would in no sort aid or assist the pretended duke, but in all things conserve the amity he had with the king: But for the duchess dowager, she was absolute in the lands of her dowry, and that he could not lett her to dispose of her own.

THE king, upon the return of the ambassadors, was nothing satisfied with this answer. For well he knew, that a patrimonial dowry carried no part of sovereignty, or command of forces. Besides, the ambassadors told him plainly, that they saw the duchess had a great party in the arch-duke's counsel; and that howsoever it was carried in a course of connivance, yet the arch-duke underhand gave aid and furtherance to *Perkin*. Wherefore
(partly

(partly out of courage, and partly out of policy) the king forthwith banished all *Flemings* (as well their persons as their wares) out of his kingdom; commanding his subjects likewise (and by name his merchants adventurers) which had a residence in *Antwerp*, to return; translating the mart (which commonly followed the *English* cloth) unto *Calais*; and embargoed also all farther trade for the future. This the king did, being sensible in point of honour, not to suffer a pretender to the crown of *England*, to affront him so near at hand, and he to keep terms of friendship with the countrey where he did set up. But he had also a farther reach: for that he knew well, that the subjects of *Flanders* drew so great commodity from the trade of *England*, as by this embargo they would soon wax weary of *Perkin*; and that the tumults of *Flanders* had been so late and fresh, as it was no time for the prince to displease the people. Nevertheless for form's sake, by way of requital, the arch-duke did likewise banish the *English* out of *Flanders*; which in effect was done to his hand.

THE king being well advertised, that *Perkin* did more trust upon friends and partakers within the realm, than upon foreign arms, thought it behoved him to apply the remedy where the disease lay; and to proceed with severity against some of the principal conspirators here within the realm; thereby to purge the ill humours in *England*, and to cool the hopes in *Flanders*. Wherefore he caused to be apprehended (almost at an instant) *John Ratcliffe* lord *Fitz-walter*, sir *Simon Mountfort*, sir *Thomas Thwaites*, *William D'Aubigney*, *Robert Ratcliffe*, *Thomas Cressenor*, and *Thomas Astwood*. All these were arraigned, convicted, and condemned for high-treason, in adhering and promising aid to *Perkin*. Of these the lord *Fitz-walter* was conveyed to *Calais*, and there kept in hold, and in hope of life, until soon after (either impatient or betrayed) he dealt with his keeper to have escaped, and thereupon was beheaded. But sir *Simon Mountfort*, *Robert Ratcliffe*, and *William D'Aubigney*, were beheaded immediately after their condemnation. The rest were pardoned, together with many others, clerks and laicks, amongst which were two *Dominican* friars, and *William Worfeley* dean of *Paul's*; which latter sort passed examination, but came not to publick trial.

THE lord chamberlain at that time was not touched; whether it were that the king would not stir too many humours at once, but (after the manner of good physicians) purge the head last; or that *Clifford* (from whom most of these discoveries came) reserved that piece for his own coming over; signifying only to the king in the mean time, that he doubted there were some greater ones in the business, whereof he would give the king farther account when he came to his presence.

UPON *Alballows* day even, being now the tenth year of the king's reign, the king's second son *Henry* was created duke of *York*; and as well the duke, as divers others, noblemen, knights-bachelors, and gentlemen of quality, were made knights of the *Bath* according to the ceremony. Upon the morrow after twelfth-day, the king removed from *Westminster*, (where he had kept his *Christmas*) to the tower of *London*. This he did as soon as he had advertisement that sir *Robert Clifford* (in whose bosom or budget most of *Perkin's* secrets were laid up) was come into *England*. And the place of the tower was chosen to that end, that if *Clifford* should accuse any of the great ones, they might without suspicion, or noise, or sending abroad of warrants, be presently attached; the court and prison being within the cincture of one wall. After a day or two, the king drew unto him a selected council

council, and admitted *Clifford* to his presence ; who first fell down at his feet, and in all humble manner craved the king's pardon ; which the king then granted, though he were indeed secretly assured of his life before. Then commanded to tell his knowledge, he did amongst many others (of himself, not interrogated) impeach sir *William Stanley*, the lord chamberlain of the king's household.

THE king seemed to be much amazed at the naming of this lord, as if he had heard the news of some strange and fearful prodigy. To hear a man that had done him service of so high a nature, as to save his life, and set the crown upon his head ; a man, that enjoyed by his favour and advancement, so great a fortune both in honour and riches ; a man, that was tied unto him in so near a band of alliance, his brother having married the king's mother ; and lastly, a man, to whom he had committed the trust of his person, in making him his chamberlain : That this man, no ways disgraced, no ways discontent, no ways put in fear, should be false unto him. *Clifford* was required to say over again and again, the particulars of his accusation ; being warned, that in a matter so unlikely, and that concerned so great a servant of the king's, he should not in any wise go too far. But the king finding that he did sadly and constantly, (without hesitation or varying, and with those civil protestations that were fit) stand to that that he had said, offering to justify it upon his soul and life ; he caused him to be removed. And after he had not a little bemoaned himself unto his council there present, gave order that sir *William Stanley* should be restrained in his own chamber where he lay before, in the square tower : And the next day he was examined by the lords. Upon his examination he denied little of that wherewith he was charged, nor endeavoured much to excuse or extenuate his fault : So that (not very wisely) thinking to make his offence less by confession, he made it enough for condemnation. It was conceived, that he trusted much to his former merits, and the interest that his brother had in the king. But those helps were over-weighed by divers things that made against him, and were predominant in the king's nature and mind. First, an over-merit ; for convenient merit, unto which reward may easily reach, doth best with kings. Next, the sense of his power ; for the king thought, that he that could set him up, was the more dangerous to pull him down. Thirdly, the glimmering of a confiscation ; for he was the richest subject for value in the kingdom : there being found in his castle of *Holt* forty thousand marks in ready money, and plate, besides jewels, household stuff, stocks upon his grounds, and other personal estate, exceeding great. And for his revenue in land and fee, it was three thousand pounds a year of old rent, a great matter in those times. Lastly, the nature of the time ; for if the king had been out of fear of his own estate, it was not unlike he would have spared his life. But the cloud of so great a rebellion hanging over his head, made him work sure. Wherefore after some six weeks distance of time, which the king did honourably interpose, both to give space to his brother's intercession, and to shew to the world that he had a conflict with himself what he should do ; he was arraigned of high-treason, and condemned, and presently after beheaded.

YET is it to this day left but in dark memory, both what the case of this noble person was, for which he suffered ; and what likewise was the ground and cause of his defection, and the alienation of his heart from the king. His case was said to be this ; that in discourse between sir *Robert Clifford* and him, he had said, that if he were sure that that young man were

king *Edward's* son, he would never bear arms against him. This case seems somewhat an hard case, both in respect of the conditional, and in respect of the other words. But for the conditional, it seemeth the judges of that time (who were learned men, and the three chief of them of the privy council) thought it was a dangerous thing to admit *ifs* and *ands*, to qualify words of treason; whereby every man might express his malice, and blanch his danger. And it was like to the case (in the following times) of *Elizabeth Barton*, the holy maid of *Kent*; who had said, that if king *Henry* the eighth did not take *Katharine* his wife again, he should be deprived of his crown, and die the death of a dog. And infinite cases may be put of like nature; which (it seemeth) the grave judges taking into consideration, would not admit of treasons upon condition. And as for the positive words, that he would not bear arms against king *Edward's* son; though the words seem calm, yet it was a plain and direct over-ruling of the king's title, either by the line of *Lancaster*, or by act of parliament: Which (no doubt) pierced the king more, than if *Stanley* had charged his lance upon him in the field. For if *Stanley* would hold that opinion, that a son of king *Edward* had still the better right, he being so principal a person of authority and favour about the king, it was to teach all *England* to say as much. And therefore (as those times were) that speech touched the quick. But some writers do put this out of doubt; for they say, that *Stanley* did expressly promise to aid *Perkin*, and sent him some help of treasure.

Now for the motive of his falling off from the king; it is true, that at *Bosworth* field the king was beset, and in a manner inclosed round about by the troops of king *Richard*, and in manifest danger of his life; when this *Stanley* was sent by his brother, with three thousand men to his rescue, which he performed so, that king *Richard* was slain upon the place. So as the condition of mortal men is not capable of a greater benefit, than the king received by the hands of *Stanley*; being like the benefit of *Christ*, at once to save and crown. For which service the king gave him great gifts, made him his counsellor and chamberlain; and (somewhat contrary to his nature) had winked at the great spoils of *Bosworth* field, which came almost wholly to this man's hands, to his infinite enriching. Yet nevertheless blown up with the conceit of his merit, he did not think he had received good measure from the king, at least not pressing down, and running over, as he expected. And his ambition was so exorbitant and unbounded, as he became suitor to the king for the earldom of *Chester*: which ever being a kind of appennage to the principality of *Wales*, and using to go to the king's son, his suit did not only end in a denial, but in a distaste: The king perceiving thereby, that his desires were intemperate, and his cogitations vast and irregular, and that his former benefits were but cheap, and lightly regarded by him. Wherefore the king began not to brook him well. And as a little leaven of new distaste, doth commonly sour the whole lump of former merits; the king's wit began now to suggest unto his passion, that *Stanley* at *Bosworth* field, though he came time enough to save his life, yet he stayed long enough to endanger it. But yet having no matter against him, he continued him in his places until this his fall.

AFTER him was made lord chamberlain, *Giles* lord *D'Aubigny*, a man of great sufficiency and valour; the more because he was gentle and moderate.

THERE was a common opinion, that sir *Robert Clifford* (who now was become the state informer) was from the beginning an emissary and spy of the

the king's; and that he fled over into *Flanders* with his consent and privy. But this is not probable; both because he never recovered that degree of grace, which he had with the king before his going over; and chiefly, for that the discovery which he had made touching the lord chamberlain, (which was his great service) grew not from any thing he learn'd abroad, for that he knew it well before he went.

THESE executions (and especially that of the lord chamberlain's, which was the chief strength of the party, and by means of sir *Robert Clifford*, who was the most inward man of trust amongst them) did extremely quail the design of *Perkin*, and his complices, as well through discouragement as distrust. So that they were now (like sand without lime) ill bound together; especially as many as were *English*, who were at a gaze, looking strange one upon another, not knowing who was faithful to their side; but thinking, that the king (what with his baits, and what with his nets) would draw them all unto him that were any thing worth. And indeed it came to pass, that divers came away by the thread, sometimes one, and sometimes another. *Barley* (that was joint commissioner with *Clifford*) did hold out one of the longest, till *Perkin* was far won; yet made his peace at the length. But the fall of this great man, being in so high authority and favour (as was thought) with the king; and the manner of carriage of the business, as if there had been secret inquisition upon him for a great time before; and the cause for which he suffered, which was little more than for saying in effect, that the title of *York* was better than the title of *Lancaster*; which was the case almost of every man (at the least in opinion;) was matter of great terror amongst all the king's servants and subjects; inso-much as no man almost thought himself secure, and men durst scarce commune or talk one with another, but there was a general diffidence every where: Which nevertheless made the king rather more absolute, than more safe. For bleeding inwards, and shut vapours, strangle soonest, and oppress most.

HEREUPON presently came forth swarms and vollies of libels, (which are the gusts of liberty of speech restrained, and the females of sedition) containing bitter invectives and slanders against the king, and some of the council: For the contriving and dispersing whereof (after great diligence of enquiry) five mean persons were caught up and executed.

MEAN while the king did not neglect *Ireland*, being the soil where these mushrooms and upstart weeds (that spring up in a night) did chiefly prosper. He sent therefore from hence (for the better settling of his affairs there) commissioners of both robes, the prior of *Lanthony*, to be his chancellor in that kingdom; and sir *Edward Poynings*, with a power of men, and a martial commission, together with a civil power of his lieutenant, with a clause, that the earl of *Kildare*, then deputy, should obey him. But the wild *Irish* (who were the principal offenders) fled into the woods and bogs, after their manner; and those that knew themselves guilty in the pale fled to them. So that sir *Edward Poynings* was enforced to make a wild chase upon the wild *Irish*: Where (in respect of the mountains and fastnesses) he did little good. Which (either out of a suspicious melancholy upon his bad success, or the better to save his service from disgrace) he would needs impute unto the comfort that the rebels should receive underhand from the earl of *Kildare*; every light suspicion growing upon the earl, in respect of the *Kildare* that was in the action of *Lambert Simnel*, and slain at *Stokefield*. Wherefore he caused the earl to be apprehended, and

sent into *England*; where, upon examination, he cleared himself so well, as he was replaced in his government. But *Poynings* (the better to make compensation of the meagerness of his service in the wars by acts of peace) called a parliament; where was made that memorable act, which at this day is called *Poyning's law*, whereby all the statutes of *England* were made to be of force in *Ireland*: For before they were not, neither are any now in force in *Ireland*, which were made in *England* since that time; which was the tenth year of the king.

ABOUT this time began to be discovered in the king that disposition, which afterward nourished and whet on by bad counsellors and ministers, proved the blot of his times; which was the course he took to crush treasure out of his subjects purses, by forfeitures upon penal laws: At this men did startle the more at this time, because it appeared plainly to be in the king's nature, and not out of his necessity, he being now in float for treasure: For that he had newly received the peace-money from *France*, the benevolence-money from his subjects, and great casualties upon the confiscations of the lord chamberlain, and divers others. The first noted case of this kind, was that of sir *William Capel*, alderman of *London*; who upon sundry penal laws, was condemned in the sum of seven and twenty hundred pounds, and compounded with the king for sixteen hundred: And yet after, *Empson* would have cut another chop out of him, if the king had not died in the instant.

THE summer following, the king, to comfort his mother, (whom he did always tenderly love and revere) to make demonstration to the world, that the proceedings against Sir *William Stanley* (which was imposed upon him by necessity of state) had not in any degree diminished the affection he bare to *Thomas* his Brother, went in progress to *Latham*, to make merry with his mother and the earl, and lay there divers days.

DURING this progress, *Perkin Warbeck* finding that time and temporizing, which (whilst his practices were covert, and wrought well in *England*) made for him; did now, when they were discovered and defeated, rather make against him, (for that when matters once go down the hill, they stay not without a new force) resolved to try his adventure in some exploit upon *England*; hoping still upon the affections of the common people towards the house of *York*. Which body of common people he thought was not to be practised upon, as persons of quality are; but that the only practice upon their affections, was to set up a standard in the field. The place where he should make his attempt, he chose to be the coast of *Kent*.

THE king by this time was grown to such a height of reputation for cunning and policy, that every accident and event that went well, was laid and imputed to his foresight, as if he had set it before: as in this particular of *Perkin's* design upon *Kent*. For the world would not believe afterwards, but the king having secret intelligence of *Perkin's* intention for *Kent*, (the better to draw it on) went of purpose into the north afar off, laying an open side unto *Perkin*, to make him come to the close, and so to trip up his heels, having made sure in *Kent* before hand.

BUT so it was, that *Perkin* had gathered together a power of all nations, neither in number, nor in the hardness and courage of the persons, contemptible, but in their nature and fortunes to be feared, as well of friends as enemies; being bankrupts, and many of them felons, and such as lived by rapine. These he put to sea, and arrived upon the coast of *Sandwich*, and *Deal* in *Kent*, about *July*.

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THERE he cast anchor, and to prove the affections of the people, sent some of his men to land, making great boasts of the power that was to follow. The *Kentish* men perceiving, that *Perkin* was not followed by any *English* of name or account, and that his forces consisted but of strangers born, and most of them base people and free-booters, fitter to spoil a coast, than to recover a kingdom; resorting unto the principal gentlemen of the countrey, professed their loyalty to the king, and desired to be directed and commanded for the best of the king's service. The gentlemen entering into consultation, directed some forces in good number to shew themselves upon the coast; and some of them to make signs to entice *Perkin's* soldiers to land, as if they would join with them; and some others to appear from some other places, and to make semblance as if they fled from them, the better to encourage them to land. But *Perkin*, (who by playing the prince, or else taught by secretary *Frion*, had learned thus much; that people under command, do use to consult, and after to march in order, and rebels contrariwise run upon an head together in confusion) considering the delay of time, and observing their orderly, and not tumultuary arming, doubted the worst. And therefore the wily youth would not set one foot out of his ship, till he might see things were sure. Wherefore the king's forces perceiving, that they could draw on no more than those that were formerly landed, set upon them and cut them in pieces, e'er they could fly back to their ships. In which skirmish (besides those that fled and were slain) there were taken about an hundred and fifty persons. Which, for that the king thought, that to punish a few for example was gentleman's pay; but for raskal-people, they were to cut off every man, especially in the beginning of an enterprize; and likewise for that he saw, that *Perkin's* forces would now consist chiefly of such rabble and scum of desperate people, he therefore hanged them all for the greater terror. They were brought to *London* all rail'd in ropes, like a team of horses in a cart, and were executed some of them at *London* and *Wapping*, and the rest at divers places upon the sea-coast of *Kent*, *Suffex* and *Norfolk*, for sea-marks, or light-houses, to teach *Perkin's* people to avoid the coast. The king being advertised of the landing of the rebels, thought to leave his progress: But being certified the next day, that they were partly defeated, and partly fled, he continued his progress, and sent sir *Richard Guildford* into *Kent* in message; who calling the countrey together, did much commend from the king their fidelity, manhood, and well handling of that service; and gave them all thanks, and (in private) promised reward to some particulars.

UPON the sixteenth of *November*, (this being the eleventh year of the king) was holden the serjeants feast at *Ely* place, there being nine serjeants of that call. The king to honour the feast, was present with his queen at the dinner; being a prince that was ever ready to grace and countenance the professors of the law; having a little of that, that as he governed his subjects by his laws, so he governed his laws by his lawyers.

THIS year also the king entered into league with the *Italian* potentates for the defence of *Italy* against *France*. For king *Charles* had conquered the realm of *Naples*, and lost it again, in a kind of felicity of a dream. He passed the whole length of *Italy* without resistance; so that it was true which pope *Alexander* was wont to say, that the *Frenchmen* came into *Italy* with chalk in their hands, to mark up their lodgings, rather than with swords to fight. He likewise entered and won (in effect) the whole kingdom of *Naples* it self, without striking stroke. But presently thereupon he did commit
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and multiply so many errors, as was too great a task for the best fortune to overcome. He gave no contentment to the barons of *Naples*, of the faction of the *Angeovines*; but scattered his rewards according to the mercenary appetites of some about him. He put all *Italy* upon their guard, by the seizing and holding of *Ostia*, and the protecting of the liberty of *Pisa*; which made all men suspect, that his purposes looked farther than his title of *Naples*. He fell too soon at difference with *Ludovico Sfortia*, who was the man that carried the keys which brought him in and shut him out. He neglected to extinguish some relicks of the war. And lastly, in regard of his easy passage through *Italy* without resistance, he enter'd into an over-much despising of the arms of the *Italians*; whereby he left the realm of *Naples* at his departure so much the less provided. So that not long after his return, the whole kingdom revolted to *Ferdinando* the younger, and the *French* were quite driven out. Nevertheless *Charles* did make both great threats, and great preparations to re-enter *Italy* once again. Wherefore at the instance of divers of the states of *Italy*, (and especially of pope *Alexander*) there was a league concluded between the said pope, *Maximilian* king of the *Romans*, *Henry* king of *England*, *Ferdinando* and *Isabella* king and queen of *Spain*, (for so they are constantly placed in the original treaty throughout) *Augustino Barbado* duke of *Venice*, and *Ludovico Sfortia* duke of *Milan*, for the common defence of their estates: Wherein though *Ferdinando* of *Naples* was not named as principal, yet (no doubt) the kingdom of *Naples* was tacitly included, as a fee of the church.

THERE died also this year *Cecile* duchess of *York*, mother to king *Edward* the fourth, at her castle of *Barkhamsted*, being of extream years, and who had lived to see three princes of her body crowned, and four murdered. She was buried at *Foderingham*, by her husband.

THIS year also the king called his parliament, where many laws were made of a more private and vulgar nature, than ought to detain the reader of an history. And it may be justly suspected by the proceedings following, that as the king did excel in good common-wealth laws, so nevertheless he had (in secret) a design to make use of them, as well for collecting of treasure, as for correcting of manners; and so meaning thereby to harrow his people, did accumulate them the rather.

THE principal law that was made this parliament, was a law of a strange nature; rather just than legal; and more magnanimous than provident. This law did ordain; that no person that did assist in arms, or otherwise, the king for the time being, should after be impeached therefore, or attainted, either by the course of the law, or by act of parliament. But if any such act of attainder did happen to be made, it should be void and of none effect; for that it was agreeable to reason of estate, that the subject should not enquire of the justness of the king's title, or quarrel; and it was agreeable to good conscience, that (whatsoever the fortune of the war were) the subject should not suffer for his obedience. The spirit of this law was wonderful pious and noble, being like in matter of war, unto the spirit of *David* in matter of plague; who said, *If I have sinned, strike me; but what have these sheep done?* Neither wanted this law parts of prudent and deep foresight: For it did the better take away occasion for the people to busy themselves to pry into the king's title; for that howsoever it fell, their safety was already provided for. Besides, it could not but greatly draw unto him the love and hearts of the people, because he seemed more careful for them than for himself. But yet nevertheless it did take off from his party that

that great tie and spur of necessity, to fight and go victors out of the field; considering their lives and fortunes were put in safety and protected, whether they stood to it, or ran away. But the force and obligation of this law was in it self illusory, as to the latter part of it, by a precedent act of parliament to bind or frustrate a future. For a supreme and absolute power cannot conclude it self, neither can that which is in nature revocable be made fixed, no more than if a man should appoint or declare by his will, that if he made any latter will it should be void. And for the case of the act of parliament, there is a notable precedent of it in king *Henry* the eighth's time; who doubting he might die in the minority of his son, procured an act to pass, that no statute made during the minority of the king, should bind him or his successors, except it were confirmed by the king under his great seal, at his full age. But the first act that passed in king *Edward* the sixth's time, was an act of repeal of that former act; at which time nevertheless the king was *minor*. But things that do not bind, may satisfy for the time.

THERE was also made a shoaring or under-propping act for the benevolence; to make the sums which any person had agreed to pay, and nevertheless were not brought in, to be leviable by course of law. Which act did not only bring in the arrears, but did indeed countenance the whole business, and was pretended to be made at the desire of those that had been forward to pay.

IN this parliament also was made that good law, which gave the attain upon a false verdict between party and party, which before was a kind of evangely, and irremediable. It extends not to causes capital, as well because they are for the most part at the king's suit; as because in them (if they be followed in course of indictment) there passeth a double jury, the indictors, and the tryers; and so not twelve men, but four and twenty. But it seemeth that was not the only reason; for this reason holdeth not in the appeal. But the great reason was, lest it should tend to the discouragement of jurors in cases of life and death; if they should be subject to suit and penalty, where the favour of life maketh against them. It extendeth not also to any suit, where the demand is under the value of forty pounds; for that in such cases of petty value, it would not quit the charge, to go about again.

THERE was another law made against a branch of ingratitude in women, who having been advanced by their husbands, or their husbands ancestors, should alien, and thereby seek to defeat the heirs, or those in remainder, of the lands, whereunto they had been so advanced. The remedy was, by giving power to the next, to enter for a forfeiture.

THERE was also enacted that charitable law, for the admission of poor suitors *in forma pauperis*, without fee to counsellor, attorney or clerk, whereby poor men became rather able to vex, than unable to sue. There were divers other good laws made that parliament, as we said before: but we still observe our manner, in selecting out those, that are not of a vulgar nature.

THE king this while, though he sat in parliament, as in full peace, and seemed to account of the designs of *Perkin*, (who was now returned into *Flanders*,) but as a may-game; yet having the composition of a wise king, (stout without, and apprehensive within,) had given order for the watching of beacons upon the coasts, and erecting more where they stood too thin, and had a careful eye where this wandering cloud would break. But *Perkin* advised

advised to keep his fire (which hitherto burned as it were upon green wood) alive with continual blowing ; failed again into *Ireland*, whence he had formerly departed, rather upon the hopes of *France*, than upon any unreasonableness or discouragement he found in that people. But in the space of time between, the king's diligence and *Poyning's* commission had so settled things there, as there was nothing left for *Perkin*, but the blustering affection of wild and naked people. Wherefore he was advised by his council, to seek aid of the king of *Scotland*, a prince young and valorous, and in good terms with his nobles and people, and ill affected to king *Henry*. At this time also both *Maximilian* and *Charles* of *France* began to bear no good will to the king : the one being displeased with the king's prohibition of commerce with *Flanders* ; the other holding the king for suspect, in regard of his late entry into league with the *Italians*. Wherefore, besides the open aids of the dukes of *Burgundy*, which did with sails and oars put on and advance *Perkin's* designs, there wanted not some secret tides from *Maximilian* and *Charles*, which did further his fortunes : insomuch as they, both by their secret letters and messages, recommended him to the king of *Scotland*.

PERKIN therefore coming into *Scotland* upon those hopes, with a well-appointed company, was by the king of *Scots* (being formerly well prepared) honourably welcomed, and soon after his arrival admitted to his presence, in a solemn manner : for the king received him in state in his chamber of presence, accompanied with divers of his nobles. And *Perkin* well attended, as well with those that the king had sent before him, as with his own train, enter'd the room where the king was, and coming near to the king, and bowing a little to embrace him, he retired some paces back, and with a loud voice (that all that were present might hear him) made his declaration in this manner :

HIGH and mighty king, your grace, and these your nobles here present, may be pleased benignly to bow your ears, to hear the tragedy of a young man, that by right ought to hold in his hand the ball of a kingdom ; but by fortune is made himself a ball, tossed from misery to misery, and from place to place. You see here before you the spectacle of a *Plantagenet*, who hath been carried from the nursery to the sanctuary ; from the sanctuary, to the direful prison ; from the prison, to the hand of the cruel tormentor ; and from that hand, to the wide wilderness (as I may truly call it ;) for so the world hath been to me. So that he that is born to a great kingdom, hath not ground to set his foot upon, more than this where he now standeth, by your princely favour. *Edward* the fourth, late king of *England*, (as your grace cannot but have heard,) left two sons, *Edward*, and *Richard* duke of *York*, both very young. *Edward* the eldest succeeded their father in the crown, by the name of king *Edward* the fifth : but *Richard* duke of *Gloucester*, their unnatural uncle, first thirsting after the kingdom, through ambition, and afterwards thirsting for their blood, out of desire to secure himself, employed an instrument of his (confident to him, as he thought) to murder them both. But this man that was employed to execute that execrable tragedy, having cruelly slain king *Edward*, the eldest of the two, was moved partly by remorse, and partly by some other mean, to save *Richard* his brother ; making a report nevertheless to the tyrant, that he had performed his commandment for both brethren. This report was accordingly believed, and published generally : So that the world hath been possessed

possessed of an opinion, that they both were barbarously made away ; tho' ever truth hath some sparks that fly abroad, until it appear in due time, as this hath had. But Almighty God, that stopped the mouth of the lion, and saved little *Joash* from the tyranny of *Athaliah*, when she massacred the king's children ; and did save *Isaac*, when the hand was stretched forth to sacrifice him ; preserved the second brother. For I my self, that stand here in your presence, am that very *Richard* duke of *York*, brother of that unfortunate prince king *Edward* the fifth, now the most rightful surviving heir male to that victorious and most noble *Edward* of that name the fourth, late king of *England*. For the manner of my escape, it is fit it should pass in silence, or (at least) in a more secret relation ; for that it may concern some alive, and the memory of some that are dead. Let it suffice to think, that I had then a mother living, a queen, and one that had expected daily such a commandment from the tyrant, for the murdering of her children. Thus in my tender age escaping by God's mercy out of *London*, I was secretly conveyed over sea : Where, after a time, the party that had me in charge (upon what new fears, change of mind, or practice, God knoweth) suddenly forsook me. Whereby I was forced to wander abroad, and to seek mean conditions for the sustaining of my life. Wherefore distracted between several passions, the one of fear to be known, lest the tyrant should have a new attempt upon me ; the other of grief and disdain to be unknown, and to live in that base and servile manner that I did ; I resolved with my self to expect the tyrant's death, and then to put my self into my sister's hands, who was next heir to the crown. But in this season it happened one *Henry Tudor*, son to *Edmund Tudor* earl of *Richmond*, to come from *France* and enter into the realm, and by subtle and foul means to obtain the crown of the same, which to me rightfully appertained : So that it was but a change from tyrant to tyrant. This *Henry*, my extreme and mortal enemy, so soon as he had knowledge of my being alive, imagined and wrought all the subtle ways and means he could, to procure my final destruction : For my mortal enemy hath not only falsely surmised me to be a feigned person, giving me nick-names, so abusing the world ; but also, to defer and put me from entry into *England*, hath offered large sums of money to corrupt the princes and their ministers, with whom I have been retained ; and made importune labours to certain servants about my person, to murder or poison me, and others to forsake and leave my righteous quarrel, and to depart from my service, as sir *Robert Clifford*, and others. So that every man of reason may well perceive, that *Henry*, calling himself king of *England*, needed not to have bestowed such great sums of treasure, nor so to have busied himself with importune and incessant labour and industry, to compass my death and ruin, if I had been such a feigned person. But the truth of my cause being so manifest, moved the most Christian king *Charles*, and the lady duchess dowager of *Burgundy* my most dear aunt, not only to acknowledge the truth thereof, but lovingly to assist me. But it seemeth that God above (for the good of this whole island, and the knitting of these two kingdoms of *England* and *Scotland* in a strait concord and amity, by so great an obligation) hath reserved the placing of me in the imperial throne of *England*, for the arms and succours of your grace. Neither is it the first time that a king of *Scotland* hath supported them that were bereft and spoiled of the kingdom of *England*, as of late (in fresh memory) it was done in the person of *Henry* the sixth. Wherefore, for that your grace hath given clear signs, that you are in no noble quality inferior to your royal

ancestors; I, so distressed a prince, was hereby moved to come and put my self into your royal hands, desiring your assistance to recover my kingdom of *England*; promising faithfully to bear my self towards your grace no otherwise, than if I were your own natural brother; and will upon the recovery of mine inheritance, gratefully do you all the pleasure that is in my utmost power.

AFTER *Perkin* had told his tale, king *James* answered bravely and wisely; that whatsoever he were, should not repent him of putting himself into his hands. And from that time forth, though there wanted not some about him, that would have persuaded him, that all was but an illusion; yet notwithstanding, either taken by *Perkin's* amiable and alluring behaviour, or inclining to the recommendation of the great princes abroad, or willing to take an occasion of a war against king *Henry*, he entertained him in all things, as became the person of *Richard* duke of *York*; embraced his quarrel; and (the more to put it out of doubt, that he took him to be a great prince, and not a representation only) he gave consent, that this duke should take to wife the lady *Katharine Gordon*, daughter to the earl of *Huntley*, being a near kinswoman to the king himself, and a young virgin of excellent beauty and virtue.

NOT long after the king of *Scots* in person, with *Perkin* in his company, enter'd with a great army (though it consisted chiefly of borderers, being raised somewhat suddenly) into *Northumberland*. And *Perkin*, for a perfume before him as he went, caused to be published a (a) proclamation of this tenor following, in the name of *Richard* duke of *York*, true inheritor of the crown of *England*.

IT hath pleased God, who putteth down the mighty from their seat, and exalteth the humble, and suffereth not the hopes of the just to perish in the end, to give us means at the length to shew our selves armed unto our lieges and people of *England*. But far be it from us to intend their hurt or damage, or to make war upon them, otherwise than to deliver our self and them from tyranny and oppression. For our mortal enemy *Henry Tudor*, a false usurper of the crown of *England*, (which to us by natural and lineal right appertaineth) knowing in his own heart our undoubted right, (we being the very *Richard* duke of *York*, younger son, and now surviving heir male of the noble and victorious *Edward* the fourth, late king of *England*) hath not only deprived us of our kingdom, but likewise by all foul and wicked means sought to betray us, and bereave us of our life. Yet if his tyranny only extended it self to our person, (although our royal blood teacheth us to be sensible of injuries) it should be less to our grief. But this *Tudor*, who boasteth himself to have overthrown a tyrant, hath ever since his first entrance into his usurped reign, put little in practice, but tyranny and the feats thereof.

FOR king *Richard*, our unnatural uncle, although desire of rule did blind him, yet in his other actions (like a true *Plantagenet*) was noble and loved the honour of the realm, and the contentment and comfort of his nobles and people. But this our mortal enemy (agreeable to the meanness of his birth) hath trodden under foot the honour of this nation; selling our best

(a) The original of this proclamation remaineth with sir *Robert Cotton*, a worthy preserver and treasurer of rare antiquities: from whose manuscripts I have had much light for the furnishing of this work.

confederates for money, and making merchandize of the blood, estates, and fortunes of our peers and subjects, by feigned wars, and dishonourable peace, only to enrich his coffers. Nor unlike hath been his hateful misgovernment, and evil deportments at home. First, he hath (to fortify his false quarrel) caused divers nobles of this our realm (whom he held suspect and stood in dread of) to be cruelly murdered; as our cousin sir *William Stanley*, lord chamberlain, sir *Simon Mountfort*, sir *Robert Ratcliffe*, *William D'Aubigny*, *Humfrey Stafford*, and many others; besides such as have dearly bought their lives with intolerable ransoms: Some of which nobles are now in the sanctuary. Also he hath long kept, and yet keepeth in prison, our right entirely well-beloved cousin, *Edward*, son and heir to our uncle duke of *Clarence*, and others; with-holding from them their rightful inheritance, to the intent they should never be of might and power, to aid and assist us at our need, after the duty of their legiances. He also married by compulsion certain of our sisters, and also the sister of our said cousin the earl of *Warwick*, and divers other ladies of the royal blood, unto certain of his kinsmen and friends of simple and low degree; and putting a-part all well-disposed nobles, he hath none in favour and trust about his person, but bishop *Fox*, *Smith*, *Bray*, *Lovel*, *Oliver King*, *David Owen*, *Riseley*, *Turbervile*, *Tiler*, *Cholmley*, *Empson*, *James Hobart*, *John Cut*, *Garth*, *Henry Wyat*, and such other caitifs and villains of birth, which by subtile inventions, and pilling of the people, have been the principal finders, occasioners, and counsellors of the mis-rule and mischief now reigning in *England*.

WE remembring these premisses, with the great and execrable offences daily committed, and done by our foresaid great enemy, and his adherents, in breaking the liberties and franchises of our mother the holy church, upon pretences of wicked and heathenish policy, to the high displeasure of Almighty God, besides the manifold treasons, abominable murders, man-slaughters, robberies, extortions, the daily pilling of the people by dismes, taxes, tallages, benevolences, and other unlawful impositions, and grievous exactions, with many other heinous effects, to the likely destruction and desolation of the whole realm: shall by God's grace, and the help and assistance of the great lords of our blood, with the counsel of other said persons, see that the commodities of our realm be employed to the most advantage of the same; the intercourse of merchandise betwixt realm and realm, to be ministred and handled as shall more be to the common-weal and prosperity of our subjects; and all such dismes, taxes, tallages, benevolences, unlawful impositions, and grievous exactions, as be above rehearsed, to be foredone and laid apart, and never from henceforth to be called upon, but in such cases as our noble progenitors, kings of *England*, have of old time been accustomed to have the aid, succour, and help of their subjects, and true liege-men.

AND farther, we do out of our grace and clemency, hereby as well publish and promise to all our subjects remission and free pardon of all by-past offences whatsoever, against our person and estate, in adhering to our said enemy, by whom (we know well) they have been misled, if they shall within time convenient submit themselves unto us. And for such as shall come with the foremost to assist our righteous quarrel, we shall make them so far partakers of our princely favour and bounty, as shall be highly for the comfort of them and theirs, both during their life, and after their death: As also we shall by all means which God shall put into our hands, demean our selves to give royal contentment to all degrees and estates of

our people, maintaining the liberties of holy church in their entire, preferring the honours, privileges, and preheminences of our nobles, from contempt or disparagement, according to the dignity of their blood. We shall also unyoke our people from all heavy burdens and endurances, and confirm our cities, boroughs, and towns, in their charters and freedoms, with enlargement where it shall be deserved; and in all points give our subjects cause to think, that the blessed and debonair government of our noble father king *Edward* (in his last times) is in us revived.

AND forasmuch as the putting to death, or taking alive of our said mortal enemy, may be a mean to stay much effusion of blood, which otherwise may ensue, if by compulsion or fair promises he shall draw after him any number of our subjects to resist us, which we desire to avoid, (though we be certainly informed, that our said enemy is purposed and prepared to fly the land, having already made over great masses of the treasure of our crown, the better to support him in foreign parts) we do hereby declare, that whosoever shall take or distress our said enemy, (though the party be of never so mean a condition) he shall be by us rewarded with a thousand pound in money, forthwith to be laid down to him, and an hundred marks by the year of inheritance; besides that he may otherwise merit, both toward God, and all good people, for the destruction of such a tyrant.

LASTLY, we do all men to wit, and herein we take also God to witness, that whereas God hath moved the heart of our dearest cousin, the king of *Scotland*, to aid us in person in this our righteous quarrel; it is altogether without any pact or promise, or so much as demand of any thing that may prejudice our crown or subjects: but contrariwise, with promise on our said cousin's part, that whensoever he shall find us in sufficient strength to get the upper hand of our enemy, (which we hope will be very suddenly) he will forthwith peaceably return into his own kingdom; contenting himself only with the glory of so honourable an enterprize, and our true and faithful love and amity: which we shall ever (by the grace of Almighty God) so order, as shall be to the great comfort of both kingdoms.

BUT *Perkin's* proclamation did little edify with the people of *England*; neither was he the better welcome for the company he came in. Wherefore the king of *Scotland* seeing none came in to *Perkin*, nor none stirred any where in his favour, turned his enterprize into a road; and wasted and destroyed the countrey of *Northumberland* with fire and sword. But hearing that there were forces coming against him, and not willing that they should find his men heavy and laden with booty, he returned into *Scotland* with great spoils, deferring farther prosecution till another time. It is said, that *Perkin* acting the part of a prince handsomely, when he saw the *Scotish* fell to waste the countrey, came to the king in a passionate manner, making great lamentation, and desired, that that might not be the manner of making the war; for that no crown was so dear to his mind, as that he desired to purchase it with the blood and ruin of his countrey. Whereunto the king answered half in sport, that he doubted much he was careful for that that was none of his, and that he should be too good a *Steward* for his enemy, to save the country to his use.

By this time, being the eleventh year of the king, the interruption of trade between the *English* and the *Flemish*, began to pinch the merchants of both nations very sore: which moved them by all means they could devise, to affect and dispose their sovereigns respectively, to open the intercourse

course again; wherein time favoured them. For the Arch-duke and his council began to see, that *Perkin* would prove but a runagate, and citizen of the world; and that it was the part of children to fall out about babies. And the king on his part, after the attempts upon *Kent* and *Northumberland*, began to have the business of *Perkin* in less estimation; so as he did not put it to account in any consultation of state. But that that moved him most, was, that being a king that loved wealth and treasure, he could not endure to have trade sick, nor any obstruction to continue in the gate-vein, which disperseth that blood. And yet he kept state so far, as first to be fought unto. Wherein the merchant-adventurers likewise, (being a strong company at that time, and well under-set with rich men, and good order) did hold out bravely; taking off the commodities of the kingdom, though they lay dead upon their hands for want of vent. At the last, commissioners met at *London* to treat: On the king's part, bishop *Fox* lord privy seal, viscount *Wells*, *Kendal* prior of saint *John's*, *Warham* master of the rolls, who began to gain much upon the king's opinion; *Urswick*, who was almost ever one; and *Riseley*: On the arch-duke's part, the lord *Bewers* his admiral, the lord *Verunsel* president of *Flanders*, and others. These concluded a perfect treaty, both of amity and intercourse, between the king and the arch-duke; containing articles both of state, commerce, and free fishing. This is that treaty which the *Flemings* call at this day *intercurfus magnus*; both because it is more compleat than the precedent treaties of the third and fourth year of the king; and chiefly, to give it a difference from the treaty that followed in the one and twentieth year of the king, which they call *intercurfus malus*. In this treaty, there was an express article against the reception of the rebels of either prince by other; purporting, that if any such rebel should be required, by the prince whose rebel he was, of the prince confederate, that forthwith the prince confederate should by proclamation command him to avoid the countrey: which if he did not within fifteen days, the rebel was to stand proscribed, and put out of protection. But nevertheless in this article *Perkin* was not named; neither perhaps contained, because he was no rebel. But by this means his wings were clipt of his followers that were *English*. And it was expressly comprised in the treaty, that it should extend to the territories of the duchess dowager. After the intercourse thus restored, the *English* merchants came again to their mansion at *Antwerp*, where they were received with procession and great joy.

THE winter following, being the twelfth year of his reign, the king called again his parliament: where he did much exaggerate both the malice, and the cruel predatory war lately made by the king of *Scotland*: That that king, being in amity with him, and no ways provoked, should so burn in hatred towards him, as to drink of the lees and dregs of *Perkin's* intoxication, who was every where else detected and discarded: And that when he perceived it was out of his reach to do the king any hurt, he had turned his arms upon unarmed and unprovided people, to spoil only and depopulate, contrary to the laws both of war and peace: Concluding that he could neither with honour, nor with the safety of his people, to whom he did owe protection, let pass these wrongs unrevenged. The parliament understood him well, and gave him a subsidy, limited to the sum of one hundred and twenty thousand pounds, besides two fifteens: For his wars were always to him as a mine of treasure, of a strange kind of ore; iron at the top, and gold and silver at the bottom. At this parliament (for that there

there had been so much time spent in making laws the year before, and for that it was called purposely in respect of the *Scottish* war) there were no laws made to be remembred. Only there passed a law, at the suit of the merchant-adventurers of *England*, against the merchant-adventurers of *London*, for monopolizing and exacting upon the trade: which it seemeth they did a little to save themselves, after the hard time they had sustained by want of trade. But those innovations were taken away by parliament.

BUT it was fatal to the king to fight for his money; and though he avoided to fight with enemies abroad, yet he was still enforced to fight for it with rebels at home: For no sooner began the subsidy to be levied in *Cornwal*, but the people there began to grudge and murmur. The *Cornish* being a race of men, stout of stomach, mighty of body and limb, and that lived hardly in a barren countrey, and many of them could (for a need) live under ground, that were tanners. They muttered extremely, that it was a thing not to suffered, that for a little stir of the *Scots*, soon blown over, they should be thus grinded to powder with payments: and said it was for them to pay that had too much, and lived idly. But they would eat their bread that they got with the sweat of their brows, and no man should take it from them. And as in the tides of people once up, there want not commonly stirring winds to make them more rough; so this people did light upon two ringleaders, or captains of the rout. The one was *Michael Joseph*, a blacksmith or farrier of *Bodmin*, a notable talking fellow, and no less desirous to be talked of. The other was *Thomas Flammock*, a lawyer, that by telling his neighbours commonly upon any occasion that the law was on their side, had gotten great sway amongst them. This man talked learnedly, and as if he could tell how to make a rebellion, and never break the peace. He told the people, that subsidies were not to be granted, nor levied in this case; that is, for wars of *Scotland*: For that the law had provided another course, by service of escuage, for those journeys; much less when all was quiet, and war was made but a pretence to poll and pill the people. And therefore that it was good that they should not stand like sheep before the shearers, but put on harness, and take weapons in their hands. Yet to do no creature hurt; but go and deliver the king a strong petition, for the laying down of those grievous payments, and for the punishment of those that had given him that council; to make others beware how they did the like in time to come. And said, for his part he did not see how they could do the duty of true *Englishmen*, and good liege-men, except they did deliver the king from such wicked ones, that would destroy both him and the countrey. Their aim was at archbishop *Morton*, and sir *Reginald Bray*, who were the king's screens in this envy.

AFTER that these two, *Flammock* and the blacksmith, had by joint and several pratings, found tokens of consent in the multitude, they offered themselves to lead them, until they should hear of better men to be their leaders, which they said would be e'er long: Telling them farther, that they would be but their servants, and first in every danger; but doubted not but to make both the west-end and the east-end of *England* to meet in so good a quarrel; and that all (rightly understood) was but for the king's service. The people upon these seditious instigations, did arm, (most of them with bows, and arrows, and bills, and such other weapons of rude and countrey people) and forthwith under the command of their leaders, (which in such cases is ever at pleasure) marched out of *Cornwal* through *Devonshire*,

shire, unto *Taunton* in *Somerſetſhire*, without any ſlaughter, violence, or ſpoil of the countrey. At *Taunton* they killed in fury an officious and eager commiſſioner for the ſubſidy, whom they called the provost of *Perin*. Thence they marched to *Wells*, where the lord *Audley* (with whom their leaders had before ſome ſecret intelligence) a nobleman of an ancient family, but unquiet and popular, and aspiring to ruin, came in to them, and was by them (with great gladneſs and cries of joy) accepted as their general; they being now proud that they were led by a nobleman. The lord *Audley* led them on from *Wells* to *Salisbury*, and from *Salisbury* to *Wincheſter*. Thence the fooliſh people, who (in effect) led their leaders, had a mind to be led into *Kent*, fancying that the people there would join with them; contrary to all reaſon or judgment, conſidering the *Kentiſh* men had ſhewed great loyalty and affection to the king ſo lately before. But the rude people had heard *Flammock* ſay, that *Kent* was never conquered, and that they were the freeſt people of *England*. And upon theſe vain noiſes, they looked for great matters at their hands, in a cauſe which they conceited to be for the liberty of the ſubject. But when they were come into *Kent*, the countrey was ſo well ſettled, both by the king's late kind uſage towards them, and by the credit and power of the earl of *Kent*, the lord *Abergavenny*, and the lord *Cobham*, as neither gentleman nor yeoman came in to their aid; which did much damp and diſmay many of the ſimpler fort; inſomuch as divers of them did ſecretly fly from the army, and went home: but the ſturdier fort, and thoſe that were moſt engaged, ſtood by it, and rather waxed proud, than failed in hopes and courage. For as it did ſomewhat appall them, that the people came not into them; ſo it did no leſs encourage them, that the king's forces had not ſet upon them, having marched from the weſt unto the eaſt of *England*. Wherefore they kept on their way, and encamped upon *Blackbeath*, between *Greenwich* and *Eltham*; threatening either to bid battle to the king, (for now the ſeas went higher than to *Morton* and *Bray*) or to take *London* within his view; imagining with themſelves, there to find no leſs fear than wealth.

BUT to return to the king. When firſt he heard of this commotion of the *Corniſh* men occaſioned by the ſubſidy, he was much troubled therewith; not for it ſelf, but in regard of the concurrence of other dangers that did hang over him at that time. For he doubted leſt a war from *Scotland*, a rebellion from *Cornwal*, and the practices and conſpiracies of *Perkin* and his partakers, would come upon him at once: Knowing well, that it was a dangerous triplicity to a monarchy, to have the arms of a foreigner, the diſcontents of ſubjects, and the title of a pretender to meet. Nevertheless the occaſion took him in ſome part well provided. For as ſoon as the parliament had broken up, the king had preſently raiſed a puiſſant army to war upon *Scotland*. And king *James* of *Scotland* likewise on his part, had made great preparations, either for defence, or for new aſſailing of *England*. But as for the king's forces, they were not only in preparation, but in readineſs preſently to ſet forth, under the conduct of *D'Aubigny* the lord chamberlain. But as ſoon as the king underſtood of the rebellion of *Cornwal*, he ſtayed thoſe forces, retaining them for his own ſervice and ſafety. But therewithal he diſpatched the earl of *Surrey* into the north, for the defence and ſtrength of thoſe parts, in caſe the *Scots* ſhould ſtir. But for the courſe he held towards the rebels, it was utterly differing from his former cuſtom and practice; which was ever full of forwardneſs and celerity to make head againſt them, or to ſet upon them as ſoon as ever they were in
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action. This he was wont to do. But now, besides that he was attempered by years, and less in love with dangers, by the continued fruition of a crown; it was a time when the various appearance to his thoughts of perils of several natures, and from divers parts, did make him judge it his best and surest way, to keep his strength together in the seat and center of his kingdom: According to the ancient *Indian* emblem, in such a swelling season, to hold the hand upon the middle of the bladder, that no side might rise. Besides, there was no necessity put upon him to alter his counsel. For neither did the rebels spoil the country, in which case it had been dishonour to abandon his people: neither on the other side did their forces gather or increase, which might hasten him to precipitate and assail them before they grew too strong. And lastly, both reason of estate and war seemed to agree with this course: For that insurrections of base people are commonly more furious in their beginnings. And by this means also he had them the more at advantage, being tired and harrassed with a long march; and more at mercy, being cut off far from their country, and therefore not able by any sudden flight to get or retreat, and to renew the troubles.

WHEN therefore the rebels were encamped on *Black-beath* upon the hill, whence they might behold the city of *London*, and the fair valley about it; the king knowing well, that it stood him upon, by how much the more he had hitherto protracted the time in not encountering them, by so much the sooner to dispatch with them, that it might appear to have been no coldness in fore-flowing, but wisdom in chusing his time; resolved with all speed to assail them, and yet with that providence and surety, as should leave little to venture or fortune. And having very great and puissant forces about him, the better to master all events and accidents, he divided them into three parts; the first was led by the earl of *Oxford* in chief, assisted by the earls of *Essex* and *Suffolk*. These noblemen were appointed, with some cornets of horse, and bands of foot, and good store of artillery, wheeling about to put themselves beyond the hill where the rebels were encamped; and to beset all the skirts and descents thereof, except those that lay towards *London*; thereby to have these wild beasts (as it were) in a toil. The second part of his forces (which were those that were to be most in action, and upon which he relied most for the fortune of the day) he did assign to be led by the lord chamberlain, who was appointed to set upon the rebels in front, from that side which is toward *London*. The third part of his forces (being likewise great and brave forces) he retained about himself, to be ready upon all events to restore the fight, or consummate the victory; and mean while to secure the city. And for that purpose he encamped in person in saint *George's* fields, putting himself between the city and the rebels. But the city of *London* (especially at the first) upon the near encamping of the rebels, was in great tumult: As it useth to be with wealthy and populous cities, especially those which being for greatness and fortune queens of their regions; who seldom see out of their windows, or from their towers, an army of enemies. But that which troubled them most, was the conceit, that they dealt with a rout of people, with whom there was no composition or condition, or orderly treating, if need were; but likely to be bent altogether upon rapine and spoil. And although they had heard that the rebels had behaved themselves quietly and modestly by the way as they went; yet they doubted much that would not last, but rather make them more hungry, and more in appetite to fall upon spoil in the end. Wherefore there was great running to and fro of people, some to the gates, some
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to the walls, some to the water-side; giving themselves alarms and panick fears continually. Nevertheless both *Tate* the lord mayor, and *Shaw* and *Haddon* the sheriffs, did their parts stoutly and well, in arming and ordering the people. And the king likewise did adjoin some captains of experience in the wars, to advise and assist the citizens. But soon after, when they understood that the king had so ordered the matter, that the rebels must win three battels, before they could approach the city, and that he had put his own person between the rebels and them, and that the great care was, rather how to impound the rebels that none of them might escape, than that any doubt was made to vanquish them; they grew to be quiet and out of fear. The rather, for the confidence they reposed (which was not small) in the three leaders, *Oxford*, *Essex*, and *D'Aubigny*; all men well famed and loved amongst the people. As for *Jasper* duke of *Bedford*, whom the king used to employ with the first in his wars, he was then sick, and died soon after.

It was the two and twentieth of *June*, and a *Saturday*, (which was the day of the week the king fancied,) when the battel was fought; though the king had by all the art he could devise, given out a false day, as if he prepared to give the rebels battel on the *Monday* following, the better to find them unprovided, and in disarray. The lords that were appointed to circle the hill, had some days before planted themselves (as at the receipt) in places convenient. In the afternoon, towards the decline of the day, (which was done the better to keep the rebels in opinion that they should not fight that day,) the lord *D'Aubigny* marched on towards them, and first beat some troops of them from *Deptford-bridge*, where they fought manfully: but being in no great number were soon driven back, and fled up to their main army upon the hill. The army at that time hearing of the approach of the king's forces, were putting themselves in array, not without much confusion. But neither had they placed upon the first high ground towards the bridge, any forces to second the troops below, that kept the bridge; neither had they brought forwards their main battle, (which stood in array far into the heath) near to the ascent of the hill. So that the earl with his forces mounted the hill, and recovered the plain without resistance. The lord *D'Aubigny* charged them with great fury: inasmuch as it had like (by accident) to have branded the fortune of the day. For by inconsiderate forwardness in fighting in the head of his troops, he was taken by the rebels, but immediately rescued and delivered. The rebels maintained the fight for a small time, and for their persons shewed no want of courage; but being ill armed, and ill led, and without horse or artillery, they were with no great difficulty cut in pieces, and put to flight. And for their three leaders, the lord *Audley*, the blacksmith, and *Flammock*, (as commonly the captains of commotions are but half-couraged men) suffered themselves to be taken alive. The number slain on the rebels part were some two thousand men; their army amounting (as it is said) unto the number of sixteen thousand. The rest were (in effect) all taken; for that the hill (as was said) was encompassed with the king's forces round about. On the king's part there died about three hundred, most of them shot with arrows, which were reported to be of the length of a taylor's yard; so strong and mighty a bow the *Cornish-men* were said to draw.

THE victory thus obtained, the king created divers bannerets, as well upon *Blackheath*, where his lieutenant had won the field, (whither he rode in person to perform the said creation) as in *St. George's Fields*, where his own

person had been encamped. And for matter of liberality, he did (by open edict) give the goods of all the prisoners unto those that had taken them; either to take them in kind, or compound for them, as they could. After matter of honour and liberality, followed matter of severity and execution. The lord *Audley* was led from *Newgate* to *Towerhill*, in a paper coat painted with his own arms; the arms reversed, the coat torn, and at *Towerhill* beheaded. *Flammock* and the blacksmith were hanged, drawn and quartered at *Tyburn*: the blacksmith taking pleasure upon the hurdle (as it seemeth by words that he uttered) to think that he should be famous in after-times. The king was once in mind to have sent down *Flammock* and the blacksmith to have been executed in *Cornwall*, for the more terror: but being advertised that the countrey was yet unquiet and boiling, he thought better not to irritate the people farther. All the rest were pardoned by proclamation, and to take out their pardons under seal, as many as would. So that more than the blood drawn in the field, the king did satisfy himself with the lives of only three offenders, for the expiation of this great rebellion.

It was a strange thing to observe the variety and inequality of the king's executions and pardons: and a man would think it at the first, a kind of lottery or chance. But looking into it more nearly, one shall find there was reason for it, much more, perhaps, than after so long a distance of time, we can now discern. In the *Kentish* commotion, (which was but an handful of men) there were executed to the number of one hundred and fifty: but in this so mighty a rebellion but three. Whether it were that the king put to account the men that were slain in the field, or that he was not willing to be severe in a popular cause, or that the harmless behaviour of this people (that came from the west of *England* to the east, without mischief almost, or spoil of the countrey) did somewhat mollify him, and move him to compassion; or lastly, that he made a great difference between people that did rebel upon wantonness, and them that did rebel upon want.

AFTER the *Cornish* men were defeated, there came from *Calais* to the king an honourable embassy from the *French* king, which had arrived at *Calais* a month before, and there was stayed in respect of the troubles, but honourably entertained and defrayed. The king, at their first coming, sent unto them, and prayed them to have patience, till a little smোক, that was raised in his countrey, were over, which would soon be: Slighting (as his manner was) that openly, which nevertheless he intended seriously.

THIS embassy concerned no great affair, but only the prolongation of days for payment of monies, and some other particulars of the frontiers. And it was (indeed) but a wooing-embassy, with good respects to entertain the king in good affection; but nothing was done, or handled, to the derogation of the king's late treaty with the *Italians*.

BUT during the time that the *Cornish* men were in their march towards *London*, the king of *Scotland* well advertised of all that passed, and knowing himself sure of war from *England*, whensoever those stirs were appeased, neglected not his opportunity: But thinking the king had his hands full, entered the frontiers of *England* again with an army, and besieged the castle of *Norham* in person, with part of his forces, sending the rest to forage the countrey. But *Fox* bishop of *Duresm*, (a wise man, and one that could see through the present to the future,) doubting as much before, had caused his castle of *Norham* to be strongly fortified, and furnished with all kind of munition: and had manned it likewise with a very great number
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of tall foldiers, more than for the proportion of the castle, reckoning rather upon a sharp assault, than a long siege. And for the countrey likewise, he had caused the people to withdraw their cattle and goods into fast places, that were not easy of approach; and sent in post to the earl of *Surrey* (who was not far off in *Yorkshire*) to come in diligence to the succour. So as the *Scotish* king both failed of doing good upon the castle, and his men had but a catching harvest of their spoils: And when he understood that the earl of *Surrey* was coming on with great forces, he returned back into *Scotland*. The earl finding the castle freed, and the enemy retired, pursued with all celerity into *Scotland*, hoping to have overtaken the *Scotish* king, and to have given him battel. But not attaining him in time, sat down before the castle of *Aton*, one of the strongest places (then esteemed) between *Berwick* and *Edinburgh*, which in a small time he took. And soon after, the *Scotish* king retiring farther into his countrey, and the weather being extraordinary foul and stormy, the earl returned into *England*. So that the expeditions on both parts were (in effect) but a castle taken, and a castle distressed; not answerable to the puissance of the forces, nor to the heat of the quarrel, nor to the greatness of the expectation.

AMONGST these troubles, both civil and external, came into *England* from *Spain*, *Peter Hialas*, some call him *Elias*, (surely he was the forerunner of the good hap that we enjoy at this day: for his embassy set the truce between *England* and *Scotland*; the truce drew on the peace, the peace the marriage, and the marriage the union of the kingdoms) a man of great wisdom, and (as those times were) not unlearned; sent from *Ferdinando* and *Isabella* king and queen of *Spain*, unto the king, to treat a marriage between *Katharine* their second daughter, and prince *Arthur*. This treaty was by him set in a very good way, and almost brought to perfection. But it so fell out by the way, that upon some conference which he had with the king touching this business, the king (who had a great dexterity in getting suddenly into the bosom of ambassadors of foreign princes, if he liked the men; insomuch as he would many times communicate with them of his own affairs, yea, and employ them in his service) fell into speech and discourse incidently, concerning the ending of the debates and differences with *Scotland*. For the king naturally did not love the barren wars with *Scotland*, though he made his profit of the noise of them. And he wanted not in the council of *Scotland*, those that would advise their king to meet him at the half way, and to give over the war with *England*, pretending to be good patriots, but indeed favouring the affairs of the king. Only his heart was too great to begin with *Scotland* for the motion of peace. On the other side, he had met with an ally of *Ferdinando* of *Aragon*, as fit for his turn as could be. For after that king *Ferdinando* had upon assured confidence of the marriage to succeed, taken upon him the person of a fraternal ally to the king, he would not let (in a *Spanish* gravity) to counsel the king in his own affairs. And the king on his part not being wanting to himself, but making use of every man's humours, made his advantage of this in such things as he thought either not decent, or not pleasant to proceed from himself, putting them off as done by the counsel of *Ferdinando*. Wherefore he was content that *Hialas* (as in a matter moved and advised from *Hialas* himself) should go into *Scotland*, to treat of a concord between the two kings. *Hialas* took it upon him, and coming to the *Scotish* king, after he had with much art brought king *James* to hearken to the more safe and quiet counsels, wrote unto the king, that he hoped that

peace would with no great difficulty cement and close, if he would send some wise and temperate counsellor of his own, that might treat of the conditions. Whereupon the king directed bishop *Fox*, (who at that time was at his castle of *Norham*) to confer with *Hialas*, and they both to treat with some commissioners deputed from the *Scotish* King. The commissioners on both sides met. But after much dispute upon the articles and conditions of peace, propounded upon either part, they could not conclude a peace. The chief impediment thereof, was the demand of the king to have *Perkin* delivered into his hands, as a reproach to all kings, and a person not protected by the law of nations. The king of *Scotland* on the other side peremptorily denied so to do, saying, that he (for his part) was no competent judge of *Perkin's* title. But that he had received him as a suppliant, protected him as a person fled for refuge, espoused him with his kinswoman, and aided him with his arms, upon the belief that he was a prince. And therefore that he could not now with his honour so unrip and (in a fort) put a lye upon all that he had said and done before, as to deliver him up to his enemies. The bishop likewise (who had certain proud instructions from the king, at the least in the front, though there were a pliant clause at the foot, that remitted all to the bishop's discretion, and required him by no means to break off in ill terms) after that he had failed to obtain the delivery of *Perkin*, did move a second point of his instructions, which was, that the *Scotish* king would give the king an interview in person at *Newcastle*. But this being reported to the *Scotish* king, his answer was, that he meant to treat a peace, and not to go a begging for it. The bishop also (according to another article of his instructions) demanded restitution of the spoils taken by the *Scots*, or damages for the same. But the *Scotish* commissioners answered, that that was but as water spilt upon the ground, which could not be gotten up again; and that the king's people were better able to bear the loss, than their master to repair it. But in the end (as persons capable of reason) on both sides they made rather a kind of recess, than a breach of treaty, and concluded upon a truce for some months following. But the king of *Scotland*, though he would not formally retract his judgment of *Perkin*, wherein he had engaged himself so far, yet in his private opinion, upon often speech with the *Englishmen*, and divers other advertisements, began to suspect him for a counterfeit. Wherefore in a noble fashion he called him unto him, and recounted the benefits and favours that he had done him in making him his ally, and in provoking a mighty and opulent king by an offensive war in his quarrel, for the space of two years together. Nay more, that he had refused an honourable peace, whereof he had a fair offer, if he would have delivered him; and that to keep his promise with him, he had deeply offended both his nobles and people, whom he might not hold in any long discontent: And therefore required him to think of his own fortunes, and to chuse out some fitter place for his exile. Telling him withal, that he could not say, but the *English* had forsaken him before the *Scotish*; for that upon two several trials, none had declared themselves on his side. But nevertheless he would make good what he said to him at his first receiving, which was, that he should not repent him, for putting himself into his hands; for that he would not cast him off, but help him with shipping and means to transport him where he should desire. *Perkin* not descending at all from his stage-like greatness, answered the king in few words, that he saw his time was not yet come; but whatsoever his fortunes were, he should both think and speak honour of
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the king. Taking his leave, he would not think on *Flanders*, doubting it was but hollow ground for him, since the treaty of the arch-duke concluded the year before ; but took his lady, and such followers as would not leave him, and sailed over into *Ireland*.

THIS twelfth year of the king, a little before this time, pope *Alexander* (who loved best those princes that were farthest off, and with whom he had least to do) taking very thankfully the king's late entrance into league for the defence of *Italy*, did remunerate him with an hallowed sword and cap of maintenance, sent by his nuncio. Pope *Innocent* had done the like, but it was not received in that glory : for the king appointed the mayor and his brethren to meet the pope's orator at *London* bridge, and all the streets between the bridge foot and the palace of *Paul's* (where the king then lay) were garnished with the citizens, standing in their liveries. And the morrow after, (being *Alballows* day) the king, attended with many of his prelates, nobles, and principal courtiers, went in procession to *Paul's*, and the cap and sword were born before him. And after the procession, the king himself remaining seated in the quire, the lord archbishop, upon the greece of the quire, made a long oration : setting forth the greatness and eminency of that honour which the pope (in these ornaments and ensigns of benediction) had done the king ; and how rarely, and upon what high deserts, they used to be bestowed : And then recited the king's principal acts and merits, which had made him appear worthy in the eyes of his holiness, of this great honour.

ALL this while the rebellion of *Cornwal*, (whereof we have spoken) seemed to have no relation to *Perkin* ; save that perhaps *Perkin's* proclamation had stricken upon the right vein, in promising to lay down exactions and payments, and so had made them now and then have a kind thought on *Perkin*. But now these bubbles by much stirring began to meet, as they use to do upon the top of water. The king's lenity (by that time the *Cornish* rebels, who were taken and pardoned, and as it was said, many of them sold by them that had taken them, for twelve pence and two shillings a piece, were come down into their countrey) had rather imboldened them than reclaimed them ; inasmuch as they stuck not to say to their neighbours and countreymen, that the king did well to pardon them, for that he knew he should leave few subjects in *England*, if he hanged all that were of their mind : and began whetting and inciting one another to renew the commotion. Some of the subtlest of them hearing of *Perkin's* being in *Ireland*, found means to send to him to let him know, that if he would come over to them, they would serve him.

WHEN *Perkin* heard this news, he began to take heart again, and advised upon it with his council, which were principally three ; *Herne* a mercer, that had fled for debt ; *Skelton* a tailor, and *Astley* a scrivener ; for secretary *Frion* was gone. These told him, that he was mightily overseen, both when he went into *Kent*, and when he went into *Scotland* ; the one being a place so near *London*, and under the king's nose ; and the other a nation so distasted with the people of *England*, that if they had loved him never so well, yet they would never have taken his part in that company. But if he had been so happy, as to have been in *Cornwal* at the first, when the people began to take arms there, he had been crowned at *Westminster* before this time. For these kings (as he had now experience) would sell poor princes for shoes. But he must rely wholly upon people ; and therefore advised him to sail over with all possible speed into *Cornwal* : which

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accordingly he did ; having in his company four small barks, with some fixscore or sevenscore fighting men. He arrived in *September* at *Whitſand-Bay*, and forthwith came to *Bodmin* the blackſmith's town ; where there aſſembled unto him to the number of three thouſand men of the rude people. There he ſet forth a new proclamation, ſtroaking the people with fair promiſes, and humouring them with invectives againſt the king and his government. And as it ſaith with ſmoke, that never loſeth it ſelf till it be at the higheſt ; he did now before his end raiſe his ſtyle, entitling himſelf no more *Richard* duke of *York*, but *Richard* the fourth king of *England*. His council adviſed him by all means to make himſelf maſter of ſome good walled town ; as well to make his men find the ſweetneſs of rich ſpoils, and to allure to him all looſe and loſt people, by like hopes of booty ; as to be a ſure retreat to his forces, in caſe they ſhould have any ill day, or unlucky chance in the field. Wherefore they took heart to them, and went on, and beſieged the city of *Exeter*, the principal town for ſtrength and wealth in thoſe parts.

WHEN they were come before *Exeter*, they forbore to uſe any force at the firſt, but made continual ſhouts and outcries to terrify the inhabitants. They did likewise in divers places call and talk to them from under the walls, to join with them, and be of their party ; telling them, that the king would make them another *London*, if they would be the firſt town that ſhould acknowledge him. But they had not the wit to ſend to them in any orderly faſhion, agents, or choſen men, to tempt them, and to treat with them. The citizens on their part ſhewed themſelves ſtout and loyal ſubjects : neither was there ſo much as any tumult or diviſion amongſt them, but all prepared themſelves for a valiant defence, and making good the town. For well they ſaw, that the rebels were of no ſuch number or power, that they needed to fear them as yet ; and well they hoped, that before their numbers increaſed, the king's ſuccours would come in. And howſoever, they thought it the extreameſt of evils, to put themſelves at the mercy of thoſe hungry and diſorderly people. Wherefore ſetting all things in good order within the town, they nevertheless let down with cords from ſeveral parts of the walls privily, ſeveral meſſengers (that if one came to miſchance, another might paſs on) which ſhould advertiſe the king of the ſtate of the town, and implore his aid. *Perkin* alſo doubted, that ſuccours would come e'er long ; and therefore reſolved to uſe his utmoſt force to aſſault the town. And for that purpoſe having mounted ſcaling ladders in divers places upon the walls, made at the ſame inſtant an attempt to force one of the gates. But having no artillery nor engines, and finding that he could do no good by ramming with logs of timber, nor by the uſe of iron bars, and iron crows, and ſuch other means at hand, he had no way left him but to ſet one of the gates on fire, which he did. But the citizens well perceiving the danger, before the gate could be fully conſumed, blocked up the gate, and ſome ſpace about it on the inſide, with faggots and other fuel, which they likewise ſet on fire, and ſo repulſed fire with fire. And in the mean time raiſed up rampiers of earth, and caſt up deep trenches, to ſerve inſtead of wall and gate. And for the ſcaladoes, they had ſo bad ſucceſs, as the rebels were driven from the walls with the loſs of two hundred men.

THE king, when he heard of *Perkin's* ſiege of *Exeter*, made ſport with it, and ſaid to them that were about him, that the king of rake-hells was landed in the weſt, and that he hoped now to have the honour to ſee him,
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which he could never yet do. And it appeared plainly to those that were about the king, that he was indeed much joyed with the news of *Perkin's* being in *English* ground, where he could have no retreat by land; thinking now, that he should be cured of those privy stitches, which he had had long about his heart, and had sometimes broken his sleep in the midst of all his felicity. And to set all mens hearts on fire, he did by all possible means let it appear, that those that should now do him service to make an end of these troubles, should be no less accepted of him, than he that came upon the eleventh hour, and had the whole wages of the day. Therefore now (like the end of a play) a great number came upon the stage at once. He sent the lord chamberlain, and the lord *Brook*, and sir *Rice ap Thomas*, with expedite forces to speed to *Exeter* to the rescue of the town, and to spread the fame of his own following in person with a royal army. The earl of *Devonshire*, and his son, with the *Carews*, and the *Fulfordes*, and other principal persons of *Devonshire*, (uncalled from the court, but hearing that the king's heart was so much bent upon this service) made haste with troops that they had raised, to be the first that should succour the city of *Exeter*, and prevent the king's succours. The duke of *Buckingham* likewise, with many brave gentlemen, put themselves in arms, not staying either the king's or the lord chamberlain's coming on, but making a body of forces of themselves, the more to endear their merit; signifying to the king their readiness, and desiring to know his pleasure. So that according to the proverb, in the coming down, every faint did help.

PERKIN hearing this thunder of arms, and preparations against him from so many parts, raised his siege, and marched to *Taunton*; beginning already to squint one eye upon the crown, and another upon the sanctuary. Though the *Cornish* men were become like metal often fired and quenched, churlish, and that would sooner break than bow; swearing and vowing not to leave him, till the uttermost drop of their blood were spilt. He was at his rising from *Exeter* between six and seven thousand strong, many having come unto him after he was set before *Exeter*, upon fame of so great an enterprize, and to partake of the spoil; though upon the raising of his siege some did slip away. When he was come near *Taunton*, he dissembled all fear, and seemed all the day to use diligence, in preparing all things ready to fight. But about midnight, he fled with threescore horse to *Bewley* in the new forest, where he and divers of his company registred themselves sanctuary men, leaving his *Cornish* men to the four winds. But yet thereby easing them of their vow, and using his wonted compassion, not to be by when his subjects blood should be spilt. The king, as soon as he heard of *Perkin's* flight, sent presently five hundred horse to pursue and apprehend him, before he should get either to the sea, or to that same little island, called a sanctuary. But they came too late for the latter of these. Therefore all they could do, was to beset the sanctuary, and to maintain a strong watch about it, till the king's pleasure were farther known. As for the rest of the rebels, they (being destituted of their head) without stroke stricken, submitted themselves unto the king's mercy. And the king, who commonly drew blood (as physicians do) rather to save life than to spill it, and was never cruel when he was secure; now he saw the danger was past, pardoned them all in the end, except some few desperate persons, which he reserved to be executed, the better to set off his mercy towards the rest. There were also sent with all speed some horse to saint *Michael's* mount in *Cornwall*, where the lady *Katharine Gordon* was left by her husband, whom
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in all fortunes she entirely loved; adding the virtues of a wife, to the virtues of her sex. The king sent in the greater diligence, not knowing whether she might be with child, whereby the business would not have ended in *Perkin's* person. When she was brought to the king, it was commonly said, that the king received her not only with compassion, but with affection; pity giving more impression to her excellent beauty. Wherefore comforting her, (to serve as well his eye, as his fame) he sent her to his queen to remain with her; giving her very honourable allowance for the support of her estate, which she enjoyed both during the king's life, and many years after. The name of the *White-rose* (which had been given to her husband's false title) was continued in common speech to her true beauty.

THE king went forwards on his journey, and made a joyful entrance into *Exeter*, where he gave the citizens great commendations and thanks; and taking the sword he wore from his side, he gave it to the mayor, and commanded it should be ever after carried before him. There also he caused to be executed some of the ring-leaders of the *Cornish* men, in sacrifice to the citizens, whom they had put in fear and trouble. At *Exeter* the king consulted with his council whether he should offer life to *Perkin* if he would quit the sanctuary, and voluntarily submit himself. The council were divided in opinion: some advised the king to take him out of sanctuary perforce, and to put him to death, as in a case of necessity, which in it self dispenseth with consecrated places, and things: wherein they doubted not also but the king should find the pope tractable to ratify his deed, either by declaration, or (at least) by indulgence. Others were of opinion, (since all was now safe, and no farther hurt could be done) that it was not worth the exposing of the king to new scandal and envy. A third sort fell upon the opinion, that it was not possible for the king ever, either to satisfy the world well touching the imposture, or to learn out the bottom of the conspiracy, except by promise of life and pardon, and other fair means, he should get *Perkin* into his hands. But they did all in their preambles much bemoan the king's case, with a kind of indignation at his fortune; that a prince of his high wisdom and virtue, should have been so long and so oft exercised and vexed with idols. But the king said, that it was the vexation of God Almighty himself to be vexed with idols, and therefore that that was not to trouble any of his friends: and that for himself, he always despised them; but was grieved that they had put his people to such trouble and misery. But (in conclusion) he leaned to the third opinion, and so sent some to deal with *Perkin*: Who seeing himself prisoner, and destitute of all hopes, having tried princes and people, great and small, and found all either false, faint, or unfortunate, did gladly accept of the condition. The king did also (while he was at *Exeter*) appoint the lord *Darcy*, and others commissioners, for the finding of all such as were of any value, and had any hand or partaking in the aid or comfort of *Perkin*, or the *Cornish* men, either in the field or in the flight.

THESE commissioners proceeded with such strictness and severity, as did much obscure the king's mercy in sparing of blood, with the bleeding of so much treasure. *Perkin* was brought unto the king's court, but not to the king's presence; though the king (to satisfy his curiosity) saw him sometimes out of a window, or in passage. He was in shew at liberty, but guarded with all care and watch that was possible, and willed to follow the king to *London*. But from his first appearance upon the stage, in his new person of a sycophant or jugler, instead of his former person of a prince, all
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men may think how he was exposed to the derision, not only of the courtiers, but also of the common people, who flocked about him as he went along; that one might know afar off, where the owl was, by the flight of birds: some mocking, some wondering, some cursing, some prying and picking matter out of his countenance and gesture to talk of: So that the false honour and respects which he had so long enjoyed, was plentifully repaid in scorn and contempt. As soon as he was come to *London*, the king gave also the city the solace of this may-game: for he was conveyed leisurely on horseback (but not in any ignominious fashion) through *Cheapside* and *Cornhill*, to the tower; and from thence back again to *Westminster*, with the *churm of a thousand taunts and reproaches. But to amend the *Cum choro. show, there followed a little distance off *Perkin*, an inward counsellor of his, one that had been serjeant farrier to the king. This fellow, when *Perkin* took sanctuary, chose rather to take an holy habit, than an holy place, and clad himself like an hermit, and in that weed wander'd about the country, till he was discovered and taken. But this man was bound hand and foot upon the horse, and came not back with *Perkin*, but was left at the tower, and within few days after executed. Soon after, now that *Perkin* could tell better what himself was, he was diligently examined; and after his confession taken, an extract was made of such parts of them, as were thought fit to be divulged, which was printed and dispersed abroad: wherein the king did himself no right: for as there was a laboured tale of particulars, of *Perkin's* father and mother, and grandfire and grandmother, and uncles and cousins, by names and surnames, and from what places he travelled up and down; so there was little or nothing to purpose of any thing concerning his designs, or any practices that had been held with him; nor the duchess of *Burgundy* her self, (that all the world did take knowledge of, as the person that had put life and being into the whole business,) so much as named or pointed at. So that men missing of that they looked for, looked about for they knew not what, and were in more doubt than before: but the king chose rather not to satisfy, than to kindle coals. At that time also it did not appear by any new examinations or commitments, that any other person of quality was discovered or appeached, though the king's closeness made that a doubt dormant.

ABOUT this time a great fire in the night-time suddenly began at the king's palace of *Shene*, near unto the king's own lodgings, whereby a great part of the building was consumed, with much costly household-stuff, which gave the king occasion of building from the ground, that fine pile of *Richmond* which is now standing.

SOMEWHAT before this time also, there fell out a memorable accident: There was one *Sebastian Gabato*, a *Venetian*, dwelling in *Bristol*, a man seen and expert in cosmography and navigation. This man seeing the success, and emulating perhaps the enterprize of *Christophorus Columbus* in that fortunate discovery towards the southwest, which had been by him made some six years before, conceited with himself, that lands might likewise be discovered towards the northwest. And surely it may be he had more firm and pregnant conjectures of it, than *Columbus* had of this at the first. For the two great islands of the old and new world, being (in the shape and making of them) broad towards the north, and pointed towards the south; it is likely, that the discovery first began where the lands did nearest meet. And there had been before that time a discovery of some lands, which they took to be islands, and were indeed the continent of *America*, towards the

northwest. And it may be, that some relation of this nature coming afterwards to the knowledge of *Columbus*, and by him suppressed, (desirous rather to make his enterprize the child of his science and fortune, than the follower of a former discovery) did give him better assurance, that all was not sea, from the west of *Europe* and *Africa* unto *Asia*, than either *Seneca's* prophecy, or *Plato's* antiquities, or the nature of the tides and land-winds, and the like, which were the conjectures that were given out, whereupon he should have relied : though I am not ignorant, that it was likewise laid unto the casual and wind-beaten discovery (a little before) of a *Spanish* pilot, who died in the house of *Columbus*. But this *Gabato* bearing the king in hand, that he would find out an island endued with rich commodities, procured him to man and victual a ship at *Bristol*, for the discovery of that island : with whom ventured also three small ships of *London* merchants, fraught with some gross and slight wares, fit for commerce with barbarous people. He sailed (as he affirmed at his return, and made a chart thereof,) very far westwards, with a quarter of the north, on the north side of *Tierra de Labrador*, until he came to the latitude of sixty seven degrees and an half, finding the seas still open. It is certain also, that the king's fortune had a tender of that great empire of the *West-Indies*. Neither was it a refusal on the king's part, but a delay by accident, that put by so great an acqurest : for *Christophorus Columbus* refused by the king of *Portugal*, (who would not embrace at once both east and west) employed his Brother *Bartholomaeus Columbus* unto king *Henry*, to negotiate for his discovery : and it so fortun'd, that he was taken by pirates at sea, by which accidental impediment he was long e'er he came to the king : so long, that before he had obtained a capitulation with the king for his brother, the enterprize by him was achieved, and so the *West-Indies* by providence were then reserved for the crown of *Castile*. Yet this sharpen'd the king so, that not only in this voyage, but again in the sixteenth year of his reign, and likewise in the eighteenth thereof, he granted forth new commissions for the discovery and investing of unknown lands.

IN this fourteenth year also (by God's wonderful providence, that boweth things unto his will, and hangeth great weights upon small wires) there fell out a trifling and untoward accident, that drew on great and happy effects. During the truce with *Scotland*, there were certain *Scotish* young gentlemen that came into *Norham* town, and there made merry with some of the *English* of the town : And having little to do, went sometimes forth, and would stand looking upon the castle. Some of the garison of the castle, observing this their doing twice or thrice, and having not their minds purged of the late ill blood of hostility, either suspected them, or quarrell'd them for spies : whereupon they fell at ill words, and from words to blows ; so that many were wounded of either side, and the *Scotish* men, (being strangers in the town) had the worst ; insomuch as some of them were slain, and the rest made haste home. The matter being complained on, and often debated before the wardens of the marches of both sides, and no good order taken ; the king of *Scotland* took it to himself, and being much kindled, sent a herald to the king to make protestation, that if reparation were not done, according to the conditions of the truce, his king did denounce war. The king (who had often tryed fortune, and was inclined to peace) made answer, that what had been done, was utterly against his will, and without his privity : but if the garison soldiers had been in fault, he would see them punished, and the truce in all points to be preserved. But this answer seemed

seemed to the *Scotish* king but a delay, to make the complaint breathe out with time; and therefore it did rather exasperate him, than satisfy him. Bishop *Fox*, understanding from the king that the *Scotish* king was still discontent and impatient, being troubled that the occasion of breaking of the truce should grow from his men, sent many humble and deprecatory letters to the *Scotish* king to appease him. Whereupon king *James*, mollified by the bishop's submissive and eloquent letters, wrote back unto him, that though he were in part moved by his letters, yet he should not be fully satisfied, except he spake with him, as well about the compounding of the present differences, as about other matters that might concern the good of both kingdoms. The bishop advising first with the king, took his journey for *Scotland*. The meeting was at *Melrofs*, an abbey of the *Cistercians*, where the king then abode. The king first roundly uttered unto the bishop his offence conceived, for the insolent breach of truce, by his men of *Norham* castle: whereunto bishop *Fox* made such an humble and smooth answer, as it was like oil into the wound, whereby it began to heal: and this was done in the presence of the king and his council. After, the king spake with the bishop apart, and opened himself unto him, saying, that these temporary truces and peaces were soon made, and soon broken; but that he desired a straiter amity with the king of *England*, discovering his mind; that if the king would give him in marriage the lady *Margaret* his eldest daughter, that indeed might be a knot indissoluble. That he knew well what place and authority the bishop deservedly had with his master: therefore, if he would take the business to heart, and deal in it effectually, he doubted not but it would succeed well. The bishop answered soberly, that he thought himself rather happy than worthy, to be an instrument in such a matter, but would do his best endeavour. Wherefore the bishop returning to the king, and giving account what had passed, and finding the king more than well disposed in it, gave the king advice; first to proceed to a conclusion of peace, and then to go on with the treaty of marriage by degrees. Hereupon a peace was concluded, which was published a little before *Christmas*, in the fourteenth year of the king's reign, to continue for both the kings lives, and the over-liver of them, and a year after. In this peace there was an article contained, that no *English* man should enter into *Scotland*, and no *Scotish* man into *England*, without letters commendatory from the kings of either nation. This at the first sight might seem a means to continue a strangeness between the nations; but it was done to lock in the borderers.

THIS year there was also born to the king a third son, who was christen'd by the name of *Edmund*, and shortly after died. And much about the same time came news of the death of *Charles* the *French* king, for whom there were celebrated solemn and princely obsequies.

IT was not long but *Perkin* (who was made of quicksilver, which is hard to hold or imprison) began to stir. For deceiving his keepers, he took him to his heels, and made speed to the sea-coasts. But presently all corners were laid for him, and such diligent pursuit and search made, as he was fain to turn back, and get him to the house of *Bethlehem*, called the priory of *Shene*, (which had the privilege of sanctuary) and put himself into the hands of the prior of that monastery. The prior was thought an holy man, and much revered in those days. He came to the king, and besought the king for *Perkin's* life only, leaving him otherwise to the king's discretion. Many about the king were again more hot than ever, to have the king to

take him forth, and hang him. But the king, (that had an high stomach, and could not hate any that he despised) bid, take him forth, and set the knave in the stocks. And so promising the prior his life, he caused him to be brought forth. And within two or three days after, upon a scaffold set up in the palace court at *Westminster*, he was fettered and set in the stocks for a whole day. And the next day after, the like was done by him at the cross in *Cheapside*, and in both places he read his confession, of which we made mention before; and was from *Cheapside* conveyed and layed up in the tower. Notwithstanding all this, the king was (as was partly touched before) grown to be such a partner with fortune, as no body could tell what actions the one, and what the other owned. For it was believed generally, that *Perkin* was betrayed, and that this escape was not without the king's privity, who had him all the time of his flight in a line; and that the king did this, to pick a quarrel to him to put him to death, and to be rid of him at once: but this is not probable. For that the same instruments who observed him in his flight, might have kept him from getting into sanctuary.

BUT it was ordained, that this winding-ivy of a *Plantagenet*, should kill the true tree it self. For *Perkin*, after he had been a while in the tower, began to insinuate himself into the favour and kindness of his keepers, servants to the lieutenant of the tower sir *John Digby*, being four in number; *Strangeways*, *Blewet*, *Astwood* and long *Roger*. These varlets, with mountains of promises he sought to corrupt, to obtain his escape; but knowing well, that his own fortunes were made so contemptible, as he could feed no man's hopes, (and by hopes he must work, for rewards he had none) he had contrived with himself a vast and tragical plot; which was, to draw into his company *Edward Plantagenet* earl of *Warwick*, then prisoner in the tower; whom the weary life of a long imprisonment, and the often and renewing fears of being put to death, had softened to take any impression of counsel for his liberty. This young prince he thought these servants would look upon, though not upon himself: and therefore after that by some message by one or two of them, he had tasted of the earl's consent; it was agreed that these four should murder their master the lieutenant secretly in the night, and make their best of such money and portable goods of his, as they should find ready at hand, and get the keys of the tower, and presently let forth *Perkin* and the earl. But this conspiracy was revealed in time, before it could be executed. And in this again the opinion of the king's great wisdom did surcharge him with a sinister fame, that *Perkin* was but his bait, to entrap the earl of *Warwick*. And in the very instant while this conspiracy was in working, (as if that also had been the king's industry) it was fatal, that there should break forth a counterfeit earl of *Warwick*, a cordwainer's son, whose name was *Ralph Wilford*; a young man taught and set on by an *Augustin* friar, called *Patrick*. They both from the parts of *Suffolk*, came forwards into *Kent*, where they did not only privily and underhand give out, that this *Wilford* was the true earl of *Warwick*, but also the friar finding some light credence in the people, took the boldness in the pulpit to declare as much, and to incite the people to come in to his aid. Whereupon they were both presently apprehended, and the young fellow executed, and the friar condemned to perpetual imprisonment. This also happening so opportunely, to represent the danger to the king's estate from the earl of *Warwick*, and thereby to colour the king's severity that followed; together with the madness of the friar so vainly and desperately

rately to divulge a treason, before it had gotten any manner of strength ; and the saving of the friar's life, which nevertheless was (indeed) but the privilege of his order ; and the pity in the common people (which if it run in a strong stream doth ever cast up scandal and envy) made it generally rather talked than believed, that all was but the king's device. But howsoever it were, hereupon *Perkin* (that had offended against grace now the third time) was at the last proceeded with, and by commissioners of oyer and terminer, arraigned at *Westminster*, upon divers treasons committed and perpetrated after his coming on land within this kingdom (for so the judges advised, for that he was a foreigner,) and condemned, and a few days after executed at *Tyburn* ; where he did again openly read his confession, and take it upon his death to be true. This was the end of this little cockatrice of a king, that was able to destroy those that did not espy him first. It was one of the longest plays of that kind that hath been in memory, and might perhaps have had another end, if he had not met with a king both wise, stout and fortunate.

As for *Perkin's* three counsellors, they had registred themselves sanctuary-men when their master did ; and whether upon pardon obtained, or continuance within the privilege, they came not to be proceeded with.

THERE were executed with *Perkin*, the mayor of *Cork* and his son, who had been principal abettors of his treasons. And soon after were likewise condemned eight other persons about the tower conspiracy, whereof four were the lieutenant's men : But of those eight, but two were executed. And immediately after was arraigned before the earl of *Oxford*, (then for the time high steward of *England*) the poor prince, the earl of *Warwick* ; not for the attempt to escape simply (for that was not acted ; and besides, the imprisonment not being for treason, the escape by law could not be treason) but for conspiring with *Perkin* to raise sedition, and to destroy the king : and the earl confessing the indictment, had judgment, and was shortly after beheaded on tower-hill.

THIS was also the end, not only of this noble and commiserable person *Edward* the earl of *Warwick*, eldest son to the duke of *Clarence* ; but likewise of the line male of the *Plantagenets*, which had flourished in great royalty and renown, from the time of the famous king of *England*, king *Henry* the second. Howbeit it was a race often dipped in their own blood. It hath remained since only transplanted into other names, as well of the imperial line, as of other noble houses. But it was neither guilt of crime, nor reason of state, that could quench the envy that was upon the king for this execution : so that he thought good to export it out of the land, and to lay it upon his newly, *Ferdinando* king of *Spain*. For these two kings understanding one another at half a word, so it was that there were letters shewed out of *Spain*, whereby in the passages concerning the treaty of the marriage, *Ferdinando* had written to the king in plain terms, that he saw no assurance of his succession, as long as the earl of *Warwick* lived ; and that he was loth to send his daughter to troubles and dangers. But hereby, as the king did in some part remove the envy from himself ; so he did not observe, that he did withal bring a kind of malediction and infausting upon the marriage, as an ill prognostick : Which in event so far proved true, as both prince *Arthur* enjoyed a very small time after the marriage, and the lady *Katharine* her self (a sad and a religious woman) long after, when king *Henry* the eighth his resolution of a divorce from her, was first made known to her, used some words, that she had not offended, but it was a
judgment

judgment of God, for that her former marriage was made in blood ; meaning that of the earl of *Warwick*.

THIS fifteenth year of the king, there was a great plague both in *London* and in divers parts of the kingdom. Wherefore the king, after often changing of places, (whether to avoid the danger of the sickness, or to give occasion of an interview with the archduke, or both) failed over with his queen to *Calais*. Upon his coming thither, the arch-duke sent an honourable embassage unto him, as well to welcome him into those parts, as to let him know, that (if it pleased him) he would come and do him reverence. But it was said withal, that the king might be pleased to appoint some place, that was out of any walled town or fortress, for that he had denied the same upon like occasion to the *French* king: And though he said he made a great difference between the two kings, yet he would be loth to give a precedent, that might make it after to be expected at his hands, by another whom he trusted less. The king accepted of the courtesy, and admitted of his excuse, and appointed the place to be at saint *Peter's* church without *Calais*. But withal he did visit the arch-duke with ambassadors sent from himself, which were the lord *Saint John*, and the secretary ; unto whom the arch-duke did the honour, as (going to mass at saint *Omer's*) to set the lord *Saint John* on his right hand, and the secretary on his left, and so to ride between them to church. The day appointed for the interview the king went on horseback some distance from saint *Peter's* church, to receive the archduke : And upon their approaching, the archduke made haste to light, and offered to hold the king's stirrup at his alighting ; which the king would not permit, but descending from horseback, they embraced with great affection ; and withdrawing into the church to a place prepared, they had long conference, not only upon the confirmation of former treaties, and the freeing of commerce, but upon cross marriages, to be had between the duke of *York* the king's second son, and the arch-duke's daughter ; and again between *Charles* the arch-duke's son and heir, and *Mary*, the king's second daughter. But these blossoms of unripe marriages, were but friendly wishes, and the airs of loving entertainment ; though one of them came afterwards to conclusion in treaty, though not in effect. But during the time that the two princes conversed and communed together in the suburbs of *Calais*, the demonstrations on both sides were passing hearty and affectionate, especially on the part of the arch-duke : who (besides that he was a prince of an excellent good nature) being conscious to himself how drily the king had been used by his council in the matter of *Perkin*, did strive by all means to recover it in the king's affection. And having also his ears continually beaten with the councils of his father and father-in-law, who (in respect of their jealous hatred against the *French* king) did always advise the arch-duke to anchor himself upon the amity of king *Henry* of *England* ; was glad upon this occasion to put in ure and practice their precepts, calling the king patron, and father, and protector, (these very words the king repeats, when he certified of the loving behaviour of the arch-duke to the city) and what else he could devise, to express his love and observance to the king. There came also to the king, the governour of *Picardy*, and the bailiff of *Amiens*, sent from *Lewis* the *French* king to do him honour, and to give him knowledge of his victory, and winning of the duchy of *Milan*. It seemeth the king was well pleased with the honours he received from those parts, while he was at *Calais* ; for he did himself certify all the news and occurrents of them in every particular from *Calais*, to the
mayor

mayor and aldermen of *London*, which (no doubt) made no small talk in the city. For the king, though he could not entertain the good-will of the citizens, as *Edward* the fourth did; yet by affability and other princely graces, did ever make very much of them, and apply himself to them.

THIS year also died *John Morton*, archbishop of *Canterbury*, chancellor of *England*, and cardinal. He was a wise man, and an eloquent, but in his nature harsh and haughty; much accepted by the king, but envied by the nobility, and hated of the people. Neither was his name left out of *Perkin's* proclamation for any good will, but they would not bring him in amongst the king's casting counters, because he had the image and superscription upon him of the pope, in his honour of cardinal. He wone the king with secrecy and diligence, but chiefly because he was his old servant in his less fortunes: and also for that (in his affections) he was not without an inveterate malice against the house of *York*, under whom he had been in trouble. He was willing also to take envy from the king, more than the king was willing to put upon him: For the king cared not for subtrefuges, but would stand envy, and appear in any thing that wasto his mind; which made envy still grow upon him more universal, but less daring. But in the matter of exactions, time did after shew, that the bishop in feeding the king's humour, did rather temper it. He had been by *Richard* the third committed (as in custody) to the duke of *Buckingham*, whom he did secretly incite to revolt from king *Richard*. But after the duke was engaged, and thought the bishop should have been his chief pilot in the tempest, the bishop was gotten into the cock-boat, and fled over beyond seas. But whatsoever else was in the man, he deserveth a most happy memory, in that he was the principal mean of joining the two roses. He died of great years, but of strong health and powers.

THE next year, which was the sixteenth year of the king, and the year of our Lord one thousand five hundred, was the year of jubilee at *Rome*. But pope *Alexander*, to save the hazard and charges of mens journeys to *Rome*, thought good to make over those graces by exchange, to such as would pay a convenient rate, seeing they could not come to fetch them. For which purpose was sent into *England*, *Jasper Pons*, a *Spaniard*, the pope's commissioner, better chosen than were the commissioners of pope *Leo* afterwards employed for *Germany*; for he carried the business with great wisdom, and semblance of holiness: Inasmuch as he levied great sums of money within this land to the pope's use, with little or no scandal. It was thought the king shared in the money. But it appeareth by a letter which cardinal *Adrian*, the king's pensioner, wrote to the king from *Rome* some few years after, that this was not so. For this cardinal being to persuade pope *Julius* on the king's behalf, to expedite the bull of dispensation for the marriage between prince *Henry* and the lady *Katharine*, finding the pope difficult in granting thereof, doth use it as a principal argument concerning the king's merit towards that fee, that he had touched none of those deniers which had been levied by *Pons* in *England*. But that it might the better appear (for the satisfaction of the common people) that this was consecrate money, the same nuncio brought unto the king a brief from the pope, wherein the king was exhorted and summoned to come in person against the *Turk*: For that the pope (out of the care of an universal father) seeing almost under his eyes the successes and progresses of that great enemy of the faith, had had in the conclave, and with the assistance of the embassadors of foreign princes, divers consultations about an holy war, and a
general

general expedition of Christian princes against the *Turk*: wherein it was agreed and thought fit, that the *Hungarians*, *Polonians*, and *Bohemians*, should make a war upon *Thracia*; the *French* and *Spaniards* upon *Graecia*; and that the pope (willing to sacrifice himself in so good a cause) in person, and in company of the king of *England*, the *Venetians*, and such other states as were great in maritime power, would sail with a puissant navy through the *Mediterranean* unto *Constantinople*. And that to this end, his holiness had sent nuncio's to all Christian princes; as well for a cessation of all quarrels and differences amongst themselves, as for speedy preparations and contributions of forces and treasure for this sacred enterprize.

To this the king, (who understood well the court of *Rome*) made an answer rather solemn than serious: signifying,

THAT no prince on earth should be more forward and obedient, both by his person, and by all his possible forces and fortunes, to enter into this sacred war, than himself. But that the distance of place was such, as no forces that he should raise for the seas, could be levied or prepared but with double the charge, and double the time, (at the least) that they might be from the other princes, that had their territories nearer adjoining. Besides, that neither the manner of his ships (having no galleys) nor the experience of his pilots and mariners, could be so apt for those seas as theirs. And therefore that his holiness might do well to move one of those other kings, who lay fitter for the purpose, to accompany him by sea. Whereby both all things would be sooner put in readiness, and with less charge, and the emulation and division of command, which might grow between those kings of *France* and *Spain*, if they should both join in the war by land upon *Graecia*, might be wisely avoided: And that for his part he would not be wanting in aids and contribution. Yet notwithstanding, if both these kings should refuse, rather than his holiness should go alone, he would wait upon him as soon as he could be ready: Always provided, that he might first see all differences of the Christian princes amongst themselves fully laid down and appeased, (as for his own part he was in none) and that he might have some good towns upon the coast in *Italy*, put into his hands, for the retreat and safeguard of his men.

WITH this answer *Jasper Pons* returned, nothing at all discontented: And yet this declaration of the king (as superficial as it was) gave him that reputation abroad, as he was not long after elected by the knights of *Rhodes* protector of their order; all things multiplying to honour, in a prince that had gotten such high estimation for his wisdom and sufficiency.

THERE were these two last years some proceedings against hereticks, which was rare in this king's reign, and rather by penances than by fire. The king had (though he were no good schoolman) the honour to convert one of them by dispute at *Canterbury*.

THIS year also, though the king were no more haunted with sprites, for that by the sprinkling, partly of blood, and partly of water, he had chased them away; yet nevertheless he had certain apparitions that troubled him, still shewing themselves from one region, which was the house of *York*. It came so to pass, that the earl of *Suffolk*, son to *Elizabeth* eldest sister to king *Edward* the fourth, by *John* Duke of *Suffolk* her second husband, and brother to *John* earl of *Lincoln*, that was slain at *Stokefield*, being of an hasty and cholerick disposition, had killed a man in his fury; whereupon the king gave him his pardon. But either willing to leave a cloud upon him, or the better to make him feel his grace, produced him openly to plead

plead his pardon. This wrought in the earl, as in a haughty stomach it useth to do, for the ignominy printed deeper than the grace. Wherefore he being discontent, fled secretly into *Flanders*, unto his aunt the duchess of *Burgundy*. The king startled at it. But being taught by troubles to use fair and timely remedies, wrought so with him by messages, (the lady *Margaret* also growing, by often failing in her alchymy, weary of her experiments; and partly, being a little sweetened, for that the king had not touched her name in the confession of *Perkin*) that he came over again upon good terms, and was reconciled to the king.

IN the beginning of the next year, being the seventeenth of the king, the lady *Katharine*, fourth daughter of *Ferdinando* and *Isabella*, king and queen of *Spain*, arrived in *England* at *Plsmouth* the second of *October*, and was married to prince *Arthur* in *Paul's*, the fourteenth of *November* following: the prince being then about fifteen years of age, and the lady about eighteen. The manner of her receiving, the manner of her entry into *London*, and the celebrity of the marriage were performed with great and true magnificence, in regard of cost, shew and order. The chief man that took the care was bishop *Fox*, who was not only a grave counsellor for war or peace, but also a good surveyor of works, and a good master of ceremonies, and any thing else that was fit for the active part, belonging to the service of the court or state of a great king. This marriage was almost seven years in treaty, which was in part caused by the tender years of the marriage couple, especially of the prince; but the true reason was, that these two princes being princes of great policy and profound judgment, stood a great time looking one upon another's fortunes, how they would go; knowing well, that in the mean time the very treaty it self gave abroad in the world a reputation of a strait conjunction and amity between them, which served on both sides to many purposes, that their several affairs required, and yet they continued still free. But in the end, when the fortunes of both the princes did grow every day more and more prosperous and assured, and that looking all about them, they saw no better conditions, they shut it up.

THE marriage money the princess brought (which was turned over to the king by act of renunciation) was two hundred thousand ducats: whereof one hundred thousand were payable ten days after the solemnization, and the other hundred thousand at two payments annual; but part of it to be in jewels and plate, and a due course set down to have them justly and indifferently prized. The jointure or advancement of the lady, was the third part of the principality of *Wales*, and of the dukedom of *Cornwal*, and of the earldom of *Chester*, to be after set forth in fealty: and in case she came to be queen of *England*, her advancement was left indefinite, but thus; that it should be as great, as ever any former queen of *England* had.

IN all the devices and conceits of the triumphs of this marriage, there was a great deal of astronomy: the lady being resembled to *Hesperus*, and the prince to *Arcturus*, and the old king *Alphonfus* (that was the greatest astronomer of kings, and was ancestor to the lady) was brought in, to be the fortune-teller of the match; and whosoever had those toys in compiling, they were not altogether pedantical: but you may be sure, that king *Arthur* the *Britain*, and the descent of the lady *Katharine* from the house of *Lancaster*, was in no wise forgotten. But (as it should seem) it is not good to fetch fortunes from the stars: For this young prince (that drew upon him at that time, not only the hopes and affections of his countrey, but the eyes and expectation of foreigners) after a few months, in the beginning of

April, deceased at *Ludlow Castle*, where he was sent to keep his residence and court, as prince of *Wales*. Of this prince, in respect he died so young, and by reason of his father's manner of education, that did cast no great lustre upon his children, there is little particular memory: Only thus much remaineth, that he was very studious and learned, beyond his years, and beyond the custom of great princes.

THERE was a doubt ripped up in the times following, when the divorce of king *Henry* the eighth from the lady *Katharine* did so much busy the world, whether *Arthur* was bedded with his lady or no, whereby that matter in fact (of carnal knowledge) might be made part of the case. And it is true, that the lady her self denied it, or at least her council stood upon it, and would not blanch that advantage, although the plenitude of the pope's power of dispensing was the main question. And this doubt was kept long open, in respect of the two queens that succeeded, *Mary* and *Elizabeth*, whose legitimations were incompatible one with another, though their succession was settled by act of parliament. And the times that favour'd queen *Mary's* legitimation would have it believed, that there was no carnal knowledge between *Arthur* and *Katharine*. Not that they would seem to derogate from the pope's absolute power, to dispense even in that case; but only in point of honour, and to make the case more favourable and smooth: And the times that favoured queen *Elizabeth's* legitimation, (which were the longer and the latter,) maintained the contrary. So much there remaineth in memory, that it was half a year's time between the creation of *Henry* prince of *Wales*, and prince *Arthur's* death, which was construed to be, for to expect a full time, whereby it might appear, whether the lady *Katharine* were with child by prince *Arthur*, or no. Again, the lady her self procured a bull, for the better corroboration of the marriage, with a clause of (*vel forsan cognitam*) which was not in the first bull. There was given in evidence also, when the cause of the divorce was handled, a pleasant passage, which was; that in a morning prince *Arthur*, upon his up-rising from bed with her, called for drink, which he was not accustomed to do, and finding the gentleman of his chamber that brought him the drink to smile at it, and to note it, he said merrily to him; that he had been in the midst of *Spain*, which was an hot region, and his journey had made him dry; and that if the other had been in so hot a clime, he would have been dryer than he. Besides, the prince was upon the point of sixteen years of age when he died, and forward, and able in body.

THE *February* following, *Henry* duke of *York* was created prince of *Wales*, and earl of *Chester* and *Flint*: for the dukedom of *Cornwall* devolved to him by statute. The king also being fast handed, and loth to part with a second dowry, but chiefly being affectionate both by his nature, and out of politick considerations to continue the alliance with *Spain*, prevailed with the prince (though not without some reluctance, such as could be in those years, for he was not twelve years of age) to be contracted with the princess *Katharine*. The secret providence of God ordaining that marriage to be the occasion of great events and changes.

THE same year were the espousals of *James* king of *Scotland* with the lady *Margaret*, the king's eldest daughter; which was done by proxy, and published at *Paul's cross* the five and twentieth of *January*, and *Te Deum* solemnly sung. But certain it is, that the joy of the city thereupon shewed, by ringing of bells and bonfires, and such other incense of the people, was more than could be expected, in a case of so great and fresh enmi-

ty between the nations, especially in *London*, which was far enough off from feeling any of the former calamities of the war : and therefore might be truly attributed to a secret instinct and inspiring, (which many times runneth not only in the hearts of princes, but in the pulse and veins of people,) touching the happiness thereby to ensue in time to come. This marriage was in *August* following consummated at *Edinburgh* : the king bringing his daughter as far as *Colliweston* on the way, and then consigning her to the attendance of the earl of *Northumberland* ; who with a great troop of lords and ladies of honour, brought her into *Scotland*, to the king her husband.

THIS marriage had been in treaty by the space of almost three years, from the time that the king of *Scotland* did first open his mind to bishop *Fox*. The sum given in marriage by the king, was ten thousand pounds : and the jointure and advancement assured by the king of *Scotland*, was two thousand pounds a year, after king *James* his death, and one thousand pounds a year in present, for the lady's allowance or maintenance. This to be set forth in lands, of the best and most certain revenue. During the treaty, it is reported, that the king remitted the matter to his council ; and that some of the table in the freedom of counsellors (the king being present) did put the case ; that if God should take the king's two sons without issue, that then the kingdom of *England* would fall to the king of *Scotland*, which might prejudice the monarchy of *England*. Whereunto the king himself replied ; that if that should be, *Scotland* would be but an accession to *England*, and not *England* to *Scotland*, for that the greater would draw the less : and that it was a safer union for *England*, than that of *France*. This passed as an oracle, and silenced those that moved the question.

THE same year was fatal, as well for deaths as marriages, and that with equal temper. For the joys and feasts of the two marriages, were compensated with the mournings and funerals of prince *Arthur*, (of whom we have spoken) and of queen *Elizabeth*, who died in child-bed in the tower, and the child lived not long after. There died also that year sir *Reginald Bray*, who was noted to have had with the king the greatest freedom of any counsellor ; but it was but a freedom the better to set off flattery. Yet he bare more than his just part of envy for the exactions.

AT this time the king's estate was very prosperous, secured by the amity of *Scotland*, strengthen'd by that of *Spain*, cherished by that of *Burgundy*, all domestick troubles quenched, and all noise of war (like a thunder afar off) going upon *Italy*. Wherefore nature, which many times is happily contained and refrained by some bands of fortune, began to take place in the king ; carrying (as with a strong tide) his affections and thoughts unto the gathering and heaping up of treasure. And as kings do more easily find instruments for their will and humour, than for their service and honour ; he had gotten for his purpose, or beyond his purpose, two instruments, *Empson* and *Dudley*, (whom the people esteemed as his horse-leeches and shearers) bold men, and careless of fame, and that took toll of their master's grist. *Dudley* was of a good family, eloquent, and one that could put hateful business into good language. But *Empson*, that was the son of a sieve-maker, triumphed always upon the deed done, putting off all other respects whatsoever. These two persons being lawyers in science, and privy counsellors in authority, (as the corruption of the best things is the worst) turned law and justice into wormwood and rapine. For first, their manner was to cause divers subjects to be indicted of sundry crimes, and so

far forth to proceed in form of law; but when the bills were found, then presently to commit them: And nevertheless not to produce them in any reasonable time to their answer, but to suffer them to languish long in prison; and by sundry artificial devices and terrors, to extort from them great fines and ransoms, which they termed compositions and mitigations.

NEITHER did they (towards the end) observe so much as the half-face of justice, in proceeding by indictment; but sent forth their precepts to attach men, and convent them before themselves, and some others, at their private houses, in a court of commission; and there used to shuffle up a summary proceeding by examination, without tryal of jury; assuming to themselves there, to deal both in pleas of the crown, and controversies civil.

NOW THEN did they also use to enthrall and charge the subjects lands with tenures *in capite*, by finding false offices, and thereby to work upon them for wardships, liveries, premier seisin, and alienations, (being the fruits of those tenures) refusing upon divers pretexts and delays, to admit men to traverse those false offices, according to the law. Nay, the king's wards, after they had accomplished their full age, could not be suffered to have livery of their lands, without paying excessive fines, far exceeding all reasonable rates. They did also vex men with informations of intrusion, upon scarce colourable titles.

WHEN men were outlawed in personal actions, they would not permit them to purchase their charters of pardon, except they paid great and intolerable sums; standing upon the strict point of law, which upon outlawries giveth forfeiture of goods: nay, contrary to all law and colour, they maintained the king ought to have the half of mens lands and rents, during the space of full two years, for a pain in case of outlawry. They would also ruffle with jurors, and enforce them to find as they would direct; and (if they did not) convent them, imprison them, and fine them.

THESE and many other courses, fitter to be buried than repeated, they had of preying upon the people; both like tame hawks for their master, and like wild hawks for themselves, insomuch as they grew to great riches and substance: but their principal working was upon penal laws, wherein they spared none, great nor small; nor considered whether the law were possible or impossible, in use, or obsolete: but raked over all old and new statutes, though many of them were made with intention rather of terror than of rigour, having ever a rabble of promoters, questmongers, and leading jurors at their command, so as they could have any thing found either for fact or valuation.

THERE remaineth to this day a report, that the king was on a time entertained by the earl of *Oxford* (that was his principal servant both for war and peace) nobly and sumptuously, at his castle at *Henningham*: And at the king's going away, the earl's servants stood (in a seemly manner) in their livery coats, with cognizances, ranged on both sides, and made the king a lane. The king called the earl to him, and said, My lord, I have heard much of your hospitality, but I see it is greater than the speech: These handsome gentlemen and yeomen, which I see on both sides of me, are sure your menial servants. The earl smiled, and said, it may please your grace, that were not for mine ease: they are most of them my retainers, that are come to do me service at such a time as this, and chiefly to see your grace. The king started a little, and said, By my faith, my lord,

I thank you for my good chear, but I may not endure to have my laws broken in my fight : my attorney must speak with you. And it is part of the report, that the earl compounded for no less than fifteen thousand marks. And to shew farther the king's extreme diligence, I do remember to have seen long since, a book of accompt of *Empson's*, that had the king's hand almost to every leaf, by way of signing, and was in some places postilled in the margin, with the king's hand likewise, where was this remembrance :

ITEM. Received of such a one five marks, for a pardon to be procured ; and if the pardon do not pass, the money to be repaid ; except the party be some other ways satisfied.

And over against this *Memorandum* (of the king's own hand)

Otherwise satisfied.

Which I do the rather mention, because it shews in the king a nearness, but yet with a kind of justness. So these little sands and grains of gold and silver (as it seemeth) helped not a little to make up the great heap and bank.

BUT mean while (to keep the king awake) the earl of *Suffolk* having been too gay at prince *Arthur's* marriage, and sunk himself deep in debt, had yet once more a mind to be a knight-errant, and to seek adventures in foreign parts ; and taking his brother with him, fled again into *Flanders*. That (no doubt) which gave him confidence, was the great murmur of the people against the king's government : and being a man of a light and rash spirit, he thought every vapour would be a tempest. Neither wanted he some party within the kingdom : For the murmur of people awakes the discontents of nobles ; and again, that calleth up commonly some head of sedition. The king resorting to his wonted and tried arts, caused sir *Robert Curson*, captain of the castle at *Hammes*, (being at that time beyond sea, and therefore less likely to be wrought upon by the king) to fly from his charge, and to feign himself a servant of the earl's. This knight, having insinuated himself into the secrets of the earl, and finding by him upon whom chiefly he had either hope or hold, advertised the king thereof in great secrecy : But nevertheless maintained his own credit and inward trust with the earl. Upon whose advertisements, the king attached *William Courtney* earl of *Devonshire*, his brother-in-law, married to the lady *Katharine*, daughter to king *Edward* the fourth ; *William de la Pole*, brother to the earl of *Suffolk* ; sir *James Tirrel*, and sir *John Windham*, and some other meaner persons, and committed them to custody. *George* lord *Abergavenny*, and sir *Thomas Green*, were at the same time apprehended ; but as upon less suspicion, so in a freer restraint, and were soon after delivered. The earl of *Devonshire* being interested in the blood of *York*, that was rather feared than nocent ; yet as one that might be the object of others plots and designs, remained prisoner in the tower, during the king's life. *William de la Pole* was also long restrained, though not so straitly. But for sir *James Tirrel* (against whom the blood of the innocent princes, *Edward* the fifth, and his brother, did still cry from under the altar) and sir *John Windham*, and the other meaner ones, they were attainted and executed ; the two knights beheaded. Nevertheless, to confirm the credit of *Curson* (who belike had not yet done all his feats of activity) there was published at *Paul's* cross, about the time of the said executions, the pope's bull of excommunication

communication and curse, against the earl of *Suffolk* and sir *Robert Curson*, and some others by name; and likewise in general against all the abettors of the said earl: wherein it must be confessed, that heaven was made too much to bow to earth, and religion to policy. But soon after *Curson* (when he saw time) returned into *England*, and withal into wonted favour with the king, but worse fame with the people. Upon whose return the earl was much dismayed, and seeing himself destitute of hopes (the lady *Margaret* also by tract of time, and bad success, being now become cool in those attempts) after some wandering in *France* and *Germany*, and certain little projects, no better than squibs of an exiled man, being tired out, retired again into the protection of the arch-duke *Philip* in *Flanders*, who by the death of *Isabella*, was at that time king of *Castile*, in the right of *Joan* his wife.

THIS year (being the nineteenth of his reign) the king called his parliament: wherein a man may easily guess how absolute the king took himself to be with his parliament, when *Dudley* that was so hateful was made speaker of the house of commons. In this parliament there were not made any statutes memorable touching publick government. But those that were, had still the stamp of the king's wisdom and policy.

THERE was a statute made for the disannulling of all patents of lease or grant, to such as came not upon lawful summons to serve the king in his wars, against the enemies or rebels, or that should depart without the king's licence; with an exception of several persons of the long robe: Providing nevertheless, that they should have the king's wages from their house, till their return home again. There hath been the like made before for offices, and by this statute it was extended to lands. But a man may easily see by many statutes made in the king's time, that the king thought it safest to assist martial law, by law of parliament.

ANOTHER statute was made, prohibiting the bringing in of manufactures of silk wrought by it self, or mixt with any other thread. But it was not of stuffs of whole piece (for that the realm had of them no manufacture in use at that time) but of knit silk, or texture of silk; as ribbands, laces, cauls, points and girdles, &c. which the people of *England* could then well skill to make. This law pointed at a true principle; that where foreign materials are but superfluities, foreign manufactures should be prohibited. For that will either banish the superfluity, or gain the manufacture.

THERE was a law also of resumption of patents of goals, and the re-annexing of them to the sheriffwicks; privileged officers being no less an interruption of justice, than privileged places.

THERE was likewise a law to restrain the by-laws, or ordinances of corporations, which many times were against the prerogative of the king, the common law of the realm, and the liberty of the subject, being fraternities in evil. It was therefore provided, that they should not be put in execution, without the allowance of the chancellor, treasurer, and the two chief justices, or three of them, or of the two justices of circuit where the corporation was.

ANOTHER law was (in effect) to bring in the silver of the realm to the mint, in making all clipped, minished, or impaired coins of silver, not to be current in payments; without giving any remedy of weight, but with an exception only of reasonable wearing, which was as nothing in respect of the uncertainty; and so (upon the matter) to set the mint on work, and to give way to new coins of silver, which should be then minted.

THERE likewise was a long statute against vagabonds, wherein two things may be noted ; the one, the dislike the parliament had of goaling of them, as that which was chargeable, pesterous, and of no open example. The other, that in the statutes of this king's time, (for this of the nineteenth year is not the only statute of that kind) there are ever coupled the punishment of vagabonds, and the forbidding of dice and cards, and unlawful games, unto servants and mean people, and the putting down and suppressing of alehouses, as strings of one root together, and as if the one were unprofitable without the other.

AS for riot and retainers, there passed scarce any parliament in this time without a law against them ; the king ever having an eye to might and multitude.

THERE was granted also that parliament a subsidy, both from the temporality and the clergy. And yet nevertheless, ere the year expired, there went out commissions for a general benevolence, though there were no wars, no fears. The same year the city gave five thousand marks, for confirmation of their liberties ; a thing fitter for the beginnings of kings reigns, than the latter ends. Neither was it a small matter that the mint gained upon the late statute, by the recoinage of groats and half-groats, now twelve-pences and six-pences. As for *Empson* and *Dudley's* mills, they did grind more than ever : So that it was a strange thing to see what golden showers poured down upon the king's treasury at once. The last payments of the marriage-money from *Spain* ; the subsidy ; the benevolence ; the recoinage ; the redemption of the city's liberties ; the casualties : And this is the more to be marvelled at, because the king had then no occasions at all of wars or troubles. He had now but one son, and one daughter unbested. He was wise ; he was of an high mind ; he needed not to make riches his glory ; he did excel in so many things else ; save that certainly avarice doth ever find in it self matter of ambition. Belike he thought to leave his son such a kingdom, and such a mass of treasure, as he might chuse his greatness where he would.

THIS year was also kept the serjeant's feast, which was the second call in this king's days.

ABOUT this time, *Isabella* queen of *Castile* deceased ; a right noble lady, and an honour to her sex and times, and the corner-stone of the greatness of *Spain* that hath followed. This accident the king took not for news at large, but thought it had a great relation to his own affairs ; especially in two points : the one for example, the other for consequence. First, he conceived that the case of *Ferdinando* of *Aragon*, after the death of queen *Isabella*, was his own case after the death of his own queen ; and the case of *Joan* the heir unto *Castile*, was the case of his own son prince *Henry*. For if both of the kings had their kingdoms in the right of their wives, they descended to the heirs, and did not accrue to the husbands. And although his own case had both steel and parchment, more than the other (that is to say, a conquest in the field, and an act of parliament) yet notwithstanding that natural title of descent in blood, did (in the imagination even of a wise man) breed a doubt, that the other two were not safe nor sufficient. Wherefore he was wonderful diligent to enquire and observe what became of the king of *Aragon*, in holding and continuing the kingdom of *Castile* ; and whether he did hold it in his own right ; or as administrator to his daughter ; and whether he were like to hold it in fact, or to be put out by his son in law. Secondly, he did revolve in his mind, that the state of *Christendom* might

might by this late accident have a turn. For whereas before time, himself, with the conjunction of *Aragon* and *Castile*, (which then was one) and the amity of *Maximilian* and *Philip* his son the arch-duke, was far too strong a party for *France*; he began to fear, that now the *French* king (who had great interest in the affections of *Philip* the young king of *Castile*) and *Philip* himself, now king of *Castile*, (who was in ill terms with his father-in-law about the present government of *Castile* :) And thirdly, *Maximilian Philip*'s father (who was ever variable, and upon whom the surest aim that could be taken was, that he would not be long as he had been last before) would, all three being potent princes, enter into some strait league and confederation amongst themselves: whereby though he should not be endangered, yet he should be left to the poor amity of *Aragon*. And whereas he had been heretofore a kind of arbiter of *Europe*, he should now go less, and be over-topped by so great a conjunction. He had also (as it seems) an inclination to marry, and bethought him of some fit conditions abroad: and amongst others he had heard of the beauty and virtuous behaviour of the young queen of *Naples*, the widow of *Ferdinando* the younger, being then of matronal years of seven and twenty: By whose marriage he thought that the kingdom of *Naples* (having been a goal for a time between the king of *Aragon*, and the *French* king, and being but newly settled) might in some part be deposited in his hands, who was so able to keep the stakes. Therefore he sent in embassage or message, three confident persons, *Francis Marfin*, *James Braybrooke*, and *John Stile*, upon two several inquiries rather than negotiations. The one touching the person and condition of the young queen of *Naples*. The other touching all particulars of estate, that concerned the fortunes and intentions of *Ferdinando*. And because they may observe best, who themselves are observed least, he sent them under colourable pretexts; giving them letters of kindness and compliment from *Katharine* the princess, to her aunt and niece, the old and young queen of *Naples*, and delivering to them also a book of new articles of peace; which notwithstanding it had been delivered unto doctor *de Puebla*, the lieger ambassador of *Spain* here in *England*, to be sent; yet for that the king had been long without hearing from *Spain*, he thought good those messengers, when they had been with the two queens, should likewise pass on to the court of *Ferdinando*, and take a copy of the book with them. The instructions touching the queen of *Naples*, were so curious and exquisite, being as articles whereby to direct a survey, or framing a particular of her person, for complexion, favour, feature, stature, health, age, customs, behaviour, conditions, and estate, as if the king had been young, a man would have judged him to be amorous; but being ancient, it ought to be interpreted, that sure he was very chaste, for that he meant to find all things in one woman, and so to settle his affections without ranging. But in this match he was soon cooled, when he heard from his ambassadors, that this young queen had had a goodly jointure in the realm of *Naples*, well answered during the time of her uncle *Frederick*; yea, and during the time of *Lewis* the *French* king, in whose division her revenue fell; but since the time that the kingdom was in *Ferdinando*'s hands, all was assigned to the army and garrisons there, and she received only a pension or exhibition out of his coffers.

THE other part of the enquiry had a grave and diligent return, informing the king at full of the present state of king *Ferdinando*. By this report it appeared to the king, that *Ferdinando* did continue the government of
Castile

Castile; as administrator unto his daughter *Joan*, by the title of queen *Isabella's* will, and partly by the custom of the kingdom, as he pretended. And that all mandates and grants were expedited in the name of *Joan* his daughter, and himself as administrator, without mention of *Philip* her husband. And that king *Ferdinando*, howsoever he did dismiss himself of the name of king of *Castile*, yet meant to hold the kingdom without account, and in absolute command.

It appeareth also, that he flattered himself with hopes, that king *Philip* would permit unto him the government of *Castile* during his life; which he had laid his plot to work him unto, both by some counsellors of his about him, which *Ferdinando* had at his devotion, and chiefly by promise, that in case *Philip* gave not way unto it, he would marry some young lady, whereby to put him by the succession of *Aragon* and *Granada*, in case he should have a son. And lastly, by representing unto him that the government of the *Burgundians*, till *Philip* were by continuance in *Spain*, made as natural of *Spain*, would not be endured by the *Spaniards*. But in all those things (though wisely laid down and considered) *Ferdinando* failed; but that *Pluto* was better to him than *Pallas*.

IN the same report also, the ambassadors being mean men, and therefore the more free, did strike upon a string which was somewhat dangerous. For they declared plainly, that the people of *Spain*, both nobles and commons, were better affected unto the part of *Philip*, (so he brought his wife with him) than to *Ferdinando*; and expressed the reason to be, because he had imposed upon them many taxes and tallages, which was the king's own case between him and his son.

THERE was also in this report a declaration of an overture of marriage, which *Amason* the secretary of *Ferdinando* had made unto the ambassadors in great secret, between *Charles* prince of *Castile*, and *Mary* the king's second daughter; assuring the king, that the treaty of marriage then on foot for the said prince and the daughter of *France*, would break: and that she the said daughter of *France*, should be married to *Angolefme*, that was the heir apparent of *France*.

THERE was a touch also of a speech of marriage between *Ferdinando* and madam *de Foix*, a lady of the blood of *France*, which afterwards indeed succeeded. But this was reported as learned in *France*, and silenced in *Spain*.

THE king by the return of this embassy, which gave great light unto his affairs, was well instructed, and prepared how to carry himself between *Ferdinando* king of *Aragon*, and *Philip* his son in law, king of *Castile*; resolving with himself to do all that in him lay, to keep them at one within themselves; but howsoever that succeeded, by a moderate carriage, and bearing the person of a common friend, to lose neither of their friendships; but yet to run a course more entire with the king of *Aragon*, but more laboured and officious with the king of *Castile*. But he was much taken with the overture of marriage with his daughter *Mary*; both because it was the greatest marriage of *Christendom*, and for that it took hold of both allies.

BUT to corroborate his alliance with *Philip*, the winds gave him an interview: for *Philip* chusing the winter season, the better to surprize the king of *Aragon*, set forth with a great navy out of *Flanders* for *Spain*, in the month of *January*, the one and twentieth year of the king's reign. But himself was surprized with a cruel tempest, that scattered his ships upon

the several coasts of *England*. And the ship wherein the king and queen were (with two other small barks only) torn, and in great peril to escape the fury of the weather, thrust into *Weymouth*. King *Philip* himself, having not been used (as it seems) to sea, all wearied and extream sick, would needs land to refresh his spirits, though it was against the opinion of his council, doubting it might breed delay, his occasions requiring celerity.

THE rumour of the arrival of a puissant navy upon the coast, made the countrey arm. And sir *Thomas Trenchard*, with forces suddenly raised, not knowing what the matter might be, came to *Weymouth*. Where understanding the accident, he did in all humbleness and humanity invite the king and queen to his house; and forthwith dispatched posts to the court. Soon after came sir *John Carew* likewise, with a great troop of men well armed; using the like humbleness and respects towards the king, when he knew the case. King *Philip* doubting that they, being but subjects, durst not let him pass away again without the king's notice and leave, yielded to their entreaties to stay till they heard from the court. The king, as soon as he heard the news, commanded presently the earl of *Arundel* to go to visit the king of *Castile*, and let him understand that as he was very sorry for his mishap, so he was glad that he had escaped the danger of the seas, and likewise of the occasion himself had to do him honour; and desiring him to think himself as in his own land; and that the king made all haste possible to come and embrace him. The earl came to him in great magnificence, with a brave troop of three hundred horse; and (for more state) came by torch-light. After he had done the king's message, king *Philip* seeing how the world went, the sooner to get away, went upon speed to the king at *Windſor*, and his queen followed by easy journeys. The two kings at their meeting, used all the careſſes and loving demonstrations that were possible. And the king of *Castile* said pleasantly to the king, that he was now punished, for that he would not come within his walled town of *Calais* when they met last. But the king answered, that walls and seas were nothing where hearts were open; and that he was here no otherwise but to be served. After a day or two's refreshing, the kings entered into speech of renewing the treaty; the king saying, that though king *Philip's* person were the same, yet his fortunes and state were raised: in which case a renovation of treaty was used amongst princes. But while these things were in handling, the king chusing a fit time, and drawing the king of *Castile* into a room, where they two only were private, and laying his hand civilly upon his arm, and changing his countenance a little from a countenance of entertainment, said to him, Sir, you have been saved upon my coast, I hope you will not suffer me to wrack upon yours. The king of *Castile* asked him, what he meant by that speech? I mean it (saith the king) by that same harebrain wild fellow, my subject, the earl of *Suffolk*, who is protected in your countrey, and begins to play the fool, when all others are weary of it. The king of *Castile* answered, I had thought (sir) your felicity had been above those thoughts: but if it trouble you I will banish him. The king replied, those hornets were best in their nest, and worst then when they did fly abroad; and that his desire was to have him delivered to him. The king of *Castile* herewith a little confused, and in a study, said, that can I not do with my honour, and less with yours; for you will be thought to have used me as a prisoner. The king presently said, then the matter is at an end: for I will take that dishonour upon me, and so your honour is saved. The king of *Castile*, who had the king in great estimation,

tion, and besides remembred where he was, and knew not what use he might have of the king's amity, for that himself was new in his estate of *Spain*, and unfettled both with his father in law, and with his people, composing his countenance, said, Sir, you give law to me, but so will I to you. You shall have him, but (upon your honour) you shall not take his life. The king embracing him, said, agreed. Saith the king of *Castile*, neither shall it dislike you, if I send to him in such a fashion, as he may partly come with his own good will. The king said, it was well thought of; and if it pleased him, he would join with him, in sending to the earl a message to that purpose. They both sent severally, and mean while they continued feasting and pastimes. The king being (on his part) willing to have the earl sure before the king of *Castile* went; and the king of *Castile* being as willing to seem to be enforced. The king also, with many wise and excellent persuasions, did advise the king of *Castile*, to be ruled by the counsel of his father in law *Ferdinando*; a prince so prudent, so experienced, so fortunate. The king of *Castile* (who was in no very good terms with his said father in law) answered, that if his father in law would suffer him to govern his kingdoms, he should govern him.

THERE were immediately messengers sent from both kings, to recall the earl of *Suffolk*; who upon gentle words used to him was soon charmed, and willing enough to return; assured of his life, and hoping of his liberty. He was brought through *Flanders* to *Calais*, and thence landed at *Dover*, and with sufficient guard delivered and received at the tower of *London*. Mean while king *Henry* (to draw out the time) continued his feasting and entertainments, and after he had received the king of *Castile* into the fraternity of the garter, and for a reciprocal had his son the prince admitted to the order of the golden fleece, he accompanied king *Philip* and his queen to the city of *London*; where they were entertained with the greatest magnificence and triumph, that could be upon no greater warning. And as soon as the earl of *Suffolk* had been conveyed to the tower, (which was the serious part) the jollities had an end, and the kings took leave. Nevertheless during their being here, they in substance concluded that treaty, which the *Flemings* term *intercurfus malus*, and bears date at *Windsor*; for that there be some things in it, more to the advantage of the *English*, than of them; especially, for that the free-fishing of the *Dutch* upon the coasts and seas of *England*, granted in the treaty of *undecimo*, was not by this treaty confirmed. All articles that confirm former treaties being precisely and warily limited and confirmed to matter of commerce only, and not otherwise.

IT was observed, that the great tempest which drove *Philip* into *England*, blew down the golden eagle from the spire of *Paul's*, and in the fall it fell upon a sign of the black eagle, which was in *Paul's* church-yard, in the place where the school-house now standeth, and batter'd it, and brake it down: which was a strange stooping of a hawk upon a fowl. This the people interpreted to be an ominous prognostick upon the imperial house, which was (by interpretation also) fulfilled upon *Philip* the emperor's son, not only in the present disaster of the tempest, but in that that followed. For *Philip* arriving into *Spain*, and attaining the possession of the kingdom of *Castile* without resistance, (insomuch as *Ferdinando*, who had spoke so great before, was with difficulty admitted to the speech of his son in law) sicken'd soon after, and deceased. Yet after such time, as there was an observation by the wisest of that court, that if he had lived, his father would have

gained upon him in that sort, as he would have governed his councils and designs, if not his affections. By this all *Spain* returned into the power of *Ferdinando* in state as it was before; the rather, in regard of the infirmity of *Joan* his daughter, who loving her husband (by whom she had many children) dearly well, and no less beloved of him, (howsoever her father to make *Philip* ill-beloved of the people of *Spain*, gave out that *Philip* used her not well) was unable in strength of mind to bear the grief of his decease, and fell distracted of her wits. Of which malady her father was thought no ways to endeavour the cure, the better to hold his regal power in *Castile*. So that as the felicity of *Charles* the eighth was said to be a dream; so the adversity of *Ferdinando* was said likewise to be a dream, it passed over so soon.

ABOUT this time the king was desirous to bring into the house of *Lancaster* celestial honour, and became suitor to pope *Julius*, to canonize king *Henry* the sixth for a saint; the rather, in respect of that his famous prediction of the king's own assumption to the crown. *Julius* referred the matter (as the manner is) to certain cardinals, to take the verification of his holy acts and miracles: but it died under the reference. The general opinion was, that pope *Julius* was too dear, and that the king would not come to his rates. But it is more probable, that the pope (who was extremely jealous of the dignity of the see of *Rome*, and of the acts thereof) knowing that king *Henry* the sixth was reputed in the world abroad but for a simple man, was afraid it would but diminish the estimation of that kind of honour, if there were not a distance kept between *Innocents* and saints.

THE same year likewise there proceeded a treaty of marriage between the king and lady *Margaret* duchess dowager of *Savoy*, only daughter to *Maximilian*, and sister to the king of *Castile*; a lady wise, and of great good fame. This matter had been in speech between the two kings at their meeting, but was soon after resumed; and therein was employed for his first piece the king's then chaplain, and after the great prelate *Thomas Wolsey*. It was in the end concluded, with great and ample conditions for the king, but with promise *de futuro* only. It may be the king was the rather induced unto it, for that he heard more and more of the marriage to go on between his great friend and ally *Ferdinando* of *Aragon*, and madam *de Foix*, whereby that king began to piece with the *French* king, from whom he had been always before severed. So fatal a thing it is, for the greatest and straitest amities of kings, at one time or other to have a little of the wheel: nay, there is a farther tradition (in *Spain*, though not with us) that the king of *Aragon*, after he knew that the marriage between *Charles*, the young prince of *Castile*, and *Mary* the king's second daughter went roundly on; (which though it was first moved by the king of *Aragon*, yet it was afterwards wholly advanced and brought to perfection by *Maximilian*, and the friends on that side,) enter'd into a jealousy, that the king did aspire to the government of *Castilia*, as administrator during the minority of his son in law; as if there should have been a competition of three for that government; *Ferdinando*, grandfather on the mother's side; *Maximilian*, grandfather on the father's side; and king *Henry*, father in law to the young prince. Certainly it is not unlike, but the king's government (carrying the young prince with him) would have been perhaps more welcome to the *Spaniards*, than that of the other two. For the nobility of *Castilia*, that so lately put out the king of *Aragon* in favour of king *Philip*, and had discovered themselves so far, could not be but in a secret distrust and distaste of that king. And as for *Maximilian*,

Maximilian, upon twenty respects he could not have been the man. But this purpose of the king's seemeth to me (considering the king's safe courses, never found to be enterprizing or adventurous) not greatly probable, except he should have had a desire to breathe warmer, because he had ill lungs. This marriage with *Margaret* was protracted from time to time, in respect of the infirmity of the king, who now in the two and twentieth of his reign began to be troubled with the gout: but the defluxion taking also into his breast, wasted his lungs, so that thrice in a year, (in a kind of return, and especially in the spring,) he had great fits and labours of the phthisick: nevertheless, he continued to intend business with as great diligence, as before in his health: yet so, as upon this warning, he did likewise now more seriously think of the world to come, and of making himself a saint, as well as king *Henry* the sixth; by treasure better employed, than to be given to pope *Julius*: for this year he gave greater alms than accustomed, and discharged all prisoners about the city, that lay for fees or debts under forty shillings. He did also make haste with religious foundations; and in the year following (which was the three and twentieth) finished that of the *Savoy*. And hearing also of the bitter cries of his people against the oppressions of *Dudley* and *Empson*, and their complices; partly by devout persons about him, and partly by publick sermons, (the preachers doing their duty therein,) he was touched with great remorse for the same. Nevertheless *Empson* and *Dudley*, though they could not but hear of these scruples in the king's conscience; yet, as if the king's soul and his money were in several offices, that the one was not to intermeddle with the other, went on with as great rage as ever. For the same three and twentieth year was there a sharp prosecution against sir *William Capel* now the second time; and this was for matters of misgovernment in his mayoralty: The great matter being, that in some payments he had taken knowledge of false moneys, and did not his diligence to examine and beat it out, who were the offenders. For this and some other things laid to his charge, he was condemned to pay two thousand pounds; and being a man of stomach, and harden'd by his former troubles, refused to pay a mite; and belike used some untoward speeches of the proceedings, for which he was sent to the tower, and there remained till the king's death. *Knesworth* likewise, that had been lately mayor of *London*, and both his sheriffs, were for abuses in their offices questioned, and imprisoned, and delivered, upon one thousand four hundred pounds paid. *Harwis*, an alderman of *London*, was put in trouble, and died with thought and anguish, before his business came to an end. Sir *Lawrence Ailmer*, who had likewise been mayor of *London*, and his two sheriffs, were put to the fine of one thousand pounds. And sir *Lawrence*, for refusing to make payment, was committed to prison, where he stayed till *Empson* himself was committed in his place.

It is no marvel (if the faults were so light and the rates so heavy) that the king's treasure of store, that he left at his death, most of it in secret places, under his own key and keeping, at *Richmond*, amounted (as by tradition it is reported to have done) unto the sum of near eighteen hundred thousand pounds sterling; a huge mass of money even for these times.

THE last act of state that concluded this king's temporal felicity, was the conclusion of a glorious match between his daughter *Mary*, and *Charles* prince of *Castile*, afterwards the great emperor, both being of tender years: which treaty was perfected by bishop *Fox*, and other his commissioners at *Calais*,

Calais, the year before the king's death. In which alliance, it seemeth, he himself took so high contentment, as in a letter which he wrote thereupon to the city of *London*, (commanding all possible demonstrations of joy to be made for the same) he expresseth himself, as if he thought he had built a wall of brass about his kingdom: when he had for his sons-in-law, a king of *Scotland*, and a prince of *Castile* and *Burgundy*. So as now there was nothing to be added to this great king's felicity, being at the top of all worldly bliss, (in regard of the high marriages of his children, his great renown throughout *Europe*, and his scarce credible riches, and the perpetual constancy of his prosperous successes,) but an opportune death, to withdraw him from any future blow of fortune: which certainly (in regard of the great hatred of his people, and the title of his son, being then come to eighteen years of age, and being a bold prince, and liberal, and that gained upon the people by his very aspect and presence) had not been impossible to have come upon him.

To crown also the last year of his reign, as well as his first, he did an act of piety, rare, and worthy to be taken into imitation. For he granted forth a general pardon: as expecting a second coronation in a better kingdom. He did also declare in his will, that his mind was, that restitution should be made of those sums which had been unjustly taken by his officers.

AND thus this *Solomon* of *England* (for *Solomon* also was too heavy upon his people in exactions) having lived two and fifty years, and thereof reigned three and twenty years, and eight months, being in perfect memory, and in a most blessed mind, in a great calm of a consuming sickness passed to a better world, the two and twentieth of *April* 1508, at his palace of *Richmond*, which himself had built.

THIS king (to speak of him in terms equal to his deserving) was one of the best sort of wonders; a wonder for wise men. He had parts (both in his virtues and his fortune) not so fit for a common place, as for observation. Certainly he was religious, both in his affection and observance. But as he could see clear (for those times) through superstition, so he would be blinded (now and then) by human policy. He advanced Church-men; he was tender in the privilege of sanctuaries, though they wrought him much mischief. He built and endowed many religious foundations, besides his memorable hospital of the *Savoy*: And yet was he a great alms-giver in secret; which shewed, that his works in publick were dedicated rather to God's glory, than his own. He professed always to love and seek peace; and it was his usual preface in his treaties; that when *Christ* came into the world, peace was sung; and when he went out of the world, peace was bequeathed. And this virtue could not proceed out of fear, or softness; for he was valiant and active, and therefore (no doubt) it was truly Christian and moral. Yet he knew the way to peace was not to seem to be desirous to avoid wars: therefore would he make offers and fumes of wars, till he had mended the conditions of peace. It was also much, that one that was so great a lover of peace, should be so happy in war. For his arms (either in foreign or civil wars) were never unfortunate; neither did he know what a disaster meant. The war of his coming in, and the rebellions of the earl of *Lincoln*, and the lord *Awdley*, were ended by victory. The wars of *France* and *Scotland*, by peaces fought at his hands. That of *Britain*, by accident of the duke's death. The insurrection of the lord *Lovel*, and that

of *Perkin* at *Exeter*, and in *Kent*, by flight of the rebels, before they came to blows: so that his fortune of arms was still inviolate: the rather sure, for that in the quenching of the commotions of his subjects, he ever went in person: Sometimes reserving himself to back and second his lieutenants, but ever in action; and yet that was not merely forwardness, but partly distrust of others.

HE did much maintain and countenance his laws; which (nevertheless) was no impediment to him to work his will: for it was so handled, that neither prerogative, nor profit went to diminution. And yet as he would sometimes strain up his laws to his prerogative, so would he also let down his prerogative to his parliament. For mint, and wars, and martial discipline, (things of absolute power) he would nevertheless bring to parliament. Justice was well administered in his time, save where the king was party: save also, that the council-table intermeddled too much with *meum* and *tuum*. For it was a very court of justice during his time, especially in the beginning: but in that part both of justice and policy, which is the durable part, and cut (as it were) in brass or marble (which is the making of good laws) he did excel. And with his justice, he was also a merciful prince: as in whose time, there were but three of the nobility that suffered; the earl of *Warwick*, the lord chamberlain, and the lord *Awdley*: though the first two were instead of numbers, in the dislike and obloquy of the people. But there were never so great rebellions, expiated with so little blood, drawn by the hand of justice, as the two rebellions of *Blackheath* and *Exeter*. As for the severity used upon those which were taken in *Kent*, it was but upon a scum of the people. His pardons went ever both before and after his sword. But then he had withal a strange kind of interchanging of large and unexpected pardons, with severe executions: which (his wisdom considered) could not be imputed to any inconstancy or inequality; but either to some reason which we do not now know, or to a principle he had set unto himself, that he would vary, and try both ways in turn: but the less blood he drew, the more he took of treasure. And (as some construed it) he was the more sparing in the one, that he might be the more pressing in the other; for both would have been intolerable. Of nature assuredly he coveted to accumulate treasure, and was a little poor in admiring riches. The people (into whom there is infused, for the preservation of monarchies, a natural desire to discharge their princes, though it be with the unjust charge of their counsellors and ministers) did impute this unto cardinal *Morton*, and sir *Reginald Bray*: who (as it after appeared) as counsellors of ancient authority with him, did so second his humours, as nevertheless they did temper them. Whereas *Empson*, and *Dudley* that followed, being persons that had no reputation with him, (otherwise than by the servile following of his bent) did not give way only (as the first did) but shape him way to those extremities, for which himself was touched with remorse at his death, and which his successor renounced, and sought to purge. This excess of his, had at that time many glosses and interpretations. Some thought the continual rebellions wherewith he had been vexed, had made him grow to hate his people: some thought it was done to pull down their stomachs, and to keep them low: some, for that he would leave his son a golden fleece: some suspected he had some high design upon foreign parts: but those perhaps shall come nearest the truth, that fetch not their reasons so far off; but rather impute it to nature, age, peace, and a mind fixed upon no other ambition or pursuit. Whereunto I should add, that having every

every day occasion to take notice of the necessities and shifts for money of other great princes abroad, it did the better (by comparison) set off to him the felicity of full coffers. As to his expending of treasure, he never spared charge which his affairs required; and in his buildings was magnificent, but his rewards were very limited: so that his liberality was rather upon his own state and memory, than upon the deserts of others.

HE was of an high mind, and loved his own will, and his own way; as one that revered himself, and would reign indeed. Had he been a private man, he would have been termed proud. But in a wise prince, it was but keeping of distance, which indeed he did towards all; not admitting any near or full approach, either to his power, or to his secrets: for he was governed by none. His queen (notwithstanding she had presented him with divers children, and with a crown also, though he would not acknowledge it) could do nothing with him. His mother he revered much, heard little. For any person agreeable to him for society (such as was *Hastings* to king *Edward* the fourth, or *Charles Brandon* after to king *Henry* the eighth) he had none: except we should account for such persons, *Fox*, and *Bray*, and *Empson*, because they were so much with him: but it was but as the instrument is much with the workman. He had nothing in him of vain-glory, but yet kept state and majesty to the height; being sensible, that majesty maketh the people bow, but vain-glory boweth to them.

To his confederates abroad he was constant and just, but not open. But rather, such was his enquiry, and such his closeness, as they stood in the light towards him, and he stood in the dark to them. Yet without strangeness, but with a semblance of mutual communication of affairs. As for little envies, or emulations upon foreign princes (which are frequent with many kings) he had never any; but went substantially to his own business. Certain it is, that though his reputation was great at home, yet it was greater abroad. For foreigners that could not see the passages of affairs, but made their judgments upon the issues of them, noted that he was ever in strife, and ever aloft. It grew also from the airs which the princes and states abroad received from their ambassadors and agents here; which were attending the court in great number: whom he did not only content with courtesy, reward, and privateness; but (upon such conferences as passed with them) put them in admiration, to find his universal insight into the affairs of the world: which though he did suck chiefly from themselves, yet that which he had gathered from them all, seemed admirable to every one. So that they did write ever to their superiours in high terms, concerning his wisdom and art of rule: nay, when they were returned, they did commonly maintain intelligence with him. Such a dexterity he had to improprie to himself all foreign instruments.

HE was careful and liberal to obtain good intelligence from all parts abroad: wherein he did not only use his interest in the liegers here, and his pensioners which he had both in the court of *Rome*, and other the courts of *Christendom*; but the industry and vigilance of his own ambassadors in foreign parts. For which purpose his instructions were ever extream curious and articulate; and in them more articles touching inquisition, than touching negotiation. Requiring likewise from his ambassadors, an answer in particular distinct articles, respectively to his questions.

As for his secret espials, which he did employ both at home and abroad, by them to discover what practices and conspiracies were against him, surely his case required it; he had such moles perpetually working and casting

to undermine him. Neither can it be reprehended: for if espials be lawful against lawful enemies, much more against conspirators and traitors. But indeed to give them credence by oaths or curses, that cannot be well maintained; for those are too holy vestments for a disguise. Yet surely there was this farther good in his employing of these flies and familiars; that as the use of them was the cause that many conspiracies were revealed, so the fame and suspicion of them kept (no doubt) many conspiracies from being attempted.

TOWARDS his queen he was nothing uxorious, nor scarce indulgent; but companionable and respectful, and without jealousy. Towards his children he was full of paternal affection, careful of their education, aspiring to their high advancement, regular to see that they should not want of any due honour and respect, but not greatly willing to cast any popular lustre upon them.

To his council he did refer much, and sat oft in person; knowing it to be the way to assist his power, and inform his judgment. In which respect also he was fairly patient of liberty, both of advice, and of vote, till himself were declared. He kept a strait hand on his nobility, and chose rather to advance clergymen and lawyers, which were more obsequious to him, but had less interest in the people; which made for his absoluteness, but not for his safety. Inasmuch as (I am persuaded) it was one of the causes of his troublesome reign; for that his nobles, though they were loyal and obedient, yet did not co-operate with him, but let every man go his own way. He was not afraid of an able man, as *Lewis* the eleventh was: But contrariwise, he was served by the ablest men that were to be found; without which his affairs could not have prospered as they did. For war, *Bedford*, *Oxford*, *Surrey*, *D'Aubigny*, *Brook*, *Poynings*: For other affairs, *Morton*, *Fox*, *Bray*, the prior of *Lanthony*, *Warham*, *Urswick*, *Hussey*, *Fro-wick*, and others. Neither did he care how cunning they were that he did employ; for he thought himself to have the master-reach. And as he chose well, so he held them up well: for it is a strange thing, that though he were a dark prince, and infinitely suspicious, and his times full of secret conspiracies and troubles; yet in twenty four years reign, he never put down, or discomposed counsellor, or near servant, save only *Stanley* the lord chamberlain. As for the disposition of his subjects in general towards him, it stood thus with him; that of the three affections, which naturally tie the hearts of the subjects to their sovereigns, love, fear, and reverence; he had the last in height, the second in good measure, and so little of the first, as he was beholden to the other two.

HE was a prince, sad, serious, and full of thoughts, and secret observations, and full of notes and memorials of his own hand, especially touching persons. As, whom to employ, whom to reward, whom to enquire of, whom to beware of, what were the dependencies, what were the factions, and the like; keeping (as it were) a journal of his thoughts. There is to this day a merry tale; that his monkey (set on as it was thought by one of his chamber) tore his principal note book all to pieces, when by chance it lay forth: Whereat the court (which liked not those pensive accounts) was almost tickled with sport.

HE was indeed full of apprehensions and suspicions: But as he did easily take them, so he did easily check them and master them; whereby they were not dangerous, but troubled himself more than others. It is true, his thoughts were so many, as they could not well always stand together;

but that which did good one way, did hurt another: Neither did he at some times weigh them aright in their proportions. Certainly, that rumour which did him so much mischief (that the duke of *York* should be saved, and alive) was (at the first) of his own nourishing; because he would have more reason not to reign in the right of his wife. He was affable, and both well and fair-spoken; and would use strange sweetness and blandishments of words, where he desired to effect or persuade any thing that he took to heart. He was rather studious than learned; reading most books that were of any worth in the *French* tongue. Yet he understood the *Latin*, as appeareth in that cardinal *Hadrian*, and others, who could very well have written *French*, did use to write to him in *Latin*.

For his pleasures, there is no news of them: and yet by his instructions to *Marfin* and *Stile*, touching the queen of *Naples*, it seemeth he could interrogate well touching beauty. He did by pleasures, as great princes do by banquets, come and look a little upon them, and turn away: For never prince was more wholly given to his affairs, nor in them more of himself: Infomuch as in triumphs of jousts and tourneys, and balls, and masks (which they then called disguises) he was rather a princely and gentle spectator, than seemed much to be delighted.

No doubt, in him as in all men (and most of all in kings) his fortune wrought upon his nature, and his nature upon his fortune. He attained to the crown, not only from a private fortune, which might endow him with moderation; but also from the fortune of an exiled man, which had quickened in him all seeds of observation and industry. And his times being rather prosperous than calm, had raised his confidence by success, but almost marred his nature by troubles. His wisdom, by often evading from perils, was turned rather into a dexterity to deliver himself from dangers, when they pressed him, than into a providence to prevent and remove them afar off: And even in nature, the fight of his mind was like some fights of eyes; rather strong at hand, than to carry afar off. For his wit encreased upon the occasion; and so much the more, if the occasion were sharpened by danger. Again, whether it were the shortness of his foresight, or the strength of his will, or the dazling of his suspicions, or what it was; certain it is, that the perpetual troubles of his fortunes (there being no more matter out of which they grew) could not have been without some great defects and main errors in his nature, customs, and proceedings, which he had enough to do to save and help with a thousand little industries and watches. But those do best appear in the story it self. Yet take him with all his defects, if a man should compare him with the kings his concurrents in *France* and *Spain*, he shall find him more politick than *Lewis* the twelfth of *France*, and more entire and sincere than *Ferdinando* of *Spain*. But if you shall change *Lewis* the twelfth, for *Lewis* the eleventh, who lived a little before, then the consort is more perfect. For that *Lewis* the eleventh, *Ferdinando* and *Henry*, may be esteemed for the *Tres Magi* of kings of those ages. To conclude, if this king did no greater matters, it was long of himself; for what he minded he compassed.

HE was a comely personage, a little above just stature, well and strait limbed, but slender. His countenance was reverend, and a little like a churchman: and as it was not strange or dark, so neither was it winning or pleasing, but as the face of one well disposed. But it was to the disadvantage of the painter, for it was best when he spake.

HIS worth may bear a tale or two, that may put upon him somewhat that may seem divine. When the lady *Margaret* his mother had divers great suitors for marriage, she dreamed one night, that one in the likeness of a bishop in pontifical habit, did tender her *Edmund* earl of *Richmond*, (the king's father) for her husband, neither had she ever any child but the king, though she had three husbands. One day when king *Henry* the sixth (whose innocency gave him holiness) was washing his hands at a great feast, and cast his eye upon king *Henry*, then a young youth, he said; this is the lad that shall possess quietly that that we now strive for. But that that was truly divine in him was, that he had the fortune of a true Christian, as well as of a great king, in living exercised, and dying repentant: So as he had an happy warfare in both conflicts, both of sin and the cross.

HE was born at *Pembroke* castle, and lieth buried at *Westminster*, in one of the stateliest and daintiest monuments of *Europe*, both for the chapel, and for the sepulchre. So that he dwelleth more richly dead, in the monument of his tomb, than he did alive in *Richmond*, or any of his palaces. I could wish he did the like in this monument of his fame.

T H E

H I S T O R Y

O F T H E

R E I G N

O F

K I N G *H E N R Y* V I I I.

AFTER the decease of that wise and fortunate king, king *Henry* the seventh, who died in the height of his prosperity, there followed (as used to do, when the sun setteth so exceeding clear,) one of the fairest mornings of a kingdom that hath been known in this land, or any where else. A young king, about eighteen years of age, for stature, strength, making, and beauty, one of the goodliest persons of his time. And though he were given to pleasure, yet

he was likewise desirous of glory ; so that there was a passage open in his mind, by glory, for virtue. Neither was he unadorned with learning, tho' therein he came short of his brother *Arthur*. He had never any the least pique, difference, or jealousy, with the king his father, which might give any occasion of altering court or council upon the change ; but all things passed in a still. He was the first heir of the white and the red rose ; so that there was no discontented party now left in the kingdom, but all mens hearts turned towards him : and not only their hearts, but their eyes also : For he was the only son of the kingdom. He had no brother ; which tho' it be a comfortable thing for kings to have, yet it draweth the subjects eyes a little aside. And yet being a married man in those young years, it promised hope of speedy issue to succeed in the crown. Neither was there any queen mother, who might share any way in the government, or clash with his counsellors for authority, while the king intended his pleasure. No such thing as any great and mighty subject, who might any way eclipse or overshadow the imperial power. And for the people, and state in general, they were in such lowness of obedience, as subjects were like to yield, who had lived almost four and twenty years, under so politick a king as his father ; being also one who came partly in by the sword ; and had so high a courage in all points of regality ; and was ever victorious in rebellions and seditions of the people. The crown extremely rich, and full of treasure, and the kingdom like to be so in short time. For there was no war, no dearth, no stop of trade, or commerce ; it was only the crown which had sucked too hard, and now being full, and upon the head of a young king, was like to draw less. Lastly, he was inheritor of his father's reputation, which was great throughout the world. He had strait alliance with the two neighbour states, an ancient enemy in former times, and an ancient friend, *Scotland* and *Burgundy*. He had peace and amity with *France*, under the assurance, not only of treaty and league, but of necessity and inability in the *French* to do him hurt, in respect that the *French* king's designs were wholly bent upon *Italy* : so that it may be truly said, there had scarcely been seen, or known, in many ages, such a rare concurrence of signs and promises, of a happy and flourishing reign to ensue, as were now met in this young king, called, after his father's name, *Henry* the eighth, &c.



T H E

T H E
B E G I N N I N G
O F T H E
H I S T O R Y
O F
G R E A T B R I T A I N.

BY the decease of *Elizabeth* queen of *England*, the issues of king *Henry* the eighth failed, being spent in one generation, and three successions. For that king, though he were one of the goodliest persons of his time, yet he left only by his six wives three children; who reigning successively, and dying childless, made place to the line of *Margaret*, his eldest sister, married to *James* the fourth king of *Scotland*. There succeeded therefore to the kingdom of *England* *James* the sixth then king of *Scotland*, descended of the same *Margaret* both by father and mother: so that by a rare event in the pedigrees of kings, it seemed as if the divine providence, to extinguish and take away all envy and note of a stranger, had doubled upon his person, within the circle of one age, the royal blood of *England* by both parents. This succession drew towards it the eyes of all men, being one of the most memorable accidents that had happened a long time in the Christian world. For the kingdom of *France* having been reunited in the age before in all the provinces thereof formerly dismembred; and the kingdom of *Spain* being of more fresh memory, united and made entire, by the annexing of *Portugal* in the person of *Philip* the second; there remained but this third and last union, for the counterpoizing of the power of these three great monarchies; and the disposing of the affairs of *Europe* thereby to a more assured and universal peace and concord. And this event did hold mens observations and discourses the more, because the island of *Great Britain* divided from the rest of the world, was never before united in it self under one king, notwithstanding the people be of one language, and not separate by mountains or great waters: and notwithstanding also that the uniting of them had been in former times industriously attempted both by war and treaty. Therefore it seemed a manifest work of providence, and a case of reservation for these times; insomuch that the vulgar conceived that now there was an end given, and a consummation to superstitious prophecies (the belief of fools, but the talk sometimes of wise men) and to an ancient tacite expectation, which had by tradition been infused and inveterated into mens minds. But as the best divinations and predictions, are the politick and probable foresight

fight and conjectures of wise men, so in this matter the providence of king *Henry* the seventh was in all mens mouths; who being one of the deepest and most prudent princes of the world, upon the deliberation concerning the marriage of his eldest daughter into *Scotland*, had by some speech uttered by him, shewed himself sensible and almost prescient of this event.

NEITHER did there want a concurrence of divers rare external circumstances (besides the virtues and conditions of the person) which gave great reputation to this succession. A king in the strength of his years, supported with great alliances abroad, established with royal issue at home, at peace with all the world, practised in the regiment of such a kingdom, as might rather enable a king by variety of accidents, than corrupt him with affluence or vain-glory; and one that besides his universal capacity and judgment, was notably exercised and practised in matters of religion and the church; which in these times by the confused use of both swords, are become so intermixed with considerations of estate, as most of the counsels of sovereign princes or republicks depend upon them: but nothing did more fill foreign nations with admiration and expectation of his succession, than the wonderful and (by them) unexpected consent of all estates and subjects of *England*, for the receiving of the king without the least scruple, pause or question. For it had been generally dispersed by the fugitives beyond the seas (who partly to apply themselves to the ambition of foreigners, and partly to give estimation and value to their own employments, used to represent the state of *England* in a false light) that after queen *Elizabeth's* decease, there must follow in *England* nothing but confusions, interreigns, and perturbations of estate, likely far to exceed the ancient calamities of the civil wars between the houses of *Lancaster* and *York*, by how much more the dissensions were like to be more mortal and bloody, when foreign competition should be added to domestical; and divisions for religion to matter of title to the crown. And in special, *Parsons* the Jesuit, under a disguised name, had not long before published an express treatise, wherein whether his malice made him believe his own fancies, or whether he thought it the fittest way to move sedition, like evil spirits, which seem to foretel the tempest they mean to move; he laboured to display and give colour to all the vain pretences and dreams of succession which he could imagine; and thereby had possessed many abroad that knew not the affairs here with those his vanities. Neither wanted there here within this realm, divers persons both wise and well affected, who though they doubted not of the undoubted right, yet setting before themselves the waves of peoples hearts (guided no less by sudden and temporary winds, than by the natural course and motion of the waters) were not without fear what might be the event. For queen *Elizabeth* being a princess of extream caution, and yet one that loved admiration above safety; and knowing the declaration of a successor might in a point of safety be disputable, but in point of admiration and respect assuredly to her disadvantage; had from the beginning set it down for a maxim of estate, to impose a silence touching succession. Neither was it only reserved as a secret of estate, but restrained by severe laws; that no man should presume to give opinion, or maintain argument touching the same: so that though the evidence of right drew all the subjects of the land to think one thing; yet the fear of the danger of the law, made no man privy to others thoughts. And therefore it rejoiced all men to see so fair a morning of a kingdom, and to be thoroughly secured of former apprehensions; as a man that awaketh out of a fearful dream. But so it was, that

not only the consent, but the applause and joy was infinite, and not to be expressed, throughout the realm of *England* upon this succession: whereof the consent (no doubt) may be truly ascribed to the clearness of the right; but the general joy, alacrity, and gratulation, were the effects of differing causes. For queen *Elizabeth*, although she had the use of many both virtues and demonstrations, that might draw and knit unto her the hearts of her people; yet nevertheless carrying a hand restrained in gift, and strained in points of prerogative, could not answer the votes either of servants or subjects to a full contentment; especially in her latter days, when the continuance of her reign (which extended to five and forty years) might discover in people, their natural desire and inclination towards change, so that a new court, and a new reign, were not to many unwelcome. Many were glad; and especially those of settled estates and fortunes, that the fears and uncertainties were overblown, and that the dye was cast. Others that had made their way with the king, or offered their service in the time of the former queen, thought now the time was come for which they had prepared: and generally all such as had any dependence upon the late earl of *Essex* (who had mingled the service of his own ends, with the popular pretence of advancing the king's title) made account their cause was amended. Again, such as might misdoubt they had given the king any occasion of distaste, did contend by their forwardness and confidence to shew, it was but their fastness to the former government, and that those affections ended with the time. The papists nourished their hopes, by collating the case of the papists in *England*, and under queen *Elizabeth*, and the case of the papists in *Scotland* under the king; interpreting that the condition of them in *Scotland* was the less grievous, and divining of the king's government here accordingly: besides the comfort they ministered to themselves from the memory of the queen his mother. The ministers, and those which stood for the presbytery, thought their cause had more sympathy with the discipline of *Scotland*, than the hierarchy of *England*, and so took themselves to be a degree nearer their desires. Thus had every condition of persons some contemplation of benefit, which they promised themselves; over-reaching perhaps according to the nature of hope, but yet not without some probable ground of conjecture. At which time also there came forth in print the king's book, entitled Βασιλικὸν Διάταγμα: containing matter of instruction to the prince his son, touching the office of a king; which book falling into every man's hand, filled the whole realm, as with a good perfume or incense, before the king's coming in: for being excellently written, and having nothing of affectation, it did not only satisfy better than particular reports touching the king's disposition, but far exceeded any formal or curious edict or declaration, which could have been devised of that nature, wherewith princes in the beginning of their reigns do use to grace themselves, or at least express themselves gracious in the eyes of their people. And this was for the general, the state and constitution of mens minds upon this change: the actions themselves passed in this manner, &c.

M I S C E L L A N Y

W O R K S

Of the Right Honourable

*Francis Lord Verulam,*Published by *WILLIAM RAWLEY*, D.D. An. 1629.

To the Reader.

I Have thought good, as a servant to the labours and memory of that noble lord, the lord viscount St. *Alban*, to collect into one these few, rather parcels than just works, of his excellent Pen: Which I have done for these causes. First, to vindicate the wrong his lordship suffered, by a corrupt and surreptitious edition of that discourse of his, touching a war with *Spain*, lately set forth. Secondly, by way of prevention, to exempt from the like injury and defacements, those other discourses of his herein contained. Lastly, to satisfy the desires of some, who hold it unreasonable, that any the delineations of that pen, though in never so small a model, should not be shewn to the world. I know it carries the excuse with it after the author's death, to publish fragments: therefore I will make none. These works being all for the argument civil, I cannot represent better than in resemblance of *Aristotle's Parva Naturalia*, to account them as his lordship's *Parva Politica*. Howsoever, I doubt not but every judicious reader, finding of his lordship's spirit in them, will know them to be his; and will afford them a place of reputation amongst his greater works.

W. RAWLEY.

CONSI-

C O N S I D E R A T I O N S

T O U C H I N G A

W A R

W I T H

S P A I N.

Inscribed to Prince *Charles*, An. 1624.

YOUR highness hath an imperial name. It was a *Charles* that brought the empire first into *France*; a *Charles* that brought it first into *Spain*; why should not *Great Britain* have its turn? But to lay aside all that may seem to have a shew of fumes and fancies, and to speak solids: a war with *Spain*, (if the king shall enter into it) is a mighty work; it requireth strong materials, and active motions. He that saith not so, is zealous, but not according to knowledge. But nevertheless *Spain* is no such giant: and he that thinketh *Spain* to be some great over-match for this estate, assisted as it is, and may be, is no good mint-man; but takes greatness of kingdoms according to their bulk and currency, and not after their intrinsick value. Although therefore I had wholly sequestred my thoughts from civil affairs, yet because it is a new case, and concerneth my countrey infinitely, I obtained of my self to set down, out of long continued experience in business of estate, and much conversation in books of policy and history, what I thought pertinent to this business; and in all humbleness present it to your highness: hoping that at least you will discern the strength of my affection, through the weakness of my abilities: for the *Spaniard* hath a good proverb, *de suario si empre con la calentura*; there is no heat of affection, but is joined with some idleness of brain.

To a war are required; a just quarrel; sufficient forces and provisions; and a prudent choice of the designs. So then, I will first justify the quarrel; secondly, balance the forces; and lastly, propound variety of designs for choice, but not advise the choice; for that were not fit for a writing of this nature; neither is it a subject within the level of my judgment; I being, in effect, a stranger to the present occurrences.

WARS (I speak not of ambitious predatory wars) are suits of appeal to the tribunal of God's justice, where there are no superiors on earth to determine the cause: And they are (as civil pleas are) complaints or defences. There are therefore three just grounds of war with *Spain*; one complaint, two upon defence. *Solomon* saith, *a cord of three is not easily broken*: but especially

when every of the lines would hold single by it self. They are these: the recovery of the *Palatinate*; a just fear of the subversion of our civil estate; a just fear of the subversion of our church and religion. For in the handling of the two last grounds of war, I shall make it plain, that wars preventive upon just fears, are true defensives, as well as upon actual invasions: and again, that wars defensive for religion, (I speak not of rebellion) are most just; though offensive wars for religion are seldom to be approved, or never, unless they have some mixture of civil titles. But all that I shall say in this whole argument, will be but like bottoms of thread close wound up, which with a good needle (perhaps) may be flourished into large works.

For the asserting of the justice of the quarrel, for the recovery of the *Palatinate*, I shall not go so high as to discuss the right of the war of *Bohemia*; which if it be freed from doubt on our part, then there is no colour nor shadow why the *Palatinate* should be retained; the ravishing whereof was a mere excursion of the first wrong, and a super-injustice. But I do not take my self to be so perfect in the customs, transactions, and privileges of that kingdom of *Bohemia*, as to be fit to handle that part: and I will not offer at that I cannot master. Yet this I will say (in passage) positively and resolutely; that it is impossible an elective monarchy should be so free and absolute as an hereditary; no more than it is possible for a father to have so full power and interest in an adoptive son, as in a natural; *quia naturalis obligatio fortior civili*. And again, that received maxim is almost unshaken and infallible; *nil magis naturae consentaneum est, quam ut iisdem modis res dissolvantur, quibus constituuntur*. So that if the part of the people or estate be somewhat in the election, you cannot make them nulls or ciphers in the privation or translation. And if it be said, that this is a dangerous opinion for the pope, emperor, and elective kings; it is true it is a dangerous opinion, and ought to be a dangerous opinion, to such personal popes, emperors, or elective kings, as shall transcend their limits, and become tyrannical. But it is a safe and sound opinion for their sees, empires and kingdoms; and for themselves also if they be wise; *plenitudo potestatis, est plenitudo tempestatis*. But the chief cause why I do not search into this point is, because I need it not. And in handling the right of a war, I am not willing to intermix matter doubtful, with that which is out of doubt. For as in capital causes, wherein but one man's life is in question, *in favorem vitae*, the evidence ought to be clear; so much more in a judgment upon a war, which is capital to thousands. I suppose therefore the worst, that the offensive war upon *Bohemia* had been unjust; and then make the case, which is no sooner made than resolved; if it be made not enwrapped, but plainly and perspicuously. It is this *in Thebi*. An offensive war is made, which is unjust in the aggressor; the prosecution and race of the war, carrieth the defendant to assail and invade the ancient and indubitate patrimony of the first aggressor, who is now turned defendant; shall he sit down, and not put himself in defence? Or if he be dispossessed, shall he not make a war for the recovery? No man is so poor of judgment as will affirm it. The castle of *Cadmus* was taken, and the city of *Thebes* it self invested by *Phoebidas* the *Lacedaemonian*, insidiously, and in violation of league: the process of this action drew on a re-surprize of the castle by the *Thebans*, a recovery of the town, and a current of the war even unto the walls of *Sparta*. I demand, was the defence of the city of *Sparta*, and the expulsion of the *Thebans* out of the ancient *Laconian* territories, unjust?

The sharing of that part of the duchy of *Milan*, which lieth upon the river of *Adda*, by the *Venetians*, upon contract with the *French*, was an ambitious and unjust purchase. This wheel set on going, did pour a war upon the *Venetians* with such a tempest, as *Padua* and *Trevigi* were taken from them, and all their dominions upon the continent of *Italy* abandoned, and they confined within the salt waters. Will any man say, that the memorable recovery and defence of *Padua*, (when the gentlemen of *Venice*, unused to the wars, out of the love of their countrey, became brave and martial the first day;) and so likewise the re-adeption of *Trevigi*, and the rest of their dominions, was matter of scruple, whether just or no, because it had source from a quarrel ill begun? The war of the duke of *Urbino*, nephew to pope *Julius* the second, when he made himself head of the *Spanish* mutineers, was as unjust as unjust might be; a support of desperate rebels; an invasion of saint *Peter's* patrimony; and what you will. The race of this war fell upon the loss of *Urbino* it self, which was the duke's undoubted right; yet in this case no penitentiary, (though he had enjoined him never so strait penance to expiate his first offence) would have countelled him to have given over the pursuit of his right for *Urbino*; which after he prosperously re-obtained, and hath transmitted to his family yet until this day. Nothing more unjust than the invasion of the *Spanish Armada* in 88, upon our seas; for our land was holy land to them, they might not touch it; shall I say therefore, that the defence of *Lisbon*, or *Cales*, afterwards, was unjust? There be thousands of examples; *utor in re non dubia exemplis non necessariis*: the reason is plain; wars are *Vindictae*, revenges, reparations. But revenges are not infinite, but according to the measure of the first wrong or damage. And therefore when a voluntary offensive war, by the design or fortune of the war, is turned to a necessary defensive war, the scene of the tragedy is changed, and it is a new act to begin. For the particular actions of war, though they are complicate in fact, yet they are separate and distinct in right; like to cross suits in civil pleas, which are sometimes both just. But this is so clear, as needeth no farther to be insisted upon. And yet if in things so clear, it were fit to speak of more or less clear in our present cause, it is the more clear on our part, because the possession of *Bohemia* is settled with the emperor. For though it be true, that *non datur compensatio injuriarum*; yet were there somewhat more colour to detain the *Palatinate*, as in the nature of a recovery, in value or compensation, if *Bohemia* had been lost, or were still the stage of the war. Of this therefore I speak no more. As for the title of proscription or forfeiture, wherein the emperor (upon the matter) hath been judge and party, and hath justified himself, God forbid but that it should well endure an appeal to a war. For certainly the court of heaven is as well a chancery to save and debar forfeitures, as a court of common law to decide rights; and there would be work enough in *Germany*, *Italy*, and other parts, if imperial forfeitures should go for good titles.

Thus much for the first ground of war with *Spain*, being in the nature of a plaint for the recovery of the *Palatinate*; omitting here that which might be the seed of a larger discourse, and is verified by a number of examples; that whatsoever is gained by an abusive treaty, ought to be restored *in integrum*: as we see the daily experience of this in civil pleas; for the images of great things are best seen contracted into small glasses: we see (I say) that all pretorian courts, if any of the parties be entertained or laid asleep, under pretence of arbitrement or accord, and that the other party,

ty, during that time, doth cautelously get the start and advantage at common law, though it be to judgment and execution; yet the pretorian court will set back all things *in statu quo prius*, no respect had to such eviction or dispossession. Lastly, let there be no mistaking; as if when I speak of a war for the recovery of the *Palatinate*, I meant, that it must be *in linea recta*, upon that place: for look into *jus faeciale*, and all examples, and it will be found to be without scruple; that after a legation *ad res repetendas*, and a refusal, and a denunciation or indiction of a war, the war is no more confined to the place of the quarrel, but is left at large and to choice, (as to the particular conducting designs,) as opportunities and advantages shall invite.

To proceed therefore to the second ground of a war with *Spain*, we have set it down to be, a just fear of the subversion of our civil estate. So then, the war is not for the *Palatinate* only, but for *England*, *Scotland*, *Ireland*, our king, our prince, our nation, all that we have. Wherein two things are to be proved. The one, that a just fear, (without an actual invasion or offence,) is a sufficient ground of a war, and in the nature of a true defensive: the other, that we have towards *Spain*, cause of just fear; I say, just fear: for as the civilians do well define, that the legal fear is, *justus metus qui cadit in constantem virum*, in private causes: So there is, *justus metus qui cadit in constantem senatum, in causa publica*; not out of umbrages, light jealousies, apprehensions a-far off, but out of clear foresight of imminent danger.

CONCERNING the former proposition, it is good to hear what time saith, *Thucydides*, in his inducement to his story of the great war of *Peloponnesus*, sets down in plain terms, that the true cause of that war was, the overgrowing greatness of the *Athenians*, and the fear that the *Lacedaemonians* stood in thereby; and doth not doubt to call it, a necessity imposed upon the *Lacedaemonians* of a war; which are the words of a mere defensive: adding, that the other causes were but specious and popular. *Verissimam quidem, sed minime sermone celebratam, arbitror extitisse belli causam, Athenienses magnos effectos, & Lacedaemoniis formidolosos, necessitatem illis imposuisse bellandi: Quae autem propalam ferebantur utrinque causae, istae fuerunt, &c.* The truest cause of this war, though least voiced, I conceive to have been this; that the *Athenians*, being grown great, to the terror of the *Lacedaemonians*, did impose upon them a necessity of a war: but the causes that went abroad in speech were these, &c. *Sulpitius Galba*, consul, when he perswaded the *Romans* to a preventive war, with the later *Philip* king of *Macedon*, in regard of the great preparations which *Philip* had then on foot, and his designs to ruin some of the confederates of the *Romans*, confidently saith, that they who took that for an offensive war, understood not the state of the question. *Ignorare videmini mihi, (Quirites) non, utrum bellum an pacem habeatis, vos consuli, (neque enim liberum id vobis permittet Philippus, qui terra marique ingens bellum molitur,) sed utrum in Macedoniam legiones transportetis, an hostem in Italiam recipiatis.* Ye seem to me (ye *Romans*) not to understand, that the consultation before you is not, whether you shall have war or peace, (for *Philip* will take order you shall be no chusers, who prepareth a mighty war both by land and sea,) but whether you shall transport the war into *Macedon*, or receive it into *Italy*. *Antiochus*, when he incited *Prusias* king of *Bithynia*, (at that time in league with the *Romans*,) to join with him in war against them, setteth before him a just fear of the overspreading greatness of the *Romans*, comparing it to a fire

fire that continually took, and spread from kingdom to kingdom: *Venire Romanos ad omnia regna tollenda, ut nullum usquam orbis terrarum nisi Romanum imperium esset; Philippum & Nabin expugnatos, se tertium peti; ut quisque proximus ab oppresso sit, per omnes velut continens incendium pervasurum*: That the Romans came to pull down all kingdoms, and to make the state of Rome an universal monarchy; that Philip and Nabis were already ruined, and now was his turn to be assailed: so that as every state lay next to the other that was oppressed, so the fire perpetually grazed. Wherein it is well to be noted, that towards ambitious states, (which are noted to aspire to great monarchies, and to seek upon all occasions to enlarge their dominions,) *crescunt argumenta justi metus*: all particular fears do grow and multiply out of the contemplation of the general courses and practice of such states. Therefore in deliberations of war against the Turk, it hath been often, with great judgment, maintained; that Christian princes and states have always a sufficient ground of invasive war against the enemy: not for cause of religion, but upon a just fear; forasmuch as it is a fundamental law, in the Turkish empire, that they may (without any other provocation) make war upon Christendom, for the propagation of their law; so that there lieth upon the Christians a perpetual fear of a war (hanging over their heads) from them; and therefore they may at all times (as they think good) be upon the prevention. Demosthenes exposed to scorn wars which are not preventive, comparing those that make them to country fellows in a fence school, that never ward till the blow be past: *Ut barbari pugiles dimicare solent, ita vos bellum geritis cum Philippo, ex his enim is qui ictus est, ictui semper inhaeret: quod si eum alibi verberes, illo manus transfert; ictum autem depellere, aut prospicere, neque scit neque vult*. As country fellows use to do when they play at wasters, such a kind of war do you (Athenians) make with Philip; for with them he that gets a blow, straight falleth toward when the blow is pass'd; and if you strike him in another place, thither goes his hand likewise: but to put by or foresee a blow, they neither have the skill, nor the will.

CLINIAS the Candian (in Plato) speaks desperately and wildly, as if there were no such thing as peace between nations; but that every nation expects but his advantage to war upon another. But yet in that excess of speech, there is thus much that may have a civil construction; namely, that every state ought to stand upon his guard, and rather prevent than be prevented. His words are, *Quam rem fere vocant pacem, nudum & inane nomen est; revera autem omnibus, adversus omnes civitates, bellum sempiternum perdurat*. That which men for the most part call peace, is but a naked and empty name; but the truth is, that there is ever between all estates a secret war. I know well this speech is the objection and not the decision, and that it is after refuted; but yet (as I said before) it bears thus much of truth, that if that general malignity, and predisposition to war, (which he untruly figureth to be in all nations) be produced and extended to a just fear of being oppressed, then it is no more a true peace, but a name of a peace.

As for the opinion of Iphicrates the Athenian, it demands not so much towards a war as a just fear, but rather cometh near the opinion of Clinias; as if there were ever amongst nations a brooding of a war, and that there is no sure league but impuissance to do hurt. For he, in the treaty of peace with the Lacedaemonians, speaketh plain language; telling them, there could be no true and secure peace, except the Lacedaemonians yielded to those things, which being granted, it would be no longer in their power

to

to hurt the *Athenians*, though they would: and to say truth, if one mark it well, this was in all memory the main piece of wisdom, in strong and prudent counsels, to be in perpetual watch, that the states about them should neither by approach, nor by encrease of dominion, nor by ruining confederates, nor by blocking of trade, nor by any the like means, have it in their power to hurt or annoy the states they serve; and whensoever any such cause did but appear, strait-ways to buy it out with a war, and never to take up peace at credit, and upon interest. It is so memorable, as it is yet as fresh as if it were done yesterday, how that triumvirate of kings (*Henry* the eighth of *England*, *Francis* the first of *France*, and *Charles* the fifth emperor and king of *Spain*,) were in their times so provident, as scarce a palm of ground could be gotten by either of the three, but that the other two would be sure to do their best, to set the balance of *Europe* upright again. And the like diligence was used in the age before by that league, (where-with *Guicciardine* beginneth his story, and maketh it, as it were, the calendar of the good days of *Italy*) which was contracted between *Ferdinando* king of *Naples*, *Lorenzo* of *Medici* potentate of *Florence*, and *Lodovico Sforza* duke of *Milan*, designed chiefly against the growing power of the *Venetians*; but yet so, as the confederates had a perpetual eye one upon another, that none of them should overtop. To conclude therefore, howsoever some schoolmen (otherwise reverend men, yet fitter to guide penknives than swords) seem precisely to stand upon it; that every offensive war must be *ultio*; a revenge, that presupposeth a precedent assault or injury; yet neither do they descend to this point, (which we now handle) of a just fear; neither are they of authority to judge this question against all the precedents of time. For certainly, as long as men are men, (the sons, as the poets allude of *Prometheus*, and not of *Epimetheus*,) and as long as reason is reason, a just fear will be a just cause of a preventive war; but especially if it be part of the case, that there be a nation that is manifestly detected, to aspire to monarchy and new acquests; then other states (assuredly) cannot be justly accused, for not staying for the first blow; or for not accepting *Polyphemus's* courtesy, to be the last that shall be eaten up.

NAY, I observe farther, that in that passage of *Plato*, which I cited before, (and even in the tenet of that person that beareth the resolving part, and not the objecting part,) a just fear is justified for a cause of an invasive war, though the same fear proceed not from the fault of the foreign state to be assailed: for it is there insinuated, that if a state, out of the distemper of their own body, do fear sedition and intestine troubles, to break out amongst themselves, they may discharge their own ill humours upon a foreign war for a cure. And this kind of cure was tender'd by *Jasper Coligni*, admiral of *France*, to *Charles* the ninth the *French* king, when by a vive and forcible persuation, he moved him to a war upon *Flanders*, for the better extinguishment of the civil wars of *France*; but neither was that counsel prosperous; neither will I maintain that position: for I will never set politicks against ethicks; especially for that true ethicks are but as a handmaid to divinity and religion. Surely *St. Thomas* (who had the largest heart of the school divines) bendeth chiefly his style against the depraved passions which reign in making wars, speaking out of *St. Augustine*: *No-cendi cupiditas, ulciscendi crudelitas, implacatus & implacabilis animus, feritas rebellandi, libido dominandi, & si quae sunt similia, haec sunt quae in bellis jure culpantur.* And the same *St. Thomas*, in his own text, defining of the just causes of a war, doth leave it upon very general terms: *Requiritur ad bellum*

bellum causa justa, ut scilicet illi qui impugnantur, propter aliquam culpam, impugnationem mereantur; for *impugnatio culpa*, is a far more general word, than *ultio injuriae*. Thus much for the first proposition, of the second ground of a war with *Spain*: namely, that a just fear is a just cause of a war; and that a preventive war is a true defensive.

THE second or minor proposition was this; that this kingdom hath cause of just fear of overthrow from *Spain*. Wherein it is true, that fears are ever seen in dimmer lights than facts. And on the other side, fears use (many times) to be represented in such an imaginary fashion, as they rather dazzle mens eyes, than open them: and therefore I will speak in that manner which the subject requires; that is, probably, and moderately, and briefly. Neither will I deduce these fears to present occurrences; but point only at general grounds, leaving the rest to more secret counsels.

Is it nothing, that the crown of *Spain* hath enlarged the bounds thereof within this last fixscore years, much more than the *Ottomans*? I speak not of matches or unions, but of arms, occupations, invasions. *Granada, Naples, Milan, Portugal, the East and West-Indies*; all these are actual additions to that crown. They had a mind to *French Britain*, the lower part of *Picardy* and *Piedmont*; but they have let fall their bit. They have, at this day, such a hovering possession of the *Valtoline*, as an hobby hath over a lark: and the *Palatinate* is in their talons: so that nothing is more manifest, than that this nation of *Spain* runs a race (still) of empire, when all other states of Christendom stand in effect at a stay. Look then a little farther into the titles whereby they have acquired, and do now hold these new portions of the crown; and you will find them of so many varieties, and such natures, (to speak with due respect) as may appear to be easily minted, and such as can hardly at any time be wanting. And therefore, so many new conquests and purchases, so many strokes of the alarum bell of fear and awaking to other nations; and the facility of the titles, which hand overhead have served their turn, doth ring the peal so much the sharper and the louder.

SHALL we descend from their general disposition to enlarge their dominions, to their particular disposition and eye of appetite which they have had towards us: they have now twice fought to impatronise themselves of this kingdom of *England*; once by marriage with queen *Mary*; and the second time by conquest in 88, when their forces by sea and land were not inferior to those they have now. And at that time in 88, the counsel and design of *Spain* was by many advertisements revealed and laid open to be, that they found the war upon the Low Countries so churlish and longsome, as they grew then to a resolution, that as long as *England* stood in state to succour those countries, they should but consume themselves in an endless war; and therefore there was no other way but to assail and depress *England*, which was as a back of steel to the *Flemings*. And who can warrant (I pray) that the same counsel and design will not return again? So as we are in a strange *dilemma* of danger: for if we suffer the *Flemings* to be ruined, they are our outwork, and we shall remain naked and dismantled: if we succour them strongly, (as is fit) and set them upon their feet, and do not withal weaken *Spain*, we hazard to change the scene of the war, and to turn it upon *Ireland* or *England*: like unto rheums and defluxions, which if you apply a strong repercussive to the place affected, and do not take away the cause of the disease, will shift, and fall straightways to another joint or place. They have also twice invaded *Ireland*; once under the pope's

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pope's banner, when they were defeated by the lord *Gray*: and after in their own name, when they were defeated by the lord *Mountjoy*. So as let this suffice for a taste of their disposition towards us. But it will be said, this is an almanack for the old year; since 88 all hath been well; *Spain* hath not assailed this kingdom, howsoever by two several invasions from us mightily provoked. It is true: but then consider, that immediately after 88, they were imbroiled for a great time in the protection of the league of *France*, whereby they had their hands full; after being brought extreme low by their vast and continual imbracements, they were enforced to be quiet that they might take breath, and do reparations upon their former wastes. But now of late, things seem to come on apace to their former estate; nay, with far greater disadvantage to us; for now that they have almost continued, and (as it were) arched their dominions from *Milan*, by the *Valtoline* and *Palatinate*, to the Low Countries; we see how they thirst and pant after the utter ruin of those states; having in contempt almost the *German* nation, and doubting little opposition except it come from *England*: whereby either we must suffer the *Dutch* to be ruined, to our own manifest prejudice; or put it upon the hazard I spake of before, that *Spain* will cast at the fairest. Neither is the point of internal danger, which groweth upon us, to be forgotten; this, that the party of the papists in *England* are become more knotted, both in dependence towards *Spain*, and amongst themselves, than they have been. Wherein again comes to be remembred the case of 88: for then also it appeared by divers secret letters, that the design of *Spain* was (for some years before the invasion attempted) to prepare a party in this kingdom to adhere to the foreigner at his coming. And they bragged, that they doubted not but to abuse and lay asleep the queen and council of *England*, as to have any fear of the party of papists here; for that they knew (they said) the state would but cast the eye and look about to see, whether there were any eminent head of that party, under whom it might unite itself; and finding none worth the thinking on, the state would rest secure and take no apprehension: whereas they meant (they said) to take a course to deal with the people, and particulars, by reconcilements, and confessions, and secret promises, and cared not for any head or party. And this was the true reason, why after that the seminaries began to blossom, and to make missions into *England*, (which was about the three and twentieth year of queen *Elizabeth*, at what time also was the first suspicion of the *Spanish* invasion) then, and not before, grew the sharp and severe laws to be made against the papists. And therefore the papists may do well to change their thanks; and whereas they thank *Spain* for their favours, to thank them for their perils and miseries if they should fall upon them: for that nothing ever made their case so ill, as the doubt of the greatness of *Spain*, which adding reason of state to matter of conscience and religion, did whet the laws against them. And this case also seemeth (in some sort) to return again at this time; except the clemency of his majesty, and the state, do super-abound; as for my part, I do wish it should: and that the proceedings towards them may rather tend to security, and providence, and point of state, than to persecution for religion. But to conclude; these things briefly touched, may serve as in a subject conjectural and future, for to represent how just cause of fear this kingdom may have towards *Spain*: omitting, as I said before, all present and more secret occurrences.

THE third ground of a war with *Spain*, I have set down to be; a just fear of the subversion of our church and religion: Which needeth little speech. For if this war be a defensive, (as I have proved it to be) no man will doubt, that a defensive war against a foreigner for religion, is lawful. Of an offensive war there is more dispute. And yet in that instance of the war of the Holy Land and sepulchre, I do wonder sometimes, and the schoolmen want words to defend that, which *S. Bernard* wanted words to commend. But I, that in this little extract of a thing do omit things necessary, am not to handle things unnecessary. No man, I say, will doubt, but if the pope, or king of *Spain*, would demand of us to forsake our religion upon pain of a war, it were as unjust a demand, as the *Persians* made to the *Graecians* of land and water; or the *Ammorites* to the *Israelites* of their right eyes. And we see all the heathen did style their defensive wars, *pro aris & focis*; placing their altars before their hearths. So that it is in vain of this to speak farther. Only this is true; that the fear of the subversion of our religion from *Spain*, is the more just, for that all other catholick princes and states content and contain themselves to maintain their religion within their own dominions, and meddle not with the subjects of other states; whereas the practice of *Spain* hath been, both in *Charles* the fifth's time, and in the time of the league in *France*, by war; and now with us, by conditions of treaty, to intermeddle with foreign states, and to declare themselves protectors general of the party of catholicks, through the world. As if the crown of *Spain* had a little of this, that they would plant the pope's law by arms, as the *Ottomans* do the law of *Mahomet*. Thus much concerning the first main point of justifying the quarrel, if the king shall enter into a war; for this that I have said, and all that followeth to be said, is but to shew what he may do.

THE second main part of that I have propounded to speak of, is the balance of forces between *Spain* and us. And this also tendeth to no more, but what the king may do. For what he may do is of two kinds: what he may do as just; and what he may do as possible. Of the one I have already spoken; of the other I am now to speak. I said, *Spain* was no such giant; and yet if he were a giant, it will be but as it was between *David* and *Goliath*, for *God is on our side*. But to leave all arguments that are supernatural, and to speak in an humane and politick sense, I am led to think that *Spain* is no over-match for *England*, by that which leadeth all men; that is, experience and reason. And with experience I will begin, for there all reason beginneth.

Is it fortune (shall we think) that in all actions of war or arms, great and small, which have happened these many years, ever since *Spain* and *England* have had any thing to debate one with the other, the *English* upon all encounters have perpetually come off with honour, and the better? It is not fortune sure; she is not so constant. There is somewhat in the nation and natural courage of the people, or some such thing. I will make a brief list of the particulars themselves in an historical truth, no ways strouted, nor made greater by language. This were a fit speech (you will say) for a general, in the head of an army, when they were going to battel: yes; and it is no less fit speech, to be spoken in the head of a council, upon a deliberation of entrance into a war. Neither speak I this to disparage the *Spanish* nation, whom I take to be of the best soldiers in *Europe*: But that forteth to our honour, if we still have had the better hand.

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IN the year 1578, was that famous lammas day, which buried the reputation of *Don John* of *Austria*, himself not surviving long after. *Don John* being superior in forces, assisted by the prince of *Parma*, *Mondragon*, *Manfell*, and other the best commanders of *Spain*, confident of victory, charged the army of the states near *Rimenant*, bravely and furiously at the first; but after a fight maintained by the space of a whole day, was repulsed, and forced to a retreat, with great slaughter of his men; and the course of his farther enterprizes was wholly arrested; and this chiefly by the prowess and virtue of the *English* and *Scotish* troops, under the conduct of sir *John Norris* and sir *Robert Stuart* colonels: Which troops came to the army but the day before, harassed with a long and wearisome march; and (as it is left for a memorable circumstance in all stories) the soldiers being more sensible of a little heat of the sun, than of any cold fear of death, cast away their armour and garments from them, and fought in their shirts: and, as it was generally conceived, had it not been that the count of *Bossu* was slack in charging the *Spaniards* upon their retreat, this fight had sorted to an absolute defeat. But it was enough to chastise *Don John*, for his insidious treaty of peace, wherewith he had abused the states at his first coming. And the fortune of the day, (besides the testimony of all stories) may be the better ascribed to the service of the *English* and *Scotch*, by comparison of this charge near *Rimenant*, (where the *English* and *Scotch* in great numbers came in action) with the like charge given by *Don John* half a year before at *Gemblours*, where the success was contrary: there being at that time in the army but a handful of *English* and *Scotch*, and they put in disarray by the horsemen of their own fellows.

THE first dart of war which was thrown from *Spain* or *Rome*, upon the realm of *Ireland*, was in the year 1580; for the design of *Stukely* blew over into *Africk*; and the attempt of *Sanders* and *Fitz-Maurice* had a spice of madness. In that year *Ireland* was invaded by *Spanish* and *Italian* forces, under the pope's banner, and the conduct of *San Josef o*, to the number of 700, or better, which landed at *Smerwick* in *Kerry*. A poor number it was to conquer *Ireland* to the pope's use; for their design was no less: but withal they brought arms for 5000 men above their own company, intending to arm so many of the rebels of *Ireland*. And their purpose was, to fortify in some strong place of the wild and desolate countrey, and there to nestle till greater succours came; they being hastened unto this enterprize upon a special reason of state, not proper to the enterprize it self; which was by the invasion of *Ireland*, and the noise thereof, to trouble the council of *England*, and to make a diversion of certain aids, that then were preparing from hence for the low countries. They chose a place where they erected a fort, which they called the *Fort del Or*; and from thence they bolted like beasts of the forest, sometimes into the woods and fastnesses, and sometimes back again to their den. Soon after, siege was laid to the fort by the lord *Gray* then deputy, with a smaller number than those were within the fort; venturously indeed; but haste was made to attack them before the rebels came in to them. After the siege of four days only, and two or three sallies, with loss on their part, they that should have made good the fort for some months, till new succours came from *Spain*, or at least from the rebels of *Ireland*, yielded up themselves without conditions at the end of those four days. And for that they were not in the *English* army enough to keep every man a prisoner, and for that also the deputy expected instantly to be assailed by the rebels; and again, there were no barks to throw them

them into, and send them away by sea; they were all put to the sword: with which queen *Elizabeth* was afterwards much displeased.

IN the year 1582, was that memorable retreat of *Gaunt*; than the which there hath not been an exploit of war more celebrated. For in the true judgment of men of war, honourable retreats are no ways inferior to brave charges; as having less of fortune, more of discipline, and as much of valour. There were to the number of three hundred horse, and as many thousand foot *English* (commanded by sir *John Norris*) charged by the prince of *Parma*, coming upon them with seven thousand horse; besides that the whole army of *Spaniards* was ready to march on. Nevertheless sir *John Norris* maintained a retreat without disarray, by the space of some miles, (part of the way champaign) unto the city of *Gaunt*, with less loss of men than the enemy: The duke of *Anjou*, and the prince of *Orange*, beholding this noble action from the walls of *Gaunt*, as in a theatre, with great admiration.

IN the year 1585, followed the prosperous expedition of *Drake* and *Carle* into the *West-Indies*; in the which I set aside the taking of *S. Iago* and *S. Domingo* in *Hispaniola*, as surprizes rather than encounters. But that of *Carthagena*, where the *Spaniards* had warning of our coming, and had put themselves in their full strength, was one of the hottest services, and most dangerous assaults that hath been known. For the access of the town was only by a neck of land, between the sea on the one part, and the harbour water or inner sea on the other; fortified clean over with a strong rampier and barricado; so as upon the ascent of our men, they had both great ordnance and small shot, that thundered and showred upon them from the rampier in front, and from the galleys that lay at sea in flank. And yet they forced their passage, and won the town, being likewise very well manned. As for the expedition of sir *Francis Drake*, in the year 1587, for the destroying of the *Spanish* shipping and provision upon their own coast; as I cannot say that there intervened in that enterprize any sharp fight or encounter; so nevertheless it did strangely discover, either that *Spain* is very weak at home, or very slow to move; when they suffered a small fleet of *English*, to make an hostile invasion, or incursion, upon their havens and roads, from *Cadiz* to *Capa Sacra*, and thence to *Cascais*; and to fire, sink, and carry away at the least, ten thousand ton of their great shipping, besides fifty or sixty of their smaller vessels; and that in the fight, and under the favour of their forts; and almost under the eye of their great admiral, (the best commander of *Spain* by sea) the marquis *de Santa Cruz*, without ever being disputed with by any fight of importance. I remember *Drake*, in the vaunting style of a soldier, would call this enterprize, the singeing of the king of *Spain's* beard.

THE enterprize of 88, deserveth to be stood upon a little more fully, being a miracle of time. There armed from *Spain*, in the year 1588, the greatest navy that ever swam upon the sea: For though there have been far greater fleets for number, yet for the bulk and building of the ships, with the furniture of great ordnance and provisions, never the like. The design was to make not an invasion only, but an utter conquest of this kingdom. The number of vessels were one hundred and thirty, whereof galliasses and galleons seventy two, goodly ships, like floating towers, or castles, manned with thirty thousand soldiers and mariners. This navy was the preparation of five whole years at the least: It bare it self also upon divine assistance; for it received special blessing from pope *Sixtus*, and was assigned

as an apostolical mission for the reducement of this kingdom to the obedience of the see of *Rome*. And in farther token of this holy warfare, there were amongst the rest of these ships, twelve, called by the names of the twelve apostles. But it was truly conceived, that this kingdom of *England* could never be overwhelmed, except the land waters came in to the sea tides. Therefore was there also in readiness in *Flanders*, a mighty strong army of land forces, to the number of fifty thousand veteran soldiers, under the conduct of the duke of *Parma*, the best commander next the *French* king *Henry* the fourth, of his time. These were designed to join with the forces at sea; there being prepared a number of flat bottomed boats to transport the land forces, under the wing and protection of the great navy. For they made no account, but that the navy should be absolutely master of the seas. Against these forces, there were prepared on our part, to the number of near one hundred ships; not so great of bulk indeed, but of a more nimble motion, and more serviceable; besides a less fleet of thirty ships, for the custody of the narrow seas. There were also in readiness at land two armies; besides other forces, to the number of ten thousand, dispersed amongst the coast towns in the southern parts. The two armies were appointed; one of them consisting of twenty five thousand horse and foot, for the repulsing of the enemy at their landing; and the other of twenty five thousand for safeguard and attendance about the court and the queen's person. There were also other dormant musters of soldiers throughout all parts of the realm, that were put in readiness, but not drawn together. The two armies were assigned to the leading of two generals, noble persons, but both of them rather courtiers, and assured to the state, than martial men; yet lined and assisted with subordinate commanders of great experience and valour. The fortune of the war made this enterprize at first a play at base. The *Spanish* navy set forth out of the *Groyne* in *May*, and was dispersed and driven back by weather. Our navy set forth somewhat later out of *Plimouth*, and bare up towards the coast of *Spain* to have fought with the *Spanish* navy; and partly by reason of contrary winds, partly upon advertisement that the *Spaniards* were gone back, and upon some doubt also that they might pass by towards the coast of *England*, whilst we were seeking them afar off, returned likewise into *Plimouth* about the middle of *July*. At that time came more confident advertisement, (though false) not only to the lord admiral, but to the court, that the *Spaniards* could not possibly come forward that year; whereupon our navy was upon the point of disbanding, and many of our men gone ashore: At which very time the invincible *Armada*, (for so it was called in a *Spanish* ostentation throughout *Europe*) was discovered upon the western coast. It was a kind of surprize; for that (as was said) many of our men were gone to land, and our ships ready to depart. Nevertheless the admiral, with such ships only as could suddenly be put in readiness, made forth towards them; inso-much as of one hundred ships, there came scarce thirty to work. Howbeit with them, and such as came daily in, we set upon them, and gave them the chase. But the *Spaniards* for want of courage (which they called commission) declined the fight, casting themselves continually into roundels, (their strongest ships walling in the rest) and in that manner they made a flying march towards *Calais*. Our men by the space of five or six days followed them close, fought with them continually, made great slaughter of their men, took two of their great ships, and gave divers others of their ships their death's wounds, whereof soon after they sank and perished; and, in a word, distressed

distressed them almost in the nature of a defeat; we our selves in the mean time receiving little or no hurt. Near *Calais* the *Spaniards* anchored, expecting their land forces, which came not. It was afterwards alleged, that the duke of *Parma* did artificially delay his coming; but this was but an invention and pretension given out by the *Spaniards*; partly upon a *Spanish* envy against that duke, being an *Italian*, and his son a competitor to *Portugal*; but chiefly to save the monstrous scorn and disreputation, which they and their nation received by the success of that enterprize. Therefore their colours and excuses (forsooth) were, that their general by sea had a limited commission, not to fight until the land forces were come in to them: and that the duke of *Parma* had particular reaches and ends of his own underhand, to cross the design. But it was both a strange commission, and a strange obedience to a commission; for men in the midst of their own blood and being so furiously assailed, to hold their hands contrary to the laws of nature and necessity. And as for the duke of *Parma*, he was reasonably well tempted to be true to that enterprize, by no less promise than to be made a feudatary, or beneficiary king of *England*, under the feignory (in chief) of the pope, and the protection of the king of *Spain*. Besides, it appeared that the duke of *Parma* held his place long after in the favour and trust of the king of *Spain*, by the great employments and services that he performed in *France*: and again, it is manifest, that the duke did his best to come down, and to put to sea: the truth was, that the *Spanish* navy, upon those proofs of fight which they had with the *English*, finding how much hurt they received, and how little hurt they did, by reason of the activity and low building of our ships, and skill of our seamen; and being also commanded by a general of small courage and experience, and having lost at the first, two of their bravest commanders at sea, *Pedro de Valdez*, and *Michael de Oquenda*; durst not put it to a battle at sea, but set up their rest wholly upon the land enterprize. On the other side, the transporting of the land forces failed in the very foundation: For whereas the council of *Spain* made full account, that their navy should be masters of the sea, and therefore able to guard and protect the vessels of transportation; when it fell out to the contrary that the great navy was distressed, and had enough to do to save it self; and again, that the *Hollanders* impounded their land forces with a brave fleet of thirty sail, excellently well appointed; things (I say) being in this state, it came to pass that the duke of *Parma* must have flown if he would have come into *England*, for he could get neither bark nor mariner to put to sea: yet certain it is, that the duke looked still for the coming back of the *Armada*, even at that time when they were wandering, and making their perambulation upon the northern seas. But to return to the *Armada*, which we left anchored at *Calais*: from thence (as sir *Walter Rawleigh* was wont prettily to say) they were suddenly driven away with squibs; for it was no more but a stratagem of fire boats, manless, and sent upon them by the favour of the wind in the night time, that did put them in such terror, as they cut their cables, and left their anchors in the sea. After they hovered some two or three days about *Graveling*, and there again were beaten in a great fight; at what time our second fleet, which kept the narrow seas, was come in and joined to our main fleet. Thereupon the *Spaniards* entering into farther terror, and finding also divers of their ships every day to sink, lost all courage, and instead of coming up into the *Thames* mouth for *London*, (as their design was,) fled on towards the north to seek their fortunes; being still chased by the *English* navy at the heels,

heels, until we were fain to give them over for want of powder. The breath of *Scotland* the *Spaniards* could not endure; neither durst they as invaders land in *Ireland*; but only ennobled some of the coasts thereof with shipwracks. And so going northwards aloof, as long as they had any doubt of being pursued, at last when they were out of reach, they turned, and crossed the ocean to *Spain*, having lost fourscore of their ships, and the greater part of their men. And this was the end of that sea-giant, and invincible *Armada*: which having not so much as fired a cottage of ours at land, nor taking a cock-boat of ours at sea, wandered through the wilderness of the northern seas; and according to the curse in the scripture, *came out against us one way, and fled before us seven ways*. Serving only to make good the judgment of an astrologer long before given, *octuagesimus octavus mirabilis annus*: or rather, to make good (even to the astonishment of all posterity) the wonderful judgments of God, poured down commonly upon vast and proud aspirings.

IN the year that followed of 1589, we gave the *Spaniards* no breath, but turned challengers, and invaded the main of *Spain*. In which enterprize, although we failed of our end, which was to settle *Don Antonio* in the kingdom of *Portugal*, yet a man shall hardly meet with an action that doth better reveal the great secret of the power of *Spain*: which power well fought into, will be found rather to consist in a veteran army, (such as upon several occasions and pretensions they have ever had on foot, in one part or other of *Christendom*, now by the space of almost fixscore years) than in the strength of their dominions and provinces. For what can be more strange, or more to the disvaluation of the power of the *Spaniard* upon the continent, than that with an army of eleven thousand *English* land-foldiers, and a fleet of twenty six ships of war, besides some weak vessels for transportation, we should within the hour-glass of two months, have won one town of importance by scalado, battered and assaulted another, overthrown great forces in the field, and that upon the disadvantage of a bridge strongly barricadoed, landed the army in three several places of his kingdom, marched seven days in the heart of his countries, lodged three nights in the suburbs of his principal city, beaten his forces into the gates thereof, possessed two of his frontier forts, and come off after all this with small loss of men, otherwise than by sickness? And it was verily thought, that had it not been for four great disfavours of that voyage, (that is to say, the failing in sundry provisions that were promised, especially of cannons for battery; the vain hopes of *Don Antonio*, concerning the people of the countrey to come in to his aid; the disappointment of the fleet that was directed to come up the river of *Lisbon*; and lastly, the diseases which spread in the army by reason of the heat of the season, and of the soldiers misrule in diet;) the enterprize had succeeded, and *Lisbon* had been carried. But howsoever it makes proof to the world, that an invasion of a few *English* upon *Spain*, may have just hope of victory, at least of passport to depart safely.

IN the year 1591, was that memorable fight of an *English* ship called the *Revenge*, under the command of sir *Richard Grenvil*; memorable (I say) even beyond credit, and to the height of some heroical fable: and though it were a defeat, yet it exceeded a victory; being like the act of *Sampson*, that killed more men at his death, than he had done in the time of all his life. This ship, for the space of fifteen hours, fate like a stag amongst hounds at the bay, and was sieged, and fought with, in turn, by fifteen
great

great ships of *Spain*, part of a navy of fifty five ships in all; the rest like abettors looking on afar off. And amongst the fifteen ships that fought, the great *S. Philippo* was one; a ship of fifteen hundred ton, prince of the twelve *Sea-Apostles*, which was right glad when she was shifted off from the *Revenge*. This brave ship the *Revenge*, being manned only with two hundred (soldiers and mariners) whereof eighty lay sick; yet nevertheless after a fight maintained (as was said) of fifteen hours, and two ships of the enemy sunk by her side, besides many more torn and battered, and great slaughter of men, never came to be entred, but was taken by composition; the enemies themselves having in admiration the virtue of the commander, and the whole tragedy of that ship.

IN the year 1596, was the second invasion that we made upon the main territories of *Spain*; prosperously atchieved by that worthy and famous *Robert* earl of *Essex*, in consort with the noble earl of *Nottingham* that now liveth, then admiral. This journey was like lightning; for in the space of fourteen hours the king of *Spain's* navy was destroyed, and the town of *Cadiz* taken. The navy was no less than fifty tall Ships, besides twenty galleys to attend them. The ships were straightways beaten, and put to flight with such terror, as the *Spaniards* in the end were their own executioners, and fired them all with their own hands. The galleys, by the benefit of the shores and shallows, got away. The town was a fair, strong, well built, and rich city; famous in antiquity, and now most spoken of for this disaster. It was manned with four thousand soldiers foot, and some four hundred horse; it was sacked and burned, though great clemency was used towards the inhabitants. But that which is no less strange than the sudden victory, is the great patience of the *Spaniards*; who though we stayed upon the place divers days, yet never offered us any play then, nor ever put us in suit by any action of revenge or reparation, at any time after.

IN the year 1600, was the battel of *Newport* in the Low Countries, where the armies of the arch-duke, and the states, tried it out by a just battel. This was the only battel that was fought in those countries these many years. For battels in the *French* wars have been frequent, but in the wars of *Flanders* rare, as the nature of a defensive requireth. The forces of both armies were not much unequal: that of the states exceeded somewhat in number, but that again was recompensed in the quality of the soldiers; for those of the *Spanish* part were of the flower of all their forces. The arch-duke was the assailant, and the preventer, and had the fruit of his diligence and celerity. For he had charged certain companies of *Scottish* men, to the number of eight hundred, sent to make good a passage, and thereby severed from the body of the army, and cut them all in pieces: for they, like a brave infantry, when they could make no honourable retreat, and would take no dishonourable flight, made good the place with their lives. This entrance of the battel did whet the courage of the *Spaniards*, though it dulled their swords; so as they came proudly on, confident to defeat the whole army. The encounter of the main battel which followed, was a just encounter, not hastened to a sudden rout, nor the fortune of the day resting upon a few former ranks, but fought out to the proof by several squadrons, and not without various success; *haeret pede pes, densusque vir vir*. There fell out an error in the *Dutch* army, by the overhasty medly of some of their men with the enemies, which hindred the playing of their great ordnance. But the end was, that the *Spaniards* were utterly defeated

defeated, and near five thousand of their men in the fight, and in the execution, slain and taken; amongst whom were many of the principal persons of their army. The honour of the day was, both by the enemy and the *Dutch* themselves, ascribed unto the *English*; of whom sir *Francis Vere*, in a private commentary which he wrote of that service leaveth testified, that of fifteen hundred in number, (for they were no more) eight hundred were slain in the field: and (which is almost incredible in a day of victory) of the remaining seven hundred, two men only came off unhurt. Amongst the rest sir *Francis Vere* himself had the principal honour of the service, unto whom the prince of *Orange* (as is said) did transmit the direction of the army for that day; and in the next place sir *Horace Vere* his brother, that now liveth, who was the principal in the active part. The service also of sir *Edward Cecil*, sir *John Ogle*, and divers other brave gentlemen, was eminent.

IN the year 1601, followed the battel of *Kingsale* in *Ireland*. By this *Spanish* invasion of *Ireland*, (which was in *September* that year) a man may guess how long time a *Spaniard* will live in *Irish* ground; which is a matter of a quarter of a year, or four months at the most. For they had all the advantages in the world; and no man would have thought (considering the small forces employed against them) that they could have been driven out so soon. They obtained, without resistance, in the end of *September*, the town of *Kingsale*; a small garrison of one hundred and fifty *English*, leaving the town upon the *Spaniards* approach, and the townsmen receiving the foreigners as friends. The number of *Spaniards* that put themselves into *Kingsale*, was two thousand men, soldiers of old bands, under the command of *Don John d' Aquila*, a man of good valour. The town was strong of it self; neither wanted there any industry to fortify it on all parts, and make it tenable, according to the skill and discipline of *Spanish* fortification. At that time the rebels were proud, being encouraged upon former successes; for though the then deputy, the lord *Mountjoy*, and sir *George Carew*, president of *Munster*, had performed divers good services to their prejudice; yet the defeat they had given the *English* at *Blackwater*, not long before, and the treaty (too much to their honour) with the earl of *Essex*, was yet fresh in their memory. The deputy lost no time, but made haste to have recovered the town before new succours came, and sat down before it in *October*, and laid siege to it by the space of three winter months or more: during which time sallies were made by the *Spaniard*, but they were beaten in with loss. In *January* came fresh succours from *Spain* to the number of two thousand more, under the conduct of *Alonzo d'Ocampo*. Upon the comforts of these succours, *Tirone* and *Odonnell* drew up their forces together, to the number of seven thousand, besides the *Spanish* regiments, and took the field, resolved to rescue the town, and to give the *English* battel. So here was the case: an army of *English*, of some six thousand, wasted and tired with a long winter's siege, engaged in the midst, between an army of a greater number than themselves, fresh and in vigour, on the one side; and a town strong in fortification, and strong in men, on the other. But what was the event? This in few words; that after the *Irish* and *Spanish* forces had come on, and shewed themselves in some bravery, they were content to give the *English* the honour as to charge them first; and when it came to the charge, there appeared no other difference between the valour of the *Irish* rebels, and the *Spaniards*, but that the one ran away before they were charged, and the other straight after. And again, the

the *Spaniards* that were in the town had so good memories of their losses in their former sallies, as the confidence of an army, which came for their deliverance, could not draw them forth again. To conclude, there succeeded an absolute victory for the *English*, with the slaughter of above two thousand of the enemy; the taking of nine ensigns, whereof six *Spanish*; the taking of the *Spanish* general, *d'Ocampo*, prisoner; and this with the loss of so few of the *English* as is scarce credible; being (as hath been rather confidently than credibly reported) but of one man, the cornet of sir *Richard Greame*; though not a few hurt. There followed immediately after the defeat, a present yielding up of the town by composition; and not only so, but an avoiding (by express articles of treaty accorded) of all other *Spanish* forces throughout all *Ireland*, from the places and nests where they had settled themselves in greater strength, (as in regard of the natural situation of the places) than that was of *Kingsale*; which were *Castlehaven*, *Baltimore*, and *Beerehaven*. Indeed they went away with sound of trumpet, for they did nothing but publish and trumpet all the reproaches they could devise, against the *Irish* land and nation; insomuch as *D'Aquila* said in open treaty, that when the devil upon the mount did shew *Christ* all the kingdoms of the earth, and the glory of them, he did not doubt but the devil left out *Ireland*, and kept it for himself.

I cease here; omitting not a few other proofs of the *English* valour and fortunes, in these later times: as at the suburbs of *Paris*, at the *Raveline*, at *Druse* in *Normandy*, some encounters in *Britanny*, and at *Ostend*, and divers others; partly because some of them have not been proper encounters between the *Spaniards* and the *English*; and partly because others of them have not been of that greatness, as to have sorted in company with the particulars formerly recited. It is true, that amongst all the late adventures, the voyage of sir *Francis Drake*, and sir *John Hawkins* into the *West-Indies*, was unfortunate; yet in such sort as it doth not break or interrupt our prescription, to have had the better of the *Spaniards* upon all fights of late. For the disaster of that journey was caused chiefly by sickness; as might well appear by the deaths of both the generals, (sir *Francis Drake*, and sir *John Hawkins*) of the same sickness amongst the rest. The land enterprise of *Panama*, was an ill measured and immature counsel; for it was grounded upon a false account, that the passages towards *Panama* were no better fortified than *Drake* had left them. But yet it sorted not to any fight of importance, but to a retreat, after the *English* had proved the strength of their first fort, and had notice of the two other forts beyond, by which they were to have marched. It is true, that in the return of the *English* fleet, they were set upon by *Avellaneda*, admiral of twenty great ships *Spanish*, our fleet being but fourteen, full of sick men, deprived of their two generals by sea, and having no pretence but to journey homewards: and yet the *Spaniards* did but salute them about the cape *de los Corrientes*, with some small offer of fight, and came off with loss; although it was such a new thing for the *Spaniards* to receive so little hurt upon dealing with the *English*, as *Avellaneda* made great brags of it, for no greater matter than the waiting upon the *English* afar off, from cape *de los Corrientes* to cape *Antonio*; which nevertheless, in the language of a soldier, and of a *Spaniard*, he called a chace.

BUT before I proceed farther, it is good to meet with an objection, which if it be not removed, the conclusion of experience from the time past, to the time present, will not be sound and perfect. For it will be said, that

in the former times, (whereof we have spoken) *Spain* was not so mighty as now it is; and *England* on the other side was more aforehand in all matters of power. Therefore let us compare with indifferency these disparities of times, and we shall plainly perceive, that they make for the advantage of *England* at this present time. And because we will less wander in generalities, we will fix the comparison to precise times; comparing the state of *Spain* and *England* in the year 88, with this present year that now runneth. In handling this point, I will not meddle with any personal comparisons of the princes, counsellors, and commanders by sea or land, that were then, and that are now, in both kingdoms, *Spain* and *England*; but only rest upon real points, for the true balancing of the state of the forces and affairs of both times. And yet these personal comparisons I omit not, but that I could evidently shew, that even in these personal respects, the balance sways on our part: but because I would say nothing that may favour of a spirit of flattery or censures of the present government.

FIRST therefore it is certain, that *Spain* hath not now a foot of ground in quiet possession, more than it had in 88. As for the *Valtoline*, and the *Palatinate*, it is a maxim in state, that all countries of new acquist, till they be settled, are rather matters of burden than of strength. On the other side, *England* hath *Scotland* united, and *Ireland* reduced to obedience, and planted; which are mighty augmentations.

SECONDLY, in 88, the kingdom of *France*, able alone to counterpoise *Spain* it self, (much more in conjunction) was torn with the party of the league, which gave law to their king, and depended wholly upon *Spain*. Now *France* is united under a valiant young king, generally obeyed if he will himself, king of *Navarre* as well as of *France*; and that is no ways taken prisoner, though he be tied in a double chain of alliance with *Spain*.

THIRDLY, in 88, there sate in the see of *Rome* a fierce thundring friar, that would set all at six and seven; or at six and five, if you allude to his name: And though he would after have turned his teeth upon *Spain*, yet he was taken order with before it came to that. Now there is ascended to the papacy, a personage, that came in by a chaste election, no ways obliged to the party of the *Spaniards*: a man bred in embassages and affairs of state, that hath much of the prince, and nothing of the friar: and one, that though he loves the chair of the papacy well, yet he loveth the carpet above the chair; that is, *Italy*, and the liberties thereof well likewise.

FOURTHLY, in 88, the king of *Denmark* was a stranger to *England*, and rather inclined to *Spain*; now the king is incorporated to the blood of *England*, and engaged in the quarrel of the *Palatinate*. Then also *Venice*, *Savoy*, and the princes and cities of *Germany*, had but a dull fear of the greatness of *Spain*, upon a general apprehension only of the spreading and ambitious designs of that nation: now that fear is sharpened and pointed, by the *Spaniards* late enterprizes upon the *Valtoline* and the *Palatinate*, which come nearer them.

FIFTHLY and lastly, the *Dutch* (which is the *Spaniards* perpetual duellist) hath now, at this present, five ships to one, and the like proportion in treasure and wealth, to that they had in 88. Neither is it possible (whatsoever is given out) that the coffers of *Spain* should now be fuller than they were in 88: for at that time *Spain* had no other wars save those of the Low Countries, which were grown into an ordinary; now they have had coupled therewith the extraordinary of the *Valtoline*, and the *Palatinate*. And so I conclude my answer to the objection raised, touching the difference
of

of times ; not entring into more secret passages of state, but keeping that character of style whereof *Seneca* speaketh, *plus significat quam loquitur*.

HERE I would pass over from matter of experience, were it not that I held it necessary to discover a wonderful erroneous observation that walketh about, and is commonly received, contrary to all the true account of time and experience. It is, that the *Spaniard*, where he once getteth in, will seldom (or never) be got out again. But nothing is less true than this : not long since they got footing at *Brest*, and some other parts in *French Britain*, and after quitted them. They had *Calais*, *Ardes*, and *Amiens*, and rendred them, or were beaten out. They had since *Marseilles*, and fairly left it. They had the other day the *Valtoline*, and now have put it in deposit. What they will do with *Ormuz*, which the *Persian* hath taken from them, we shall see. So that to speak truly of later times, they have rather poached and offered at a number of enterprizes than maintained any constantly, quite contrary to that idle tradition. In more ancient times, (leaving their purchases in *Africk*, which they after abandoned) when their great emperor *Charles* had clasped *Germany* (almost) in his fist, he was forced in the end to go from *Isburg*, (and as if it had been in a mask, by torch-light) and to quit every foot in *Germany* round that he had gotten ; which I doubt not will be the hereditary issue of this late purchase of the *Palatinate*. And so I conclude the ground that I have to think, that *Spain* will be no overmatch to *Great Britain*, if his majesty should enter into a war out of experience, and the records of time.

FOR grounds of reason they are many ; I will extract the principal, and open them briefly, and (as it were) in the bud. For situation I pass it over ; though it be no small point : *England*, *Scotland*, *Ireland*, and our good confederates the United Provinces, lie all in a plump together, not accessible but by sea, or at least by passing of great rivers, which are natural fortifications. As for the dominions of *Spain*, they are so scattered, as it yieldeth great choice of the scenes of the war, and promiseth flow succours unto such part as shall be attempted. There be three main parts of military puissance, men, money, and confederates. For men, there are to be considered valour and number. Of valour I speak not ; take it from the witnessses that have been produced before : yet the old observation is not untrue, that the *Spaniards* valour lieth in the eye of the looker on ; but the *English* valour lieth about the soldiers heart. A valour of glory, and a valour of natural courage, are two things. But let that pass, and let us speak of number : *Spain* is a nation thin sown of people ; partly by reason of the sterility of the soil, and partly because their natives are exhausted by so many employments in such vast territories as they possess. So that it hath been counted a kind of miracle, to see ten or twelve thousand native *Spaniards* in an army. And it is certain, (as we have touched it a little before in passage) that the secret of the power of *Spain* consisteth in a veteran army, compounded of miscellany forces of all nations, which for many years they have had on foot upon one occasion or other : and if there should happen the misfortune of a battel, it would be a long work to draw on supplies. They tell a tale of a *Spanish* embassador that was brought to see the treasury of *S. Mark* at *Venice*, and still he looked down to the ground ; and being asked, why he so looked down, said, he was looking to see whether their treasure had any root, (so that if it were spent it would grow again) as his master's had. But howsoever it be of their treasure, certainly their forces have scarce any root ; or at least such a root as bud-

deth forth poorly and slowly. It is true they have the *Walloons*, who are tall soldiers; yet that is but a spot of ground. But on the other side, there is not in the world again such a spring and seminary of brave military people, as is *England*, *Scotland*, *Ireland*, and the United Provinces: So as if wars should mow them down never so fast, yet they may be suddenly supplied, and come up again.

FOR money, no doubt it is the principal part of the greatness of *Spain*; for by that they maintain their veteran army; and *Spain* is the only state of *Europe* that is a money grower. But in this part, of all others, is most to be considered, the ticklish and brittle state of the greatness of *Spain*. Their greatness consisteth in their treasure, their treasure in their *Indies*, and their *Indies* (if it be well weighed) are indeed but an accession to such as are masters by sea. So as this axle-tree, whereupon their greatness turneth, is soon cut in two by any that shall be stronger than they by sea. Herein therefore I refer my self to the opinions of all men, (enemies or whomsoever) whether that the maritime forces of *Great Britain*, and the United Provinces, be not able to beat the *Spaniard* at sea? For if that be so, the links of that chain whereby they hold their greatness, are dissolved. Now if it be said, that admit the case of *Spain* to be such as we have made it, yet we ought to descend into our own case, which we shall find (perhaps) not to be in state (for treasure) to enter into a war with *Spain*. To which I answer; I know no such thing; the mint beateth well; and the pulses of the peoples hearts beat well. But there is another point that taketh away quite this objection: for whereas wars are generally causes of poverty, or consumption; on the contrary part, the special nature of this war with *Spain*, (if it be made by sea) is like to be a lucrative and restorative war. So that if we go roundly on at the first, the war in continuance will find it self. And therefore you must make a great difference between *Hercules'* labours by land, and *Jafon's* voyage by sea for the golden fleece.

FOR confederates, I will not take upon me the knowledge, how the princes, states, and counsels of *Europe*, at this day, stand affected towards *Spain*; for that trencheth into the secret occurrents of the present time, wherewith in all this treatise I have forborn to meddle. But to speak of that which lieth open and in view; I see much matter of quarrel and jealousy, but little of amity and trust towards *Spain*, almost in all other estates. I see *France* is in competition with them, for three noble portions of their monarchy, *Navarre*, *Naples*, and *Milan*; and now freshly in difference with them about the *Valtoline*. I see once in thirty or forty years cometh a pope, that casteth his eye upon the kingdom of *Naples*, to recover it to the church: as it was in the minds of *Julius* the second, *Paul* the fourth, and *Sixtus* the fifth. As for that great Body of *Germany*, I see they have greater reason to confederate themselves with the kings of *France*, and *Great Britain*, or *Denmark*, for the liberty of the *German* nation, and for the expulsion of *Spanish* and foreign forces, than they had in the years 1552 and 1553. At which time they contracted a league with *Henry* the second the *French* king, upon the same articles against *Charles* the fifth, who had impatronized himself of a great part of *Germany*, through discord of the *German* princes, which himself had sown and fomented; which league at that time did the deed, and drave out all the *Spaniards* out of that part of *Germany*; and reintegrated that nation in their ancient liberty and honour. For the *West Indies*, though *Spain* hath had yet not much actual disturbance there, except it have been from *England*; yet nevertheless I see all princes lay a
kind

kind of claim unto them; accounting the title of *Spain* but as a monopoly of those large countries, wherein they have in great part but an imaginary possession. For *Africk* upon the west, the *Moors* of *Valentia* expelled, and their allies do yet hang as a cloud or storm over *Spain*. *Gabor* on the east is like an anniversary wind, that riseth every year once upon the party of *Austria*. And *Persia* hath entred into hostility with *Spain*, and given them the first blow by taking of *Ormus*. It is within every man's observation also, that *Venice* doth think their state almost on fire, if the *Spaniards* hold the *Valtoline*. That *Savoy* hath learned by fresh experience, that alliance with *Spain* is no security against the ambition of *Spain*; and that of *Bavaria* hath likewise been taught, that merit and service doth oblige the *Spaniard* but from day to day. Neither do I say for all this, but that *Spain* may rectify much of this ill blood by their particular and cunning negotiations: but yet there it is in the body, and may break out, no man knoweth when, into all accidents: and at least it sheweth plainly that which serveth for our purpose, that *Spain* is much destitute of assured and confident confederates. And therefore I will conclude this part with the speech of a counsellor of state in *Spain*, at this day, which was not without salt: He said to his master the king of *Spain* that now is, upon occasion; Sir, I will tell your majesty thus much for your comfort; your majesty hath but two enemies, whereof the one is all the world, and the other is your own ministers. And thus I end the second main part I propounded to speak of; which was, the balancing of the forces between the king's majesty and the king of *Spain*, if a war must follow.



A N
 A D V E R T I S E M E N T
 T O U C H I N G A N
 H O L Y W A R.

Written in the Year 1622.

To the Right Reverend Father in God,
Lancelot Andrews Lord Bishop of *Winchester*, and
 Counsellor of Estate to his Majesty.

M Y L O R D,

AMONGST consolations, it is not the least to represent to a man's self, like examples of calamity in others. For examples give a quicker impression than arguments; and besides, they certify us that which the scripture also tendreth for satisfaction; *that no new thing is happened unto us.* This they do the better, by how much the examples are liker in circumstances to our own case; and more especially if they fall upon persons that are greater and worthier than our selves. For as it savoureth of vanity, to match our selves highly in our own conceit; so on the other side it is a good sound conclusion, that if our betters have sustained the like events, we have the less cause to be grieved.

In this kind of consolation I have not been wanting to my self: though as a Christian, I have tasted (through God's great goodness) of higher remedies. Having therefore, through the variety of my reading, set before me many examples both of ancient and later times, my thoughts (I confess) have chiefly stayed upon three particulars, as the most eminent and the most resembling. All three persons that had held chief place of authority in their countries; all three ruined, not by war, or by any other disaster, but by justice and sentence, as delinquents and criminals; all three famous writers, insomuch as the remembrance of their calamity is now as to posterity but as a little picture of night-work, remaining amongst the fair and excellent tables of their acts and works: And all three (if that were any thing to the matter) fit examples to quench any man's ambition of rising again;

again; for that they were every one of them restored with great glory, but to their farther ruin and destruction, ending in a violent death. The men were, *Demosthenes*, *Cicero*, and *Seneca*; persons that I durst not claim affinity with, except the similitude of our fortunes had contracted it. When I had cast mine eyes upon these examples, I was carried on farther to observe, how they did bear their fortunes, and principally, how they did employ their times being banished, and disabled for publick business: to the end, that I might learn by them; and that they might be as well my counsellors as my comforters. Whereupon I happened to note, how diversly their fortunes wrought upon them, especially in that point at which I did most aim, which was the employing of their times and pens. In *Cicero*, I saw that during his banishment, (which was almost two years) he was so softened and dejected, as he wrote nothing but a few womanish epistles. And yet, in mine opinion, he had least reason of the three to be discouraged: for that although it was judged, and judged by the highest kind of judgment, in form of a statute, or law, that he should be banished, and his whole estate confiscated and seized, and his houses pulled down, and that it should be highly penal for any man to propound a repeal; yet his case even then had no great blot of ignominy; for it was thought but a tempest of popularity which overthrew him. *Demosthenes* contrariwise, though his case was foul, being condemned for bribery; and not simple bribery, but bribery in the nature of treason and disloyalty; yet nevertheless took so little knowledge of his fortune, as during his banishment he did much busy himself, and intermeddle with matters of state; and took upon him to counsel the state (as if he had been still at the helm) by letters; as appears by some epistles of his which are extant. *Seneca* indeed, who was condemned for many corruptions and crimes, and banished into a solitary island, kept a mean; and though his pen did not freeze, yet he abstained from intruding into matters of business; but spent his time in writing books of excellent argument and use for all ages; though he might have made better choice (sometimes) of his dedications.

THESE examples confirmed me much in a resolution (whereunto I was otherwise inclined) to spend my time wholly in writing; and to put forth that poor talent, or half talent, or what it is that God hath given me, not as heretofore to particular exchanges, but to banks, or mounts of perpetuity, which will not break. Therefore having not long since set forth a part of my instauration; which is the work, that in mine own judgment (*si nunquam fallit imago*) I do most esteem; I think to proceed in some new parts thereof. And although I have received from many parts beyond the seas, testimonies touching that work, such as beyond which I could not expect at the first in so abstruse an argument; yet nevertheless I have just cause to doubt, that it flies too high over mens heads: I have a purpose therefore (though I break the order of time) to draw it down to the sense, by some patterns of a natural story and inquisition. And again, for that my book of advancement of learning, may be some preparative, or key, for the better opening of the instauration; because it exhibits a mixture of new conceits and old; whereas the instauration gives the new unmixed, otherwise than with some little asperision of the old for taste's sake; I have thought good to procure a translation of that book into the general language, not without great and ample additions, and enrichment thereof, especially in the second book, which handleth the partition of sciences; in such sort as I hold it may serve, in lieu of the first part of the instauration, and acquit my promise

mife in that part. Again, becaufe I cannot altogether defer the civil perfon that I have born ; which if I fhould forget, enough would remember ; I have alfo entred into a work touching laws, propounding a character of juftice in a middle term, between the fpeculative and reverend difcourfes of philofophers, and the writings of lawyers, which are tied and obnoxious to their particular laws. And although it be true, that I had a purpofe to make a particular digeft, or recompilement of the laws of mine own nation ; yet becaufe it is a work of affiftance, and that which I cannot mafter by my own forces and pen, I have laid it afide. Now having in the work of my inftauration had in contemplation the general good of men in their very being, and the dowries of nature ; and in my work of laws, the general good of men likewise in fociety, and the dowries of government ; I thought in duty I owed fomewhat unto my own countrey, which I ever loved ; infomuch as although my place hath been far above my defer, yet my thoughts and cares concerning the good thereof, were beyond, and over, and above my place : fo now being (as I am) no more able to do my countrey fervice, it remained unto me to do it honour : which I have endeavoured to do in my work of the reign of king *Henry* the feventh. As for my effays, and fome other particulars of that nature, I count them but as the recreations of my other ftudies, and in that fort purpofe to continue them ; though I am not ignorant that thofe kind of writings would, with lefs pains and embracement (perhaps) yield more luftre and reputation to my name, than thofe other which I have in hand. But I account the ufe that a man fhould feek of the publishing of his own writings before his death, to be but an untimely anticipation of that which is proper to follow a man, and not to go along with him.

BUT revolving with my felf my writings, as well thofe which I have published, as thofe which I had in hand, methought they went all into the city, and none into the temple ; where becaufe I have found fo great confolation, I defire likewise to make fome poor oblation. Therefore I have chofen an argument, mixt of religious and civil confiderations ; and likewise mixt between contemplative and active. For who can tell whether there may not be an *exorire aliquis* ? Great matters (efpecially if they be religious) have (many times) fmall beginnings ; and the platform may draw on the building. This work, becaufe I was ever an enemy to flattering dedications, I have dedicated to your lordfhip, in refpect of our ancient and private acquaintance ; and becaufe amongst the men of our times I hold you in fpecial reverence.

Your lordfhip's loving friend,

FR. ST. ALBAN.

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ADVERTISEMENT

T O U C H I N G A N

H O L Y W A R.

The Persons that speak.

EUSEBIUS, GAMALIEL, ZEBEDAEUS, MARTIUS, EUPOLIS, POLLIO.

THERE met at *Paris* (in the house of *Eupolis*) * *Eusebius*, *Zebedaeus*, *Gamaliel*, *Martius*, all persons of eminent quality, but of several dispositions. *Eupolis* himself was also present; and while they were set in conference, *Pollio* came in to them from court; and as soon as he saw them, after his witty and pleasant manner, he said.

POLLIO. Here be four of you, I think, were able to make a good world; for you are as differing as the four elements, and yet you are friends. As for *Eupolis*, because he is temperate, and without passion, he may be the fifth essence. *Eupolis*. If we five (*Pollio*) make the great world, you alone make the little; because you profess and practise both, to refer all things to your self. *Pollio*. And what do they that practise it, and profess it not? *Eupolis*. They are the less hardy, and the more dangerous. But come and sit down with us, for we were speaking of the affairs of Christendom at this day; wherein we would be glad also to have your opinion. *Pollio*. My lords, I have journeyed this morning, and it is now the heat of the day; therefore your lordships discourses had need content my ears very well, to make them entreat mine eyes to keep open. But yet if you will give me leave to awake you, when I think your discourses do but sleep, I will keep watch the best I can. *Eupolis*. You cannot do us a greater favour. Only I fear you will think all our discourses to be but the better sort of dreams; for good wishes, without power to effect, are not much more. But, sir, when you came in, *Martius* had both raised our attentions, and affected us with some speech he had begun; and it falleth out well, to shake off your drowsiness; for it seemed to be the trumpet of a

* Characters of the persons. *Eusebius* beareth the character of a moderate divine: *Gamaliel* of a protestant zealot: *Zebedaeus* of a Roman Catholick zealot: *Martius* of a military man: *Eupolis* of a politick: *Pollio* of a courtier.

war. And therefore, (*Martius*) if it please you, to begin again ; for the speech was such, as deserveth to be heard twice ; and I assure you, your auditory is not a little amended by the presence of *Pollio*. *Martius*. When you came in (*Pollio*) I was saying freely to these lords, that I had observed, how by the space now of half a century of years, there had been (if I may speak it) a kind of meanness in the designs and enterprises of Christendom. Wars with subjects, like an angry suit for a man's own, that might be better ended by accord. Some petty acquests of a town, or spot of territory ; like a farmer's purchase of a close or nook of ground, that lay fit for him. And although the wars had been for a *Naples*, or a *Milan*, or a *Portugal*, or a *Bobemia*, yet these wars were but as the wars of heathens, (of *Athens*, or *Sparta*, or *Rome*,) for secular interests, or ambition, not worthy the warfare of Christians. The Church (indeed) maketh her missions into the extreme parts of the nations and isles, and it is well : but this is, *ecce unus gladius hic*. The Christian princes and potentates, are they that are wanting to the propagation of the faith by their arms. Yet our Lord, that said on earth, to the disciples, *Ite & praedicate*, said from heaven to *Constantine*, *in hoc signo vince*. What Christian soldier is there, that will not be touched with a religious emulation, to see an order of *Jesus*, or of *St. Francis*, or of *St. Augustine*, do such service, for enlarging the Christian borders ; and an order of *St. Iago*, or *St. Michael*, or *St. George*, only to robe, and feast, and perform rites and observances ? Surely the merchants themselves shall rise in judgment against the princes and nobles of *Europe* ; for they have made a great path in the seas, unto the ends of the world ; and set forth ships, and forces, of *Spanish*, *English* and *Dutch*, enough to make *China* tremble ; and all this, for pearl, or stone, or spices : but for the pearl of the kingdom of heaven, or the stones of the heavenly *Jerusalem*, or the spices of the spouse's garden, not a mast hath been set up : nay, they can make shift to shed Christian blood so far off amongst themselves, and not a drop for the cause of *Christ*. But let me recall my self ; I must acknowledge, that within the space of fifty years (whereof I spake) there have been three noble and memorable actions upon the infidels, wherein the Christian hath been the invader : for where it is upon the defensive, I reckon it a war of nature, and not of piety. The first was, that famous and fortunate war by sea, that ended in the victory of *Lepanto* ; which hath put a hook into the nostrils of the *Ottomans* to this day ; which was the work (chiefly) of that excellent pope *Pius Quintus*, whom I wonder his successors have not declared a saint. The second was, the noble, though unfortunate, expedition of *Sebastian* king of *Portugal* upon *Africa*, which was atchieved by him alone ; so alone, as left somewhat for others to excuse. The last was, the brave incurSIONS of *Sigismund* the *Transylvanian* prince, the thread of whose prosperity was cut off by the Christians themselves, contrary to the worthy and paternal monitories of pope *Clement* the eighth. More than these, I do not remember. *Pollio*. No ! What say you to the extirpation of the *Moors* of *Valentia* ? At which sudden question, *Martius* was a little at a stop ; and *Gama-liel* prevented him, and said ; *Gama-liel*. I think *Martius* did well in omitting that action, for I, for my part, never approved it ; and it seems, God was not well pleased with the deed ; for you see the king, in whose time it passed, (whom you catholicks count a saint-like and immaculate prince,) was taken away in the flower of his age : and the author, and great counsellor of that rigour (whose fortunes seemed to be built upon the rock) is ruined : and it is thought by some, that the reckonings of that business are
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not yet cleared with *Spain*; for that numbers of those supposed *Moors*, being tried now by their exile, continue constant in the faith, and true Christians in all points, save in the thirst of revenge. *Zebed.* Make not hasty judgment (*Gamaliel*) of that great action, which was as *Christ's* fan in those countries, except you could shew some such covenant from the crown of *Spain*, as *Joshua* made with the *Gibeonites*; that that cursed seed should continue in the land. And you see it was done by edict, not tumultuously; the sword was not put into the peoples hand. *Eupol.* I think *Martius* did omit it, not as making any judgment of it either way, but because it sorted not aptly with action of war, being upon subjects, and without resistance. But let us, if you think good, give *Martius* leave to proceed in his discourse; for methought he spake like a divine in armour. *Martius.* It is true, *Eupolis*, that the principal object which I have before mine eyes, in that whereof I speak, is piety and religion. But nevertheless, if I should speak only as a natural man, I should persuade the same thing. For there is no such enterprize, at this day, for secular greatness, and terrene honour, as a war upon infidels. Neither do I in this propound a novelty, or imagination, but that which is proved by late examples of the same kind, tho' perhaps of less difficulty. The *Castilians*, the age before that wherein we live, opened the new world; and subdued and planted *Mexico*, *Peru*, *Chili*, and other parts of the *West-Indies*. We see what floods of treasure have flowed into *Europe* by that action; so that the cense or rates of Christendom are raised since ten times, yea twenty times told. Of this treasure, it is true, the gold was accumulate, and store treasure, for the most part; but the silver is still growing. Besides, infinite is the access of territory and empire, by the same enterprize. For there was never an hand drawn, that did double the rest of the habitable world, before this; for so a man may truly term it, if he shall put to account, as well that that is, as that which may be hereafter, by the farther occupation and colonizing of those countries. And yet it cannot be affirmed, (if one speak ingenuously,) that it was the propagation of the Christian faith that was the adamant of that discovery, entry, and plantation; but gold and silver, and temporal profit, and glory; so that what was first in God's providence, was but second in man's appetite and intention. The like may be said of the famous navigations and conquests of *Emmanuel*, king of *Portugal*, whose arms began to circle *Africa* and *Asia*; and to acquire, not only the trade of spices, and stones, and musk, and drugs, but footing, and places, in those extreme parts of the east. For neither in this was religion the principal, but amplification and enlargement of riches and dominion. And the effect of these two enterprizes is now such, that both the *East* and the *West-Indies*, being met in the crown of *Spain*, it is come to pass, that as one faith in a brave kind of expression, the sun never sets in the *Spanish* dominions, but ever shines upon one part or other of them; which, to say truly, is a beam of glory, though I cannot say it is so solid a body of glory, wherein the crown of *Spain* surpasseth all the former monarchies. So as to conclude, we may see, that in these actions, upon Gentiles or Infidels, only or chiefly, both the spiritual and temporal, honour and good, have been in one pursuit and purchase conjoined. *Pollio.* Methinks, with your favour, you should remember, (*Martius*) that wild and savage people are like beasts and birds, which are *ferae natura*, the property of which passeth with the possession, and goeth to the occupant; but of civil people, it is not so. *Mar.* I know no such difference, amongst reasonable souls; but that whatsoever is in order

to the greatest and most general good of people, may justify the action, be the people more or less civil. But (*Eupolis*) I shall not easily grant, that the people of *Peru*, or *Mexico*, were such brute savages as you intend; or that there should be any such difference between them, and many of the infidels: which are now in other parts. In *Peru*, though they were unapparelled people, according to the clime, and had some customs very barbarous, yet the government of the *Incaes* had many parts of humanity and civility. They had reduced the nations from the adoration of a multitude of idols and fancies, to the adoration of the sun. And, as I remember, the book of *Wisdom* noteth degrees of idolatry; making that of worshipping petty and vile idols more gross, than simply the worshipping of the creature. And some of the Prophets, as I take it, do the like, in the metaphor of more ugly and bestial fornication. The *Peruvians* also (under the *Incaes*) had magnificent temples of their superstition; they had strict and regular justice; they bare great faith and obedience to their kings; they proceeded in a kind of martial justice with their enemies, offering them their law, as better for their own good, before they drew their sword. And much like was the state of *Mexico*, being an elective monarchy. As for those people of the east, (*Goa, Calacute, Malacca,*) they were a fine and dainty people; frugal, and yet elegant, though not military. So that if things be rightly weighed, the empire of the *Turks* may be truly affirmed to be more barbarous than any of these. A cruel tyranny, bathed in the blood of their emperors upon every succession; a heap of vassals and slaves; no nobles; no gentlemen; no freemen; no inheritance of land; no stirp or ancient families; a people that is without natural affection; and, as the scripture saith, that *regardeth not the desires of women*: and without piety, or care towards their children: a nation without morality, without letters, arts, or sciences; that can scarce measure an acre of land, or an hour of the day: base and fluttish in buildings, diets, and the like; and in a word, a very reproach to human society: and yet this nation hath made the garden of the world a wilderness; for that, as it is truly said, concerning the *Turks*, where *Ottoman's* horse sets his foot, people will come up very thin. *Pollio*. Yet in the midst of your invectives (*Martius*) do the *Turks* this right, as to remember that they are no idolaters: for if, as you say, there be a difference between worshipping a base idol, and the sun; there is a much greater difference between worshipping a creature, and the Creator. For the *Turks* do acknowledge God the Father, Creator of heaven and earth, being the first person in the Trinity, though they deny the rest. At which speech, when *Martius* made some pause, *Zebedaeus* replied with a countenance of great reprehension and severity. *Zebed*. We must take heed (*Pollio*) that we fall not at unawares into the heresy of *Manuel Comnenus* emperor of *Graecia*, who affirmed, that *Mahomet's* God was the true God; which opinion was not only rejected and condemned by the synod, but imputed to the emperor as extreme madness, being reproached to him also by the bishop of *Theſſalonica*, in those bitter and strange words, as are not to be named. *Martius*. I confess that it is my opinion, that a war upon the *Turk* is more worthy than upon any other gentiles, infidels, or savages, that either have been, or now are, both in point of religion, and in point of honour; though facility, and hope of success, might (perhaps) invite some other choice. But before I proceed, both my self would be glad to take some breath; and I shall frankly desire, that some of your lordships would take your turn to speak, that can do it better. But chiefly, for that I see here some that are excellent interpreters of the divine law,

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though in several ways; and that I have reason to distrust mine own judgment, both as weak in it self, and as that which may be overborn by my zeal and affection to this cause. I think it were an error to speak farther, till I may see some sound foundation laid of the lawfulness of the action, by them that are better versed in that argument. *Eupolis*. I am glad (*Martius*) to see in a person of your profession so great moderation, in that you are not transported in an action that warms the blood, and is appearing holy to blanch or take for admitted the point of lawfulness. And because methinks this conference prospers, if your lordships will give me leave, I will make some motion touching the distribution of it into parts. Unto which when they all assented, *Eupolis* said; *Eupolis*. I think it would not fort amiss, if *Zebedaeus* would be pleased to handle the question, whether a war for the propagation of the Christian faith, without other cause of hostility, be lawful or no, and in what cases? I confess also I would be glad to go a little farther, and to hear it spoken to concerning the lawfulness, not only permissively, but whether it be not obligatory to Christian princes and states to design it: which part, if it please *Gamaliel* to undertake, the point of the lawfulness taken simply will be compleat. Yet there resteth the comparative: that is, its being granted, that it is either lawful or binding, yet whether other things be not to be preferr'd before it; as extirpation of heresies, reconcilements of schisms, pursuit of lawful temporal rights and quarrels, and the like; and how far this enterprize ought either to wait upon these other matters, or to be mingled with them, or to pass by them, and give law to them, as inferior unto it self? And because this is a great part, and *Eusebius* hath yet said nothing, we will by way of mulct or pain, if your lordships think good, lay it upon him. All this while, I doubt much that *Pollio*, who hath a sharp wit of discovery towards what is solid and real, and what is specious and airy, will esteem all this but impossibilities, and eagles in the clouds: and therefore we shall all intreat him to crush this argument with his best forces; that by the light we shall take from him, we may either cast it away if it be found but a bladder, or discharge it of so much as is vain and not sperable. And because I confess I myself am not of that opinion, although it be an hard encounter to deal with *Pollio*, yet I shall do my best to prove the enterprize possible; and to shew how all impediments may be either removed or overcome. And then it will be fit for *Martius* (if we do not desert it before) to resume his farther discourse, as well for the persuasive, as for the consult, touching the means, preparations, and all that may conduce unto the enterprize. Yet this is but my wish, your lordships will put it into better order. They all not only allowed the distribution, but accepted the parts: but because the day was spent, they agreed to defer it till the next morning. Only *Pollio* said; *Pollio*. You take me right, (*Eupolis*) for I am of opinion, that except you could bray *Christendom* in a mortar, and mould it into a new paste, there is no possibility of an holy war. And I was ever of opinion, that the philosophers stone, and an holy war, were but the rendezvous of crackt brains, that wore their feather in their head, instead of their hat. Nevertheless, believe me of courtesy, that if you five shall be of another mind, especially after you have heard what I can say, I shall be ready to certify with *Hippocrates*, that *Athens* is mad, and *Democritus* is only sober. And lest you should take me for altogether adverse, I will frankly contribute to the business now at first. Ye, no doubt, will amongst you devise and discourse many solemn matters; but do as I shall tell you. This pope is decrepid,
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and the bell goeth for him. Take order, that when he is dead, there be chosen a pope of fresh years, between fifty and threescore ; and see that he take the name of *Urban*, because a pope of that name did first institute the croisado ; and (as with an holy trumpet) did stir up the voyage for the Holy Land. *Eupolis*. You say well ; but be, I pray you, a little more serious in this conference.

THE next day the same persons met as they had appointed ; and after they were set, and that there had passed some sporting speeches from *Pollio*, how the war was already begun ; for that (he said) he had dreamt of nothing but *Janizaries*, and *Tartars*, and *Sultans* all the night long : *Martius* said. *Martius*. The distribution of this conference, which was made by *Eupolis* yesternight, and was by us approved, seemeth to me perfect, save in one point ; and that is, not in the number, but in the placing of the parts. For it is so disposed, that *Pollio* and *Eupolis* shall debate the possibility or impossibility of the action, before I shall deduce the particulars of the means and manner by which it is to be achieved. Now I have often observed in deliberations, that the entring near hand into the manner of performance, and execution of that which is under deliberation, hath quite overturn'd the opinion formerly conceiv'd, of the possibility or impossibility. So that things, that at the first shew seemed possible, by ripping up the performance of them, have been convicted of impossibility ; and things that on the other side have shewed impossible, by the declaration of the means to affect them, as by a back light have appeared possible, the way through them being discerned. This I speak, not to alter the order, but only to desire *Pollio* and *Eupolis* not to speak peremptorily, or conclusively, touching the point of possibility, till they have heard me deduce the means of the execution : and that done, to reserve themselves at liberty for a reply, after they had before them as it were, a model of the enterprize. This grave and solid advertisement and caution of *Martius* was much commended by them all. Whereupon *Eupolis* said. *Eupolis*. Since *Martius* hath begun to refine that which was yesternight resolved ; I may the better have leave (especially in the mending of a proposition, which was mine own) to remember an omission which is more than a misplacing. For I doubt we ought to have added or inserted into the point of lawfulness, the question, how far an holy war is to be pursued, whether to displanting and extermination of people ? And again, whether to enforce a new belief, and to vindicate or punish infidelity ; or only to subject the countries and people ; and so by the temporal sword, to open a door for the spiritual sword to enter, by persuasion, instruction, and such means as are proper for souls and consciences ? But it may be, neither is this necessary to be made a part by it self ; for that *Zebedaeus*, in his wisdom, will fall into it as an incident to the point of lawfulness, which cannot be handled without limitations and distinctions. *Zebedaeus*. You encourage me (*Eupolis*) in that I perceive, how in your judgment (which I do so much esteem) I ought to take that course, which of my self I was purposed to do. For as *Martius* noted well, that it is but a loose thing to speak of possibilities, without the particular designs ; so is it to speak of lawfulness without the particular cases. I will therefore first of all distinguish the cases ; though you shall give me leave in the handling of them, not to sever them with too much preciseness ; for both it would cause needless length ; and we are not now in arts or methods, but in a conference. It is therefore first to be put to question in general, (as *Eupolis* propounded it) whether it be lawful for Christian princes or states, to make an inva-

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five war, only and simply for the propagation of the faith, without other cause of hostility or circumstance, that may provoke and induce the war? Secondly, whether it being made part of the case, that the countries were once Christian, and members of the church, and where the golden candlesticks did stand, though now they be utterly alienated, and no Christians left; it be not lawful to make a war to restore them to the church, as an ancient patrimony of *Christ*? Thirdly, if it be made a farther part of the case, that there are yet remaining in the countries multitudes of Christians, whether it be not lawful to make a war to free them, and deliver them from the servitude of the infidels? Fourthly, whether it be not lawful to make a war, for the purging and recovery of consecrated places, being now polluted and profaned; as the holy city and sepulchre, and such other places of principal adoration and devotion? Fifthly, whether it be not lawful to make a war, for the revenge or vindication of blasphemies and reproaches against the Deity and our blessed Saviour; or for the effusion of Christian blood, and cruelties against Christians, though ancient, and long since past; considering that God's visits are without limitation of time; and many times do but expect the fullness of the sin? Sixthly, it is to be considered, (as *Eupolis* now last well remembred) whether a holy war, (which, as in the worthiness of the quarrel, so in the justness of the prosecution, ought to exceed all temporal wars) may be pursued, either to the expulsion of people, or the enforcement of consciences, or the like extremities; or how to be moderated and limited; lest whilst we remember we are Christians, we forget that others are men? But there is a point that precedeth all these points recited; nay, and in a manner dischargeth them, in the particular of a war against the Turk: which point, I think, would not have come into my thought, but that *Martius* giving us yesterday a representation of the empire of the Turks, with no small vigour of words, (which you, *Pollio*, called an invective, but was indeed a true charge) did put me in mind of it: and the more I think upon it, the more I settle in opinion; that a war, to suppress that empire, though we set aside the cause of religion, were a just war. After *Zebedaeus* had said this, he made a pause, to see whether any of the rest would say any thing: but when he perceived nothing but silence, and signs of attention, to that he would farther say, he proceeded thus.

ZEBEDAEUS. Your lordships will not look for a treatise from me, but a speech of consultation; and in that brevity and manner will I speak. First, I shall agree, that as the cause of a war ought to be just, so the justice of that cause ought to be evident; not obscure, not scrupulous. For by the consent of all laws, in capital causes, the evidence must be full and clear: and if so, where one man's life is in question, what say we to a war, which is ever the sentence of death upon many? We must beware therefore how we make a *Moloch*, or an Heathen idol, of our blessed Saviour, in sacrificing the blood of men to him by an unjust war. The justice of every action consisteth in the merits of the cause, the warrant of the jurisdiction, and the form of the prosecution. As for the inward intention, I leave it to the court of heaven. Of these things severally, as they may have relation to the present subject of a war against infidels; and namely, against the most potent, and most dangerous enemy of the faith, the Turk. I hold, and I doubt not but I shall make it plain, (as far as a sum or brief can make a cause plain) that a war against the Turk is lawful, both by the laws of nature and nations, and by the law divine, which is the perfection of the other
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two. As for the laws positive and civil of the *Romans*, or others whatsoever, they are too small engines to move the weight of this question. And therefore, in my judgment, many of the late schoolmen, though excellent men, take not the right way in disputing this question; except they had the gift of *Navius*, that they could *cotem novacula scindere*, hew stones with pen-knives. First, for the law of nature. The philosopher *Aristotle* is no ill interpreter thereof. He hath set many men on work with a witty speech of *natura dominus*, and *natura servus*; affirming expressly and positively, that from the very nativity, some things are born to rule, and some things to obey: Which oracle hath been taken in divers senses. Some have taken it for a speech of ostentation, to entitle the *Grecians* to an empire over the Barbarians; which indeed was better maintained by his scholar *Alexander*. Some have taken it for a speculative platform, that reason and nature would that the best should govern; but not in any wise to create a right. But for my part, I take it neither for a brag, nor for a wish; but for a truth as he limiteth it. For he saith, that if there can be found such an inequality between man and man, as there is between man and beast, or between soul and body, it investeth a right of government; which seemeth rather an impossible case, than an untrue sentence. But I hold both the judgment true, and the case possible; and such as hath had, and hath a being, both in particular men and nations. But ere we go farther, let us confine ambiguities and mistakings, that they trouble us not. First, to say that the more capable, or the better deserver, hath such right to govern, as he may compulsorily bring under the less worthy, is idle. Men will never agree upon it, who is the more worthy. For it is not only in order of nature, for him to govern that is the more intelligent, as *Aristotle* would have it; but there is no less required for government, courage to protect; and above all, honesty and probity of the will to abstain, from injury. So fitness to govern is a perplexed business. Some men, some nations, excel in the one ability, some in the other. Therefore the position which I intend, is not in the comparative, that the wiser, or the stouter, or the juster nation should govern; but in the privative, that where there is an heap of people (though we term it a kingdom or state) that is altogether unable or indigne to govern; there it is a just cause of war for another nation, that is civil or policed, to subdue them: and this though it were to be done by a *Cyrus* or a *Caesar*, that were no Christian. The second mistaking to be banished is, that I understand not this of a personal tyranny, as was the state of *Rome* under a *Caligula*, or a *Nero*, or a *Commodus*; shall the nation suffer for that wherein they suffer? But when the constitution of the state, and the fundamental customs and laws of the same, (if laws they may be called) are against the laws of nature and nations, then, I say, a war upon them is lawful. I shall divide the question into three parts. First, whether there be, or may be any nation or society of men, against whom it is lawful to make a war, without a precedent injury or provocation? Secondly, what are those breaches of the law of nature and nations, which do forfeit and divest all right and title in a nation to govern? And thirdly, whether those breaches of the law of nature and nations, be found in any nation at this day; and namely in the empire of the *Ottomans*? For the first, I hold it clear that such nations, or states, or societies of people, there may be and are. There cannot be a better ground laid to declare this, than to look into the original donation of government. Observe it well, especially the inducement, or preface. Saith God: *let us make man after our own image,*
and

and let him have dominion over the fishes of the sea, and the fowls of the air, and the beasts of the land, &c. Hereupon *De Victoria*, and with him some others, infer excellently, and extract a most true and divine aphorism, *non fundatur dominium, nisi in imagine Dei*. Here we have the charter of foundation: it is now the more easy to judge of the forfeiture, or reseizure. Deface the image, and you divest the right. But what is this image, and how is it defaced? The poor men of *Lyons*, and some fanatical spirits, will tell you, that the image of God is purity; and the defacement, sin. But this subverteth all government: neither did *Adam's* sin, or the curse upon it, deprive him of his rule, but left the creatures to a rebellion or reluctance. And therefore if you note it attentively, when this charter was renewed unto *Noah* and his sons, it is not by the words, *you shall have dominion*; but *your fear shall be upon all the beasts of the land, and the birds of the air, and all that moveth*; not regranting the sovereignty, which stood firm; but protecting it against the reluctance. The sound interpreters therefore expound this image of God, of natural reason; which if it be totally or mostly defaced, the right of government doth cease: and if you mark all the interpreters well, still they doubt of the case, and not of the law. But this is properly to be spoken to in handling the second point, when we shall define of the defacements. To go on: The prophet *Hosea*, in the person of God, saith of the *Jews*; *they have reigned, but not by me; they have set a seigniory over themselves, but I knew nothing of it*. Which place proveth plainly, that there are governments which God doth not avow. For though they be ordained by his secret providence, yet they are not knowledged by his revealed will. Neither can this be meant of evil governors or tyrants: for they are often avowed and established, as lawful potentates; but of some perverseness and defection in the very nation it self; which appeareth most manifestly in that the Prophet speaketh of the seigniory *in abstracto*, and not of the person of the Lord. And although some hereticks of those we spake of have abused this text, yet the sun is not soiled in passage. And again, if any man infer upon the words of the Prophet's following, (which declare this rejection, and to use the words of the text, rescission of their estate to have been for their idolatry) that by this reason the governments of all idolatrous nations should be also dissolved, (which is manifestly untrue;) in my judgment it followeth not. For the idolatry of the *Jews* then, and the idolatry of the Heathen then and now, are sins of a far differing nature, in regard of the special covenant, and the clear manifestations wherein God did contract and exhibit himself to that nation. This nullity of policy, and right of estate in some nations, is yet more significantly expressed by *Moses* in his canticle; in the person of God to the *Jews*: *ye have incensed me with Gods that are no Gods, and I will incense you with a people that are no people*: Such as were (no doubt) the people of *Canaan*, after seisin was given of the land of promise to the *Israelites*. For from that time their right to the land was dissolved, though they remained in many places unconquered. By this we may see, that there are nations in name, that are no nations in right; but multitudes only, and swarms of people. For like as there are particular persons outlawed and proscribed by civil laws of several countries; so are there nations that are outlawed and proscribed by the law of nature and nations, or by the immediate commandment of God. And as there are kings *de facto*, and not *de jure*, in respect of the nullity of their title; so are there nations, that are occupants *de facto*, and not *de jure*, of their territories, in respect of the nullity of their policy or govern-

ment. But let us take in some examples into the midst of our proofs ; for they will prove as much as put after, and illustrate more. It was never doubted, but a war upon pirates may be lawfully made by any nation, though not infested or violated by them. Is it because they have not *certas sedes*, or *lares*? In the piratical war, which was atchieved by *Pompey* the great, and was his truest and greatest glory ; the pirates had some cities, sundry ports, and a great part of the province of *Cilicia* ; and the pirates now being, have a receptacle and mansion in *Algiers*. Beasts are not the less savage because they have dens. Is it because the danger hovers as a cloud, that a man cannot tell where it will fall? And so it is every man's case. The reason is good, but it is not all, nor that which is most alleged. For the true received reason is, that pirates are *communes humani generis hostes* ; whom all nations are to prosecute, not so much in the right of their own fears, as upon the band of human society. For as there are formal and written leagues, respective to certain enemies ; so is there a natural and tacite confederation amongst all men, against the common enemy of human society. So as there needs no intimation, or denunciation of the war ; there needs no request from the nation grieved ; but all these formalities the law of nature supplies in the case of pirates. The same is the case of rovers by land ; such as yet are some cantons in *Arabia*, and some petty kings of the mountains, adjacent to straits and ways. Neither is it lawful only for the neighbour princes to destroy such pirates or rovers, but if there were any nation never so far off, that would make it an enterprize of merit and true glory, (as the *Romans* that made a war for the liberty of *Graecia* from a distant and remote part) no doubt they might do it. I make the same judgment of that kingdom of the assassins now destroyed, which was situate upon the borders of *Saraca* ; and was for a time a great terror to all the princes of the *Levant*. There the custom was, that upon the commandment of their king, and a blind obedience to be given thereunto, any of them was to undertake, in the nature of a votary, the insidious murder of any prince, or person, upon whom the commandment went. This custom, without all question, made their whole government void, as an engine built against human society, worthy by all men to be fired and pulled down. I say the like of the anabaptists of *Munster* ; and this although they had not been rebels to the empire : and put case likewise that they had done no mischief at all actually, yet if there shall be a congregation and consent of people, that shall hold all things to be lawful, not according to any certain laws or rules, but according to the secret and variable motions and instincts of the spirit ; this is indeed no nation, no people, no feigniory, that God doth know : any nation that is civil and policed, may (if they will not be reduced) cut them off from the face of the earth. Now let me put a feigned case, (and yet antiquity makes it doubtful, whether it were fiction or history) of a land of *Amazons*, where the whole government publick and private, yea, the militia it self, was in the hands of women. I demand, is not such a preposterous government (against the first order of nature, for women to rule over men) in it self void, and to be suppressed? I speak not of the reign of women, (for that is supplied by counsel, and subordinate magistrates masculine) but where the regiment of state, justice, families, is all managed by women. And yet this last case differeth from the other before, because in the rest there is terror of danger, but in this there is only error of nature. Neither should I make any great difficulty to affirm the same of the sultanry of the *Mamaluks* ; where slaves, and none but slaves,

bought

bought for money, and of unknown descent, reigned over families of freemen. And much like were the case, if you suppose a nation, where the custom were, that after full age, the sons should expulse their fathers and mothers out of their possessions, and put them to their pensions: for these cases, of women to govern men, sons the fathers, slaves freemen, are much in the same degree; all being total violations and perversions of the laws of nature and nations. For the *West Indies*, I perceive (*Martius*) you have read *Garcilazzo de Viega*, who himself was descended of the race of the *Incaes*, a *Mestizo*, and is willing to make the best of the virtues and manners of his countrey: and yet in troth he doth it soberly and credibly enough. Yet you shall hardly edify me, that those nations might not by the law of nature have been subdued by any nation, that had only policy and moral virtue; though the propagation of the faith (whereof we shall speak in the proper place) were set by, and not made part of the case. Surely their nakedness (being with them in most parts of that countrey, without all vail or covering) was a great defacement: for in the acknowledgment of nakedness, was the first sense of sin; and the heresy of the *Adamites* was ever accounted an affront of nature. But upon these I stand not; nor yet upon their idiocy, in thinking that horses did eat their bits, and letters speak, and the like: Nor yet upon their forceries, which are (almost) common to all idolatrous nations. But, I say, their sacrificing, and more especially their eating of men, is such an abomination, as (methinks) a man's face should be a little confused, to deny, that this custom joined with the rest, did not make it lawful for the *Spaniards* to invade their territory, forfeited by the law of nature; and either to reduce them or displant them. But far be it from me, yet nevertheless, to justify the cruelties which were at first used towards them, which had their reward soon after, there being not one of the principal of the first conquerors, but died a violent death himself; and was well followed by the deaths of many more. Of examples enough: except we should add the labours of *Hercules*; an example, which though it be flourished with much fabulous matter, yet so much it hath, that it doth notably set forth the consent of all nations and ages, in the approbation of the extirpating and debellating of giants, monsters, and foreign tyrants, not only as lawful, but as meritorious even of divine honour: And this although the deliverer came from the one end of the world unto the other. Let us now set down some arguments to prove the same; regarding rather weight than number, as in such a conference as this is fit. The first argument shall be this. It is a great error, and a narrowness or straitness of mind, if any man think, that nations have nothing to do one with another, except there be either an union in sovereignty, or a conjunction in pacts or leagues. There are other bands of society, and implicit confederations. That of colonies, or transmigrants, towards their mother nation. *Gentes unius labii* is somewhat; for as the confusion of tongues was a mark of separation, so the being of one language is a mark of union. To have the same fundamental laws and customs in chief is yet more, as it was between the *Graecians* in respect of the Barbarians. To be of one sect or worship; if it be a false worship, I speak not of it, for that is but *fratres in malo*. But above all these, there is the supreme and indissoluble consanguinity and society between men in general: of which the heathen poet (whom the Apostle calls to witness) saith, *we are all his generation*. But much more we Christians, unto whom it is revealed in particularity, that all men came from one lump of

earth; and that two singular persons were the parents from whom all the generations of the world are descended. We (I say) ought to acknowledge, that no nations are wholly aliens and strangers the one to the other : and not to be less charitable, than the person introduced by the comick poet, *homo sum, humani nihil a me alienum puto*. Now if there be such a tacit league or confederation, sure it is not idle ; it is against somewhat, or somebody : who should they be ? Is it against wild beasts ; or the elements of fire and water ? No, it is against such routs and shoals of people, as have utterly degenerated from the laws of nature ; as have in their very body and frame of estate, a monstrosity ; and may be truly accounted (according to the examples we have formerly recited) common enemies and grievances of mankind ; or disgraces and reproaches to human nature. Such people, all nations are interested, and ought to be resenting, to suppress ; considering that the particular states themselves, being the delinquents, can give no redress. And this I say is not to be measured so much by the principles of jurists, as by *lex charitatis*, *lex proximi*, which includes the *Samaritan* as well as the *Levite* ; *lex filiorum Adæ de massa una* : upon which original laws this opinion is grounded : which to deny (if a man may speak freely) were almost to be a schismatick in nature.

The rest was not perfected.

The Lord Bacon's questions about the lawfulness of a war for the propagating of religion.
Remains, p. 179.

Questions wherein I desire opinion, joined with arguments and authorities.

WHETHER a war be lawful against infidels, only for the propagation of the Christian faith, without other cause of hostility ?

WHETHER a war be lawful, to recover to the church countries, which formerly have been Christian, though now alienate, and Christians utterly extirpated ?

WHETHER a war be lawful to free and deliver Christians that yet remain in servitude, and subjection to infidels ?

WHETHER a war be lawful in revenge, or vindication, of blasphemy and reproaches against the Deity and our Saviour ? Or for the ancient effusion of Christian blood, and cruelties upon Christians ?

WHETHER a war be lawful for the restoring and purging of the Holy Land, the sepulchre, and other principal places of adoration and devotion ?

WHETHER in the cases aforesaid, it be not obligatory to Christian princes, to make such a war, and not permissive only ?

WHETHER the making of a war against the infidels, be not first in order of dignity, and to be preferr'd before extirpations of heresies, reconcilements of schisms, reformation of manners, pursuits of just temporal quarrels, and the like actions for the publick good ; except there be either a more urgent necessity, or a more evident facility in those inferior actions, or except they may both go on together in some degree ?

The End of the Third Volume.

APPENDIX.

An ACCOUNT of the lately erected Service, called the Office of Compositions for Alienations.

Written [about the close of 1598] by Mr. *Francis Bacon*, and now first published from a MS in the *Inner Temple Library*.

ALL the finances or revenues of the imperial crown of this realm of *England*, be either extraordinary or ordinary. The fundry forts of the royal revenue. THOSE extraordinary, be fifteenths and tenths, subsidies, loans, benevolences, aids, and such others of that kind, that have been, or shall be invented for supportation of the charges of war; the which as it is entertained by diet, so can it not be long maintained by the ordinary fiscal and receipt.

OF these that be ordinary, some are certain and standing, as the yearly rents of the demeasne or lands; being either of the ancient possessions of the crown, or of the later augmentations of the same.

LIKEWISE the fee farms reserved upon charters granted to cities and towns corporate, and the blanch rents and lath silver answered by the sheriffs. The residue of these ordinary finances be casual, or uncertain, as be the escheats and forfeitures, the customs, butlerage and impost, the advantages coming by the jurisdiction of the courts of record and clerks of the market, the temporalities of vacant bishopricks, the profits that grow by the tenures of lands, and such like, if there any be.

AND albeit that both the one sort and other of these, be at the last brought unto that office of her majesty's exchequer, which we (by a metaphor) do call the pipe, as the civilians do by a like translation name it *Fiscus*, a basket or bag, because the whole receipt is finally conveyed into it by the means of divers small pipes or quills, as it were water into a great head or cistern; yet nevertheless some of the same be first and immediately left in other several places and courts, from whence they are afterwards carried by silver streams, to make up that great lake, or sea, of money. The pipe.

As for example, the profits of wards and their lands, be answered into that court which is proper for them; and the fines for all original writs, and for causes that pass the great seal, were wont to be immediately paid into the hanaper of the chancery: howbeit now of late years, all the sums which are due, either for any writ of covenant, or of other sort, (whereupon a final concord is to be levied in the common bench) or for any writ of entry (whereupon a common recovery is to be suffered there;) The hanaper.

as

This office is derived out of the hanaper.

as also all fums demandable, either for licence of alienation to be made of lands holden in chief, or for the pardon of any such alienation, already made without licence, together with the mean profits that be forfeited for that offence and trespass, have been stayed in the way to the hanaper, and been let to farm, upon assurance of three hundred pound of yearly standing profit, to be increased over and above that casual commodity, that was found to be answered in the hanaper for them, in the ten years (one with another) next before the making of the same lease.

AND yet so as that yearly rent of increase is now still paid into the hanaper by four gross portions, not altogether equal, in the four usual open terms of *St. Michael*, and *St. Hilary*, of *Easter* and the *Holy Trinity*, even as the former casualty it self was wont to be (in parcel meal) brought in and answered there.

The name of the office.

AND now forasmuch as the only matter and subject about which this farmer, or his deputies, are employed, is to rate or compound the fums of money payable to her majesty, for the alienation of lands that are either made without licence, or to be made by licence, (if they be holden in chief,) or to pass for common recovery, or by final concord to be levied, (though they be not so holden) their service may therefore very aptly and agreeably be termed the office of compositions for alienations. Whether the advancement of her majesty's commodity in this part of her prerogative, or the respect of private lucre, or both, were the first motives thus to disserve this member, and thereby as it were to mayhem the chancery, it is neither my part nor purpose to dispute.

The scope of this discourse, and the parts thereof.

BUT for a full institution of the service as it now standeth, howsoever some men have not spared to speak hardly thereof, I hold worthy my labour to set down as followeth.

FIRST, That these fines, exacted for such alienations, be not only of the greatest antiquity, but are also good and reasonable in themselves: secondly, that the modern and present exercise of this office, is more commendable than was the former usage: and lastly, that as her majesty hath received great profit thereby, so may she, by a moderate hand, from time to time reap the like, and that without just grief to any of her subjects.

The first part of this treatise.

As the lands that are to be aliened, be either immediately holden in chief, or not so holden of the queen: so be these fines or fums respectively of two sundry sorts. For upon each alienation of lands, immediately held of her majesty in chief, the fine is rated here, either upon the licence before the alienation is made, or else upon the pardon when it is made without licence. But generally for every final concord of lands to be levied upon a writ of covenant, *warrantia chartae*, or other writ, upon which it may be orderly levied, the sum is rated here upon the original writ, whether the lands be held of the queen, or of any other person; if at the least the lands be of such value, as they may yield the due fine. And likewise for every writ of entry, whereupon a common recovery is to be suffered, the queen's fine is to be rated there upon the writ original, if the lands comprised therein be held of her by the tenure of her prerogative, that is to say, in chief, or of her royal person.

The king's tenant in chief could never alien without licence.

1 E. III. c. 12.

So that I am hereby enforced, for avoiding of confusion, to speak severally, first of the fines for alienation of lands held in chief, and then of the fines upon the suing forth of writs original. That the king's tenant in chief could not in ancient time alien his tenancy without the king's licence; it appeareth by the statute (1 E. III. cap. 12.) where it is thus written;

written: "Whereas divers do complain, that the lands (holden of the king in chief, and aliened without licence) have been seized into the king's hands for such alienation, and holden as forfeit: the king shall not hold them as forfeit in such a case, but granteth that (upon such alienations) there shall be reasonable fines taken in the chancery by due process."

So that it is hereby proved, that before this statute, the offence of such alienation, without licence, was taken to be so great, that the tenant did forfeit the land thereby; and consequently that he found great favour there by this statute, to be reasonably fined for his trespass.

AND although we read an opinion, 20 *lib. Assis. parl.* 17, & 26. *Ass. parl.* 37. which also is repeated by *Hankf.* 14 *H. 4. fol.* 3. in which year *Magna Charta* was confirmed by him, the king's tenant in chief might as freely alien his lands without licence, as might the tenant of any other lord: yet forasmuch as it appeareth not by what statute the law was then changed, I had rather believe (with old judge *Thorpe*, and late justice *Stanford*) that even at the common law, which is as much as to say, as from the beginning of our tenures, or from the beginning of the *English* monarchy, it was accounted an offence in the king's tenant in chief, to alien without the royal and express licence.

AND I am sure, that not only upon the entring, or recording, of such a fine for alienation, it is wont to be said *pro transgressione in hac parte facta*; but that you may also read amongst the records in the tower (*Fines 6 Hen. Reg. 3. Memb. 4.*) a precedent of a *capias in manum regis terras alienatas sine licentia regis*, and that namely of the manour of *Coslescombe* in *Kent*, whereof *Robert Cesterton* was then the king's tenant in chief. But were it that, as they say, this began first 20 *Hen. III.* yet it is above three hundred and sixty years old, and of equal if not more antiquity than *Magna Charta* it self, and the rest of our most ancient laws; the which never found assurance by parliament, until the time of King *Edw. I.* who may be therefore worthily called our *English Solon* or *Lycurgus*.

Now therefore to proceed to the reason and equity of exacting these fines for such alienations, it standeth thus: when the king (whom our law understandeth to have been at the first both the supreme lord of all the persons, and sole owner of all the lands within his dominions) did give lands to any subject to hold them of himself, as of his crown and royal diadem, he vouchsafed that favour upon a chosen and selected man, not minding that any other should, (without his privity and good liking) be made owner of the same. And therefore his gift hath this secret intention inclosed within it, that if his tenant and patentee shall dispose of the same without his kingly assent first obtained, the lands shall revert to the king, or to his successors, that first gave them: and that also was the very cause, as I take it, why they were anciently seized into the king's hands as forfeit by such alienation, until the making of the said statute (1 *Edw. III.*) which did qualify that rigour of the former law.

The fine for alienation is moderate.

NEITHER ought this to seem strange in the case of the king, when every common subject (being lord of lands which another holdeth of him) ought not only to have notice given unto him upon every alienation of his tenant, but shall (by the like implied intention) re-have the lands of his tenants, dying without heirs, though they were given out never so many years

years ago, and have passed through the hands of howsoever many and strange possessors.

NOT without good warrant therefore, said Mr. *Fitzherbert* in his *Nat. Brev. fol. 147.* That the justices ought not wittingly to suffer any fine to be levied of lands holden in chief, without the king's licence. And as this reason is good and forcible, so is the equity and moderation of the fine itself most open and apparent; for how easy a thing is it to redeem a forfeiture of the whole lands for ever with the profits of one year, by the purchase of a pardon? Or otherwise, how tolerable is it to prevent the charge of that pardon, with the only cost of a third part thereof, timely and beforehand bestowed upon a licence?

The antiquity and moderation of fines upon writs original.

TOUCHING the king's fines accustomedly paid for the purchasing of writs original, I find no certain beginning of them, and do therefore think that they also grew up with the chancery, which is the shop wherein they be forged; or, if you will, with the first ordinary jurisdiction and delivery of justice itself.

FOR when as the king had erected his courts of ordinary resort, for the help of his subjects in suit one against another, and was at the charge not only to wage justice and their ministers, but also to appoint places and officers for safe custody of the records that concerned not himself; by which means each man might boldly both crave and have law for the present, and find memorials also to maintain his right and recovery, for ever after, to the singular benefit of himself and all his posterity; it was consonant to good reason, that the benefited subject should render some small portion of his gain, as well towards the maintenance of this his own so great commodity, as for the supportation of the king's expence, and the reward of the labour of them that were wholly employed for his profit.

Littleton. 34 H. 6. fol. 38.

AND therefore it was well said by *Littleton*, (34 H. 6. fol. 38.) That the chancellor of *England* is not bound to make writs, without his due fee for the writing and seal of them. And that, in this part also, you may have assurance of good antiquity, it is extant amongst the records in the tower, 2 H. III. Membr. 6. that *Simon Hales* and others gave unto him their king, *unum palfredum pro summonendo Richardo filio & haerede Willielmi de Hanred quod teneat finem factum coram justiciariis apud Northampton, inter dictum Willielmum & patrem dicti Arnoldi de feodo in Barton.* And besides that (*in Oblatis de ann. 1, 2, & 7. regis Johannis*) fines were diversly paid to the king upon the purchasing writs of mort d'auncestor, dower, pone, to remove pleas for inquisitions, trial by juries, writs of fundry summons, and other more.

20 Rich. II.

HEREOF then it is, that upon every writ procured for debt or damage, amounting to forty pounds or more, a noble, that is, six shillings and eight pence, is, and usually hath been paid to fine. And so for every hundred marks more a noble; and likewise upon every writ called a *praecipe* of lands, exceeding the yearly value of forty shillings, a noble is given to a fine; and for every other five marks by year; moreover another noble, as it is set forth 20 Rich. II. (abridged both by justice *Fitzherbert*, and justice *Brooke*;) and may also appear in the old *Natura brevium*, and the register, which have a proper writ of deceit, formed upon the case, where a man did (in the name of another) purchase such a writ in the chancery without his knowledge and consent.

AND

AND herein the writ of right is excepted and passeth freely; not for fear of the words in *Magna Charta*, *Nulli vendemus justitiam vel rectum*, as some do phantasy, but rather because it is rarely brought; and then also bought dearly enough without such a fine, for that the trial may be by battel to the great hazard of the champion.

THE like exemption hath the writ to enquire of a man's death, which also, by the twenty-sixth chapter of that *Magna Charta*, must be granted freely, and without giving any thing for it: which last I do rather note, because it may be well gathered thereby, that even then all those other writs did lawfully answer their due fines: for otherwise the like prohibition would have been published against them, as was in this case of the inquisition it self.

I SEE no need to maintain the mediocrity and easiness of this last sort of fine, which in lands exceedeth not the tenth part of one year's value, and in goods the two hundredth part of the thing that is demanded by the writ.

NEITHER hath this office of ours * originally to meddle with the fines * *Right*, or some word of the like import seems to be omitted here. of any other original writs, than of such only as whereupon a fine or concord may be had and levied; which is commonly the writ of covenant, and rarely any other. For we deal not with the fine of the writ of entry of lands holden in chief, as due upon the original writ it self; but only as payable in the nature of a licence for the alienation, for which the third part of the yearly rent is answered; as the statute 32 *H. VIII. cap. 1.* hath specified, giving the direction for it; albeit now lately the writs of entry be made parcel of the parcel ferm also; and therefore I will here close up the first part, and unfold the second.

BEFORE the institution of this ferm and office, no writ of covenant for the levying any final concord, no writ of entry for the suffering of any common recovery of lands holden in chief, no doquet for licence to alien, nor warrant for pardon of alienation made, could be purchased and gotten without an oath called an affidavit, therein first taken either before some justice of assize, or master of the chancery, for the true discovery of the yearly value of the lands comprised in every of the same: in which doing, if a man shall consider on the one side the care and severity of the law, that would not be satisfied without an oath; and on the other side the assurance of the truth to be had by so religious an affirmation as an oath is, he will easily believe that nothing could be added unto that order, either for the ready dispatch of the subject, or for the uttermost advancement of the king's profit. But *quid verba audiam, cum facta videam?* Much peril to the swearer, and little good to our sovereign hath ensued thereof. For on the one side the justices of assize were many times abused by their clerks, that preferred the recognitions of final concords taken in their circuit; and the masters of the chancery were often overtaken by the fraud of solicitors and attorneys, that followed their clients causes here at *Westminster*; and on the other side light and lewd persons, especially, that the exactor of the oath did neither use exhortation, nor examining of them for taking thereof, were as easily suborned to make an affidavit for money, as post-horses and hackneys are taken to hire in *Canterbury* and *Dover* way: insomuch that it was usual for him that dwelt in *Southwark*, *Skoreditch*, or *Tothil-street*, to depose the yearly rent or valuation of lands lying in the north, the west, or other remote part of the realm, where either he never

was at all, or whence he came so young, that little could he tell what the matter meant : And thus *consuetudinem peccandi fecit multitudo peccantium*. For the removing of which corruption, and of some others whereof I have long since particularly heard, it was thought good that the justice of assize should be entreated to have a more vigilant eye upon their clerks writing; and that one special master of the chancery should be appointed to reside in this office, and to take the oaths concerning the matters that come hither; who might not only reject such as for just causes were unmeet to be sworn, but might also instruct and admonish in the weight of an oath, those others that are fit to pass and perform it : and forasmuch as thereby it must needs fall out very often, that either there was no man ready and at hand that could with knowledge and good conscience undertake the oath, or else that such honest persons as were present, and did right well know the yearly value of the lands, would rather chuse and agree to pay a reasonable fine without any oath, than to adventure the uttermost, which, by the taking of their oath, must come to light and discovery : It was also provided, that the fermour, and the deputies, should have power to treat, compound and agree with such, and so not exact any oath at all of them.

How much this sort of finance hath been increased by this new device, I will reserve (as I have already plotted it) for the last part of this discourse : but in the mean while I am to note first, that the fear of common perjury, growing by a daily and over-usual acquaintance with an oath, by little and little razeth out that most reverend and religious opinion thereof, which ought to be planted in our hearts, is hereby for a great part cut off and clean removed : then that the subject yieldeth little or nothing more now than he did before, considering that the money which was wont to be saved by the former corrupt swearing, was not saved unto him, but lost to her majesty and him, and found only in the purse of the clerk, attorney, solicitor, or other follower of the suit : and lastly, that the client, besides the benefit of retaining a good conscience in the passage of this his business, hath also this good assurance, that he is always a gainer, and by no means can be at any loss, as seeing well enough, that if the composition be over-hard and heavy for him, he may then, at his pleasure, relieve himself by recourse to his oath ; which also is no more than the ancient law and custom of the realm hath required at his hands. And the self-same thing is moreover (that I may shortly deliver it by the way) not only a singular comfort to the executioners of this office, a pleasant seasoning of all the sour of their labour and pains, when they shall consider that they cannot be guilty of the doing of any oppression or wrong ; but it is also a most necessary instruction and document for them, that even as her majesty hath made them dispensators of this her royal favour towards her people, so it behoveth them to shew themselves *peregrinatores*, even and equal distributors of the same ; and (as that most honourable lord and reverend sage counsellor, the *late lord *Burleigh*, late lord treasurer, said to my self) to deal it out with wisdom and good dexterity towards all the sorts of her loving subjects.

* This passage ascertains the date of this writing.

The part of each officer.

BUT now that it may yet more particularly appear what is the sum of this new building, and by what joints and sinews the same is raised and knit together, I must let you know, that besides the fermours deputies (which at this day be three in number,) and besides the doctor of whom

I spake, there is also a receiver, who alone handleth the moneys, and three clerks, that be employed severally, as anon you shall perceive; and by these persons the whole proceeding in this charge is thus performed.

IF the recognition or acknowledgment of a final concord upon any writ of covenant finally, for so we call that which containeth lands above the yearly value of forty shillings, and all others we term unfinable, be taken by justice of assize, or by the chief justice of the common plea, and the yearly value of those lands be also declared by affidavit made before the same justice; then is the recognition and value, signed with the hand-writing of that justice, carried by the curfitor in chancery for that shire where those lands do lie, and by him is a writ of covenant thereupon drawn and ingrossed in parchment; which (having the same value indorsed on the backside thereof) is brought, together with the said paper that doth warrant it, into this office: and there first the doctor, conferring together the paper and writ, indorseth his name upon that writ, close underneath the value thereof: then forasmuch as the valuation thereof is already made, that writ is delivered to the receiver, who taketh the sum of money that is due, after the rate of that yearly value, and indorseth the payment thereof upon the same writ accordingly: this done, the same writ is brought to the second clerk, who entereth it into a several book, kept only for final writs of covenant, together with the yearly value, and the rate of the money paid, with the name of the party that made the affidavit, and of the justice that took it; and at the foot of that writ maketh a secret mark of his said entry: lastly, that writ is delivered to the deputies, who seeing that all the premises be orderly performed, do also indorse their own names upon the same writ for testimony of the money received. Thus passeth it from this office to the *custos brevium*, from him to the queen's silver, then to the chirographer to be engrossed, and so to be proclaimed in the court. But if no affidavit be already made touching the value, then is the writ of covenant brought first to the deputies ready drawn and ingrossed: and then is the value made either by composition, had with them without any oath, or else by oath taken before the doctor; if by compulsion, then one of the deputies setteth down the yearly value (so agreed upon) at the foot of the backside of the writ: which value the doctor causeth one of the clerks to write on the top of the backside of the writ, (as the curfitor did in the former;) and after that the doctor indorseth his own name underneath it, and so passeth it through the hands of the receiver of the clerk that maketh the entry, and of the deputies as the former writ did. But if the valuation be made by oath taken before the doctor, then causeth he the clerk to indorse that value accordingly, and then also subscribeth he his name as before; and so the writ taketh the same course through the office that the others had.

AND this is the order for writs of covenant that be finable; the like whereof was at the first observed, in the passing of writs of entry of lands holden in chief: saving that they be entered into another book, especially appointed for them and for licences and pardons of alienations; and the like is now severally done with the writs of entry of lands not so holden: which writs of covenant or entry not finable, thus it is done: an affidavit is made either before some such justice, or before the said doctor, that the lands, comprised in the writ, be not worth above forty shillings by the year, to be taken. And albeit now here can be no composition, since the queen is to have no fine at all for unfinable writs, yet doth the doctor indorse his

name, and cause the youngest, or third clerk, both to make entry of the writ into a third book, purposely kept for those only writs, and also to indorse it thus, *finis nullus*: That done, it receiveth the names of the deputies, indorsed as before, and so passeth hence to the *custos brevium* as the rest. Upon every doquet for licence of alienation, or warrant for pardon of alienation, the party is likewise at liberty either to compound with the deputies, or to make affidavit touching the yearly value; which being known once and set down, the doctor subscribeth his name, the receiver taketh the money after the due rate and proportion; the second clerk entereth the doquet or warrant into the book that is proper for them, and for the writs of entry, with a notice also, whether it passeth by oath or by composition: then do the deputies sign it with their hands, and so it is conveyed to the deputy of Mr. *Bacon*, clerk of the licences, whose charge it is to procure the hand of the lord chancellor, and consequently the great seal for every such licence or pardon.

Proceeding
upon forfei-
ture of mean
profits.

34 H. VIII.
c. 5.

THERE it remaineth untouched, the order that is for the mean profits; for which also there is an agreement made here when it is discovered, that any alienation hath been made of lands holden in chief, without the queen's licence; and albeit that in the other cases, one whole year's profit be commonly payable upon such a pardon, yet where the alienation is made by devise in a last will only, the third part of these profits is there demandable, by special provision thereof made in the statute 34 *H. VIII. c. 5.* but yet every way the yearly profits of the lands so aliened without licence, and lost even from the time of the writ of *scire facias*, or inquisition thereupon returned into the exchequer, until the time that the party shall come hither to sue forth his charter of pardon for that offence.

IN which part the subject hath in time gained double ease of two weighty burdens, that in former ages did grievously press him: the one before the institution of this office, and the other sithence; for in ancient time, and of right, (as it is adjudged 46 *E. III. Fitzh. forfait* 18.) the mean profits were precisely answered after the rate and proportion *per diem*, even from the time of the alienation made. Again, whereas before the receipt of them in this office, they were assessed by the affidavit from the time of the inquisition found, or *scire facias* returned, now not so much at any time as the one half, and many times not the sixth part of them is exacted. Here therefore, above the rest, is great necessity to shew favour and merciful dealing: because it many times happeneth, that either through the remote dwelling of the party from the lands, or by the negligence or evil practice of under-sheriffs and their bailiffs, the owner hath incurred the forfeiture of eight or ten years whole profits of his lands, before he cometh to the knowledge of the process that runneth against him: other times an alienation made without licence is discovered, when the present owner of the lands is altogether ignorant, that his lands be holden in chief at all: other times also some man concludeth himself to have such a tenure by his own suing forth of a special writ of livery, or by causeless procuring a licence, or pardon, for his alienation, when in truth the lands be not either holden at all of her majesty, or not holden in chief, but by a mean tenure in socage, or by knight's service at the most. In which cases, and the like, if the extremity should be rigourously urged and taken, especially where the years be many, the party should be driven to his utter overthrow, to make half a purchase, or more, of his own proper land and living.

ABOUT

ABOUT the discovery of the tenure in chief, following of proceſs for ſuch alienation made, as alſo about the calling upon ſheriffs for their accounts, and the bringing in of the parties by ſeizure of their lands: therefore the firſt and principal clerk in this office, of whom I had not before any cauſe to ſpeak, is chiefly and in a manner wholly occupied and ſet on work. Now if it do at any time happen (as notwithstanding the beſt endeavour it may and doth happen) that the proceſs, howſoever colourably awarded, hath not hit the very mark whereat it was directed, but happily calleth upon ſome man who is not of right to be charged with the tenure in chief, that is objected againſt; then is he, upon oath and other good evidence, to receive his diſcharge under the hands of the deputies, but with a *quouſque*, and with *ſalvo jure dominae*. Uſage and deceivable manner of awarding proceſs cannot be avoided, eſpecially where a man (having in ſome one place both lands holden in chief, and other lands not ſo holden) alieneth the lands not holden: ſeeing that it cannot appear by record nor otherwiſe, without the expreſs declaration and evidences of the party himſelf, whether they be the ſame lands that be holden or others. And therefore albeit the party grieved thereby, may have ſome reaſon to complain of an untrue charge, yet may he not well call it an unjuſt vexation; but ought rather to look upon that eaſe, which in this kind of proceeding he hath found, where, beſides his labour, he is not to expend above two and twenty ſhillings in the whole charge, in compariſon of that toil, coſt and care, which he in the caſe was wont to ſuſtain by the writ of *certiorari* in the exchequer; wherein, beſides all his labour, it did coſt him fifty ſhillings at the leaſt, and ſometimes twice ſo much, before he could find the means to be delivered.

The chief clerk.

The diſcharge of him that holdeth not in chief when he is ſued erroneouſly.

THUS have I run through the whole order of this practice, in the open time of the term; and that the more particularly and at full, to the end that thereby theſe things enſuing, might the more fully appear, and plainly bewray themſelves: firſt, that this preſent manner of exerciſing of this office, hath ſo many teſtimonies, interchangeable warrants, and counterrolments, whereof each, running through the hands and reſting in the power of ſo many ſeveral perſons, is ſufficient to argue and convince all manner of falſhood; ſo as with a general conſpiracy of all thoſe officers together, it is almoſt impoſſible to contrive any deceit therein: a right, ancient and ſound policy, whereupon both the order of the accounts in the exchequer, and of the affairs of her majeſty's own houſhold are ſo grounded and built, that the infection of an evil mind in ſome one or twain, cannot do any great harm, unleſs the reſt of the company be alſo poiſoned by their contagion. And ſurely, as *Cicero* ſaid, *Nullum eſt tam deſperatum collegium, in quo non unus e multis ſit ſana mente praeditus*. Secondly, that here is great uſe both of diſcretion, learning and integrity: of diſcretion, I ſay, for examining the degrees of favour, which ought to be imparted diverſly, and for diſcerning the valuations of lands, not in one place or ſhire, but in each county and corner of the realm; and that not of one ſort or quality, but of every kind, nature and degree: for a taſte whereof, and to the end that all due quality of rates be not ſuddenly charged with infidelity, and condemned for corruption; it is note worthy, that favour is here ſometimes right worthily beſtowed, not only in a general regard of the perſon, by which every man ought to have a good pennyworth of his own, but more eſpecially alſo and with much diſtinction: for a peer of the realm, a counſellour of ſtate, a judge of the land, an officer that laboureth

Policy for avoiding corruption.

Inequality of rates juſtifiable.

The perſon.

boureth in furtherance of the tenure, or a poor person are not, as I think, to be measured by the common yard, but by the pole of special grace and dispensation: such as served in the wars, have been permitted, by many statutes, to alien their lands of this tenure, without suing out of any licence. All those of the chancery have claimed and taken the privilege to pass their writs without fine; and yet therefore do still look to be easily fined: yea, the favourites in court, and as many as serve the queen in ordinary, take it unkindly if they have not more than market measure.

The place.

AGAIN, the consideration of the place or county where the lands do lie, may justly cause the rate or valuation to be the more or less: for as the writs do commonly report the land by numbers of acres, and as it is allowable, for the eschewing of some dangers, that those numbers do exceed the very content and true quantity of the lands themselves; so in some counties they are not much acquainted with admeasurement by acre: and thereby, for the most part, the writs of those shires and counties do contain twice or thrice so many acres more than the land hath. In some places the lands do lie open in common fields, and be not so valuable as if they were inclosed: And not only in one and the same shire, but also within the self-same lordship, parish or hamlet, lands have their divers degrees of value, through the diversity of their fertility or barrenness: wherein how great odds and variety there is, he shall soonest find, that will examine it by his own skill in whatsoever place that he knoweth best.

MOREOVER, some lands be more changeable than others are, respecting either the tenure, as knights service, and the tenure in chief, or in regard of defence against the sea and great rivers; as for their lying near to the borders of the realm, or because of great and continual purveyances that are made upon them, or such like.

AND in some counties, as namely westward, their yearly rents, by which most commonly their value to her majesty is accounted, are not to this day improved at all, the landlords making no less gain by fines and incomes, than there is raised in other places by inhancement of rents.

The manner
of the assu-
rance.

THE manner and sorts of the conveyance of the land it self, is likewise variable, and therefore deserveth a divers consideration and value: for in a pardon one whole year's value, together with the mean rates thereof, is due to be paid; which ought therefore to be more favourably assessed, than where but a third part of one year's rent, as in a licence or writ of entry, or where only a tenth part, as in a writ of covenant, is to be demanded.

A licence also and a pardon are to pass the charges of the great seal, to the which the bargain and sale, the fine and recovery are not subject. Sometimes upon one only alienation and change, the purchaser is to pass both licence, fine and recovery, and is for this multiplicity of payments more to be favoured, than he which bringeth but one single pay for all his assurance.

MOREOVER, it is very often seen that the same land suffereth sundry transmutations of owners within one term, or other small compass of time; by which return much profit cometh to her majesty, though the party feel of some favour in that doing.

The end of
conveyances.

NEITHER is it of small moment in this part, to behold to what end the conveyances of land be delivered: seeing that sometimes it is only to establish the lands in the hands of the owner and his posterity, without any alienation and change of possession to be made: sometimes a fine is levied

levied only to make good a lease for years, or to pass an estate for life, upon which no yearly rent is reserved; or to grant a reversion, or remainder, expectant upon a lease, or estate, that yieldeth no rent. Sometime the land is given in mortgage only, with full intention to be redeemed within one year, six months, or a lesser time. Many assurances do also pass to godly and charitable uses alone; and it happeneth not seldom, that, to avoid the yearly oath, for averment of the continuance of some estate for life, which is eigne, and not subject to forfeiture for the alienation that cometh after it, the party will offer to sue a pardon uncompelled before the time; in all which some mitigation of the uttermost value may well and worthily be offered, the rather for that the statute (1 E. III. ^{1 E. III. c. 12.} cap. 12.) willeth, that in this service generally, a reasonable fine shall be taken.

LASTLY, error, misclaim and forgetfulness, do now and then become ^{Error and} ^{mistaking.} fuitors for some remission of extream rigour: for I have fundry times observed, that an assurance, being passed through for a competent fine, hath come back again by reason of some oversight, and the party hath voluntarily repassed it within a while after. Sometime the attorney, or follower of the cause, unskilfully thrusteth into the writ, both the uttermost quantity, or more, of the land, and the full rent also that is given for it: or else setteth down an entiertie, where but a moiety, a third or fourth part only was to be passed, or causeth a bargain and sale to be enrolled, when nothing passed thereby; because a fine had transferred the land before: or else enrolleth it within the six months; whereas, before the end of those months, the land was brought home to the first owner, by repayment of the money for which it was engaged. In which and many other like cases, the client will rather chuse to give a moderate fine for the alienation so recharged, than to undertake a costly plea in the exchequer, for reformation of that which was done amiss. I take it for a venial fault also to vouchsafe a pardon, after the rate and proportion of a licence, to him that without fraud or evil mind, hath slipped a term or two months, by forgetting to purchase his licence.

MUCH more could I say concerning this unblameable inequality of fines and rates; but as I meant only to give an essay thereof, so not doubting but that this may stand, both for the satisfaction of such as be indifferent, and for the discharge of us that be put in trust with the service, wherein no doubt a good discretion and dexterity ought to be used, I resort to the place where I left, affirming that there is in this employment of ours great use of good learning also, as well to distinguish the manifold sorts of tenures and estates; to make construction of grants, conveyances and wills, and to found the validity of inquisitions, liveries, licences and pardons: as also to decipher the manifold flights and subtilties that are daily offered to defraud her majesty in this her most ancient and due prerogative, and finally to handle many other matters, which this purpose will not permit me to recount at large.

LASTLY, here is need, as I said, of integrity throughout the whole labour and practice, as without the which both the former learning and discretion are no better than *armata nequitia*, and nothing else but detestable craft and double villany.

AND now as you have seen that these clerks want not their full task of labour during the time of the open term, so is there for them whereupon to be occupied in the vacation also.

FOR

FOR whereas alienations of lands, holden by the tenure of prerogative, be continually made, and that by many and divers ways, whereof all are not, at the first, to be found of record; and yet for the most part do come to be recorded in the end: the clerks of this office do in the time of the vacation, repair to the rolls and records, as well of the chancery and king's bench, as of the common pleas and exchequer, whence they extract notes not only of inquisitions, common recoveries, and indentures of bargains and sales, that cannot but be of record, but also of such feoffments, exchanges, gifts by will, and indentures of covenants to raise uses of lands holden in chief, as are first made in the country without matter of record, and come at the length to be found by office, or inquisition, that is of record; all which are digested into apt books, and are then sent to the remembrancer of the lord treasurer in the exchequer, to the end that he may make and send out processses upon them, as he doth upon the extracts of the final concords of such lands, which the clerk of the fines doth convey unto him.

THUS it is plain, that this new order by many degrees excelleth the former usage; as also for the present advancement of her majesty's commodity, and for the future profit which must ensue, by such discovery of tenures as were concealed before, by awaking of such as had taken a long sleep, and by reviving a great many that were more than half dead.

THE fees, or allowances, that are termly given to these deputies, receiver, and clerks, for recompence of these their pains, I do purposely pretermitt; because they be not certain, but arbitrary, at the good pleasure of those honourable persons that have the dispensation of the same: howbeit hitherto each deputy and the receiver hath received twenty pounds for his travail in each term, only the doctor hath not allowance of any sum in gross, but is altogether paid in petty fees, by the party or suitor; and the clerks are partly rewarded by that mean also, for their entries, discharges, and some other writings, besides that termly fee which they are allowed.

Note.

BUT if the deputies take one penny, besides their known allowance, they buy it at the dearest price that may be; I mean the shipwreck of conscience, and with the irrecoverable loss of their honesty and credit; and therefore since it appeareth which way each of these hath his reward, let us also examine that increase of benefit and gain, which is brought to her majesty by the invention of this office.

AT the end of *Hilary* term 1589, being the last open term of the lease of these profits granted to the late earl of *Leicester*, which also was to expire at the feast of the annunciation of the blessed virgin *Mary* 1590, then shortly to ensue; the officers above remembred thought it, for good causes, their duties to exhibit to the said right honourable the lord treasurer, a special declaration of the yearly profits of these finances, paid into the hanaper during every of the six years before the beginning of the demise thereof made to that earl, conferred with the profits thereof that had been yearly taken, during the six last years before the determination of the lease. By which it plainly appeared, that in all those first six years, next before the demise, there had been raised only 12798 *l.* 15 *s.* 7 *d.* *ob.* and in these last six years of the demise the full sum of 32160 *l.* 4 *s.* 10 *d.* *qu.* and so in all 19362 *l.* 2 *s.* 2 *d.* *ob.* *qu.* more in these last, than in those former six years. But because it may be said, that all this increase redounded to the gain of the fermor only, I must add, that during all the time of the demise, he answered 300 *l.* rent, of yearly increase, above all that profit

of 2133 *l.* 2 *s.* 7 *d.* *qu.* which had been yearly and casually made in the sixteen years one with another next before: the which, in the time of fourteen years, for so long these profits have been demised by three several leases, did bring 4200 *l.* to her majesty's coffers. I say yearly; which may seem strange, that a casual and thereby uncertain profit should yearly be all one: but indeed such was the wondrous handling thereof, that the profit was yearly neither more nor less to her majesty, howsoever it might casually be more or less to him that did receive it. For the writs of covenant answered year by year 1152 *l.* 16 *s.* 8 *d.* the licences and pardons 934 *l.* 3 *s.* 11 *d.* *qu.* and the mean rates 46 *l.* 2 *s.* in all 2133 *l.* 2 *s.* 7 *d.* *qu.* without increase or diminution.

MOREOVER, whereas her majesty did, after the death of the earl, buy of the countess, being his executrix, the remanent of the last term of three years in those profits, whereof there were only then six terms, that is, about one year and an half, to come, paying for it the sum of 3000 *l.* her majesty did clearly gain by that bargain the full sum of 1173 *l.* 15 *s.* 8 *d.* *ob.* above the said 3000 *l.* above the rent of 3649 *l.* 13 *s.* 10 *d.* *ob.* *qu.* proportionably due for that time, and above all fees and other reprises. Neither hath the benefit of this increase to her majesty, been contained within the bounds of this small office, but hath swelled over the banks thereof, and displayed it self apparently, as well in the hanaper by the fees of the great seal, which yielding 20 *s.* 4 *d.* towards her majesty for every licence and pardon, was estimated to advantage her highness during those fourteen years, the sum of 3721 *l.* 6 *s.* *ob.* *qu.* more than without that demise she was like to have found. As also in the court of wards and liveries, and in the exchequer it self: where, by reason of the tenures in chief revived through the only labours of these officers, both the sums for respect of homage be increased, and the profits of wardships, primer seifins, ouster le maine, and liveries, cannot but be much advanced. And so her majesty's self hath, in this particular, gained the full sum of 8736 *l.* 5 *s.* 5 *d.* *ob.* *qu.* not comprising those profits in the exchequer and court of wards, the very certainty whereof lieth not in the knowledge of these officers, nor accounting any part of that great benefit which the earl and his executrix have made by the demises; the which, one year with another, during all the thirteen years and a half, I suppose to have been 2263 *l.* or thereabouts; and so in all about 27158 *l.* above all his costs and expences. The which albeit I do here report only for the justification of the service in this place; yet who cannot but see withal, how much the royal revenues might be advanced, if but the like good endeavours were shewed for her majesty in the rest of her finances, as have been found in this office for the commodity of this one subject.

THE views of all which matter being presented to the most wise and princely consideration of her majesty, she was pleased to demise these profits and fines for other five years, to begin at the feast of the annunciation 1590, in the thirty second year of her reign, for the yearly rent formerly reserved upon the leases of the earl; within the compass of which five years expired at the annunciation 1595, there was advanced to her majesty's benefit by this service, the whole sum of 13013 *l.* 14 *s.* 1 *d.* *qu.* beyond the ancient yearly revenues, which before any lease, were usually made of these finances. To which, if there be added 5700 *l.* for the gain given to her majesty by the yearly receipt of 300 *l.* in rent, from the first demise to the earl, until the time of his death, together with the sum

of 1173 *l.* 15 *s.* 8 *d.* *ob.* clearly won in those six terms bought of the countesses: then the whole commodity, from the first institution of this office, till the end of these last five years, expired at the annunciation 1595, shall appear to be 19887 *l.* 9 *s.* 9 *d.* *ob. qu.* To the which sum also, if 28550 *l.* 15 *s.* 6 *d.* *ob. qu.* which the earl and the countesses levied hereby, be likewise adjoined, then the whole profit taken in these nineteen years, that is, from the first lease, to the end of the last, for her majesty, the earl and the countesses, will amount unto 48438 *l.* 5 *s.* 4 *d.* This labour hitherto thus luckily succeeding, the deputies in this office finding by daily proof, that it was wearisome to the subject to travel to divers places, and through fundry hands, for the pursuing of common recoveries, either not holden of her majesty at all, or but partly holden in chief; and not doubting to improve her majesty's revenue therein, and that without loss to any, either private person or publick officer; if the same might be managed by them jointly with the rest whereof they had the charge, they found by search in the hanaper, that the fruits of those writs of entry had not, one year with another, in the ten years next before, exceeded 400 *l.* by the year. Whereupon they took hold of the occasion then present, for the renewing of the lease of the former profits; and moved the lord treasurer, and sir *John Fortescue*, under-treasurer and chancellor of the exchequer, to join the same in one and the same demise, and to yield unto her majesty 500 *l.* by year therefore; which is 100 *l.* yearly of increase. The which desire being by them recommended to her majesty, it liked her forthwith to include the same, and all the former demised profits, within one entire lease, for seven years, to begin at the said feast of the annunciation 1597, under the yearly rent of 2933 *l.* 2 *s.* 7 *d.* *qu.* Since which time hitherto, I mean to the end of *Michaelmas* term 1598, not only the proportion of the said increased 100 *l.* but almost of one other 100 *l.* also, hath been answered to her majesty's coffers, for those recoveries so drawn into the demise now continuing.

THUS I have opened both the first plotting, the especial practice, and the consequent profit arising by these officers: and now if I should be demanded, whether this increase of profit were likely to stand without fall, or to be yet amended or made more? I would answer, that if some few things were provided, and some others prevented, it is probable enough in mine opinion, that the profit should rather receive accession than decay.

THE things that I wish to be provided are these, first, that by the diligence of these officers, assisted with such other as can bring good help thereunto, a general and careful collection be made of all the tenures in chief; and that the same be digested by way of alphabet into apt volumes, for every part, or shire, of the realm. Then that every office, or inquisition, that findeth any tenure in chief, shall express the true quantities of the lands so holden, even as in ancient time it was wont to be done by way of admeasurement, after the manner of a perfect extent or survey: Whereby all the parts of the tenancy in chief may be wholly brought to light, howsoever in process of time it hath been, or shall be torn and dismembred. For prevention, I wish likewise, first, that some good means were devised for the restraint of making these inordinate and covenous leases of lands, holden in chief, for hundreds or thousands of years, now grown so bold, that they dare shew themselves in fines, levied upon the open stage of the common pleas, by which one man taketh the full profit, and another

ther beareth the empty name of tenancy, to the infinite deceit of her majesty, in this part of her prerogative. Then that no alienation of lands, holden in chief, should be available, touching the freehold or inheritance thereof, but only where it were made by matter of record, to be found in some of her majesty's treasuries: and lastly, that a continual and watchful eye be had, as well upon these new founden traverses of tenure, which are not now tried, *per patriam*, as the old manner was, as also upon all such pleas whereunto the confession of her majesty's said attorney general is expected: so as the tenure of the prerogative be not prejudiced, either by the fraud of counsellors at the law, many of which do bend their wits to the overthrow thereof; or by the greediness of clerks and attorneys, that, to serve their own gain, do both impair the tenure, and therewithal grow more heavy to the client, in so costly pleading for discharge, than the very confession of the matter it self would prove unto him. I may yet hereunto add another thing, very meet not only to be prevented with all speed, but also to be punished with great severity: I mean that collusion set on foot lately, between some of her majesty's tenants in chief, and certain other that have had to do in her highness grants of concealed lands: where under a feign'd concealment of the land it self, nothing else is sought but only to make a change of the tenure, which is reserved upon the grant of those concealments, into that tenure in chief: in which practice there is no less abuse of her majesty's great bounty, than loss and hinderance of her royal right. These things thus settled, the tenure in chief should be kept alive and nourished; the which, as it is the very root that doth maintain this silver stem, that by many rich and fruitful branches spreadeth it self into the chancery, exchequer, and court of wards: so if it be suffered to starve, by want of ablaqueation, and other good husbandry, not only this yearly fruit will much decrease from time to time, but also the whole body and boughs of that precious tree it self, will fall into danger of decay and dying.

AND now, to conclude therewith, I cannot see how it may justly be misliked, that her majesty should, in a reasonable and moderate manner, demand and take this sort of finance: which is not newly out and imposed, but is given and grown up with the first law it self, and which is evermore accompanied with some special benefit to the giver of the same: seeing that lightly no alienation is made, but either upon recompence in money, or land, or for marriage, or other good and profitable consideration that doth move it: yea rather all good subjects and citizens ought not only to yield that gladly of themselves, but also to further it with other men; as knowing that the better this and such like ancient and settled revenues shall be answered and paid, the less need her majesty shall have, to ask subsidies, fifteens, loans, and whatsoever extraordinary helps, that otherwise must of necessity be levied upon them. And for proof that it shall be more profitable to her majesty to have every of the same to be managed by men of fidelity, that shall be waged by her own pay, than either to be letten out to the fermours benefits, or to be left at large to the booty and spoil of ravenous ministers, that have not their reward: let the experiment and success be in this one office, and persuade for all the rest.

Laus Deo.

A D V I C E
TO
Sir *GEORGE VILLIERS*,
A F T E R W A R D S
D U K E of B U C K I N G H A M,
When he became
Favourite to King *James* ;

Recommending many important instructions how to govern himself in the station of prime minister: written by Sir *Francis Bacon*, on the importunity of his patron and friend.

N O B L E S I R,

WHAT you requested of me by word, when I last waited on you, you have since renewed by your letters. Your requests are commands unto me ; and yet the matter is of that nature, that I find my self very unable to serve you therein as you desire. It hath pleased the king to cast an extraordinary eye of favour upon you, and you express your self very desirous to win upon the judgment of your master, and not upon his affections only. I do very much commend your noble ambition herein ; for favour so bottomed is like to be lasting ; whereas, if it be built but upon the sandy foundation of personal respects only, it cannot be long lived.

What is found in crotchets is borrowed from the original edition published in 4to, 1661.

[My lord, when the blessing of God (to whom in the first place I know you ascribe your preferment) and the king's favour, purchased by your noble parts, promising as much as can be expected from a gentleman, had brought you to this high pitch of honour, to be in the eye and ear, and even in the bosom of your gracious master; and you had found by experience the trouble of all mens confluence, and for all matters to your self, as a mediator between them and their sovereign, you were pleased to lay this command upon me: First in general, to give you my poor advice for your carriage in so eminent a place, and of so much danger if not wisely discharged : Next in particular by what means to give dispatches to

to suitors of all sorts, for the king's best service, the suitors satisfaction, and your own ease. I humbly return you mine opinion in both these, such as an hermit rather than a courtier can render.]

YET in this you have erred, in applying your self to me, the most unworthy of your servants, to give assistance upon so weighty a subject.

YOU know, I am no courtier, nor vers'd in state-affairs; my life, hitherto, hath rather been contemplative, than active; I have rather studied books than men; I can but guess, at the most, at these things, in which you desire to be advis'd: nevertheless, to shew my obedience, though with the hazard of my discretion, I shall yield unto you.

SIR, In the first place, I shall be bold to put you in mind of the present condition you are in; you are not only a courtier, but a bed-chamber man, and so are in the eye and ear of your master; but you are also a favourite; the favourite of the time, and so are in his bosom also; the world hath so voted you, and doth so esteem of you, for kings and great princes, even the wisest of them, have had their friends, their favourites, their privadoes, in all ages; for they have their affections as well as other men. Of these they make several uses; sometimes to communicate and debate their thoughts with them, and to ripen their judgments thereby; sometimes to ease their cares by imparting them; and sometimes to interpose them between themselves and the envy or malice of their people (for kings cannot err, that must be discharged upon the shoulders of their ministers; and they who are nearest unto them must be content to bear the greatest load.) [Remember then what your true condition is: the king himself is above the reach of his people, but cannot be above their censures; and you are his shadow, if either he commit an error, and is loth to avow it, but excuses it upon his ministers, of which you are first in the eye; or you commit the fault, or have willingly permitted it, and must suffer for it, and so perhaps you may be offer'd a sacrifice to appease the multitude.] But truly, sir, I do not believe or suspect that you are chosen to this eminency, out of the last of these considerations: for you serve such a master, who by his wisdom and goodness is as free from the malice or envy of his subjects, as, I think, I may truly say, ever any king was, who hath sat upon his throne before him: but I am confident, his majesty hath cast his eyes upon you, as finding you to be such as you should be, or hoping to make you to be such as he would have you to be; for this I may say without flattery, your outside promiseth as much as can be expected from a gentleman: but be it in the one respect, or other, it belongeth to you to take care of your self, and to know well what the name of a favourite signifies. If you be chosen upon the former respects, you have reason to take care of your actions and deportment, out of your gratitude for the king's sake; but if out of the latter, you ought to take the greater care for your own sake.

YOU are as a new-risen star, and the eyes of all men are upon you; let not your own negligence make you fall like a meteor.

[REMEMBER well the great trust you have undertaken; you are as a continual centinel, always to stand upon your watch to give him true intelligence. If you flatter him you betray him; if you conceal the truth of those things from him which concern his justice or his honour (although not the safety of his person) you are as dangerous a traitor to his state, as he that riseth in arms against him. A false friend is more dangerous than an open enemy: kings are stiled gods upon earth, not absolute;

lute ; but *dixi dii estis* ; and the next words are, *sed moriemini sicut homines* ; they shall die like men, and then all their thoughts perish. They cannot possibly see all things with their own eyes, nor hear all things with their own ears ; they must commit many great trusts to their ministers. Kings must be answerable to God almighty, to whom they are but vassals, for their actions, and for their negligent omissions : but the ministers to kings, whose eyes, ears and hands they are, must be answerable to God and man for the breach of their duties, in violation of their trusts, whereby they betray them. Opinion is a master wheel in these cases : that courtier who obtained a boon of the emperor, that he might every morning at his coming into his presence humbly whisper him in the ear and say nothing, asked no unprofitable suit for himself : but such a fancy raised only by opinion cannot be long lived, unless the man have solid worth to uphold it ; otherwise when once discovered it vanisheth suddenly. But when a favourite in court shall be raised upon the foundation of merits, and together with the care of doing good service to the king, shall give good dispatches to the suitors, then can he not chuse but prosper.]

THE contemplation then of your present condition, must necessarily prepare you for action : what time can be well spar'd from your attendance on your master, will be taken up by suitors, whom you cannot avoid nor decline, without reproach. For if you do not already, you will soon find the throng of suitors attend you ; for no man, almost, who hath to do with the king, will think himself safe, unless you be his good angel, and guide him ; or at least that you be not a *Malus Genius* against him : so that in respect of the king your master, you must be very wary, that you give him true information ; and if the matter concern him in his government, that you do not flatter him ; if you do, you are as great a traitor to him in the court of heaven, as he that draws his sword against him ; and in respect of the suitors which shall attend you, there is nothing will bring you more honour and more ease, than to do them what right in justice you may, and with as much speed as you may : for believe it, sir, next to the obtaining of the suit, a speedy and a gentle denial (when the case will not bear it) is the most acceptable to suitors : they will gain by their dispatch ; whereas else they shall spend their time and money in attending ; and you will gain, in the ease you will find in being rid of their importunity. But if they obtain what they reasonably desired, they will be doubly bound to you for your favour ; *Bis dat qui cito dat*, it multiplies the courtesy, to do it with good words and speedily.

THAT you may be able to do this with the best advantage, my humble advice is this ; when suitors come unto you, set apart a certain hour in a day to give them audience : if the business be light and easy, it may by word only be delivered, and in a word be answered ; but if it be either of weight or of difficulty, direct the suitor to commit it to writing, (if it be not so already) and then direct him to attend for his answer at a set time to be appointed, which would constantly be observed, unless some matter of great moment do interrupt it. When you have received the petitions, (and it will please the petitioners well, to have access unto you to deliver them into your own hand) let your secretary first read them, and draw lines under the material parts thereof, (for the matter, for the most part, lies in a narrow room.) The petitions being thus prepared, do you constantly set apart an hour in a day to peruse those petitions ; and after you have ranked them into several files, according to the

the subject matter, make choice of two or three friends, whose judgments and fidelities you believe you may trust in a business of that nature ; and recommend it to one or more of them, to inform you of their opinions, and of their reasons for or against the granting of it. And if the matter be of great weight indeed, then it would not be amiss to send several copies of the same petition to several of your friends, the one not knowing what the other doth, and desire them to return their answers to you by a certain time, to be prefixed, in writing ; so shall you receive an impartial answer, and by comparing the one with the other, (as out of *responsa prudentium*) you shall both discern the abilities and faithfulness of your friends, and be able to give a judgment thereupon as an oracle. But by no means trust to your own judgment alone ; for no man is omniscient : nor trust only to your servants, who may mislead you or misinform you ; by which they may perhaps gain a few crowns, but the reproach will lie upon your self, if it be not rightly carried.

For the facilitating of your dispatches, my advice is farther, that you divide all the petitions, and the matters therein contained, under several heads ; which, I conceive, may be fitly ranked into these eight sorts.

I. MATTERS that concern religion, and the church and churchmen.

II. MATTERS concerning justice, and the laws, and the professors thereof.

III. COUNCELLORS, and the council table, and the great offices and officers of the kingdom.

IV. FOREIGN negotiations and embassies.

V. PEACE and war, both foreign and civil, and in that the navy and forts, and what belongs to them.

VI. TRADE at home and abroad.

VII. COLONIES, or foreign plantations.

VIII. THE court and curiality.

AND whatsoever will not fall naturally under one of these heads, believe me, sir, will not be worthy of your thoughts, in this capacity we now speak of. And of these sorts, I warrant you, you will find enough to keep you in business.

I BEGIN with the first, which concerns religion.

1. IN the first place, be you your self rightly persuaded and settled in the true protestant religion, professed by the church of *England* ; which doubtless is as sound and orthodox in the doctrine thereof, as any christian church in the world.

[FOR religion, if any thing be offered to you touching it, or touching the church, or church-men, or church-government, rely not only upon your self, but take the opinion of some grave and eminent divines, especially such as are sad and discreet men, and exemplary for their lives.]

2. IN this you need not be a monitor to your gracious master the king : the chiefest of his imperial titles is, to be *the defender of the faith*, and his learning is eminent, not only above other princes, but above other men ; be but his scholar, and you are safe in that.

[IF any question be moved concerning the doctrine of the church of *England* expressed in the thirty nine articles, give not the least ear to the movers thereof : that is so soundly and so orthodoxly settled, as cannot be questioned without extream danger to the honour and stability of our religion ; which hath been sealed with the blood of so many martyrs and confessors, as are famous through the christian world. The enemies and under-

underminers thereof are the *Romish* catholicks (so styling themselves) on the one hand, whose tenets are inconsistent with the truth of religion professed and protested by the church of *England*, (whence we are called protestants;) and the anabaptists, and separatists, and sectaries on the other hand, whose tenets are full of schism, and inconsistent with monarchy: for the regulating of either, there needs no other coercion than the due execution of the laws already established by parliament.]

3. FOR the discipline of the church of *England* by bishops, &c. I will not positively say, as some do, that it's *Jure Divino*; but this I say and think *ex animo*, that it is the nearest to apostolical truth; and confidently I shall say, it is fittest for monarchy of all others. I will use no other authority to you, than that excellent proclamation set out by the king himself in the first year of his reign, and annexed before the book of common-prayer, which I desire you to read; and if at any time there shall be the least motion made for innovation, to put the king in mind to read it himself: it is most dangerous in a state, to give ear to the least alterations in government.

[If any attempt be made to alter the discipline of our church, although it be not an essential part of our religion, yet it is so necessary not to be rashly altered, as the very substance of our religion will be interested in it: therefore I desire you before any attempt be made of an innovation by your means, or by any intercession to your master, that you will first read over, and his majesty call to mind that wise and weighty proclamation, which himself penned, and caused to be published in the first year of his reign, and is prefixed in print before the book of common prayer (of that impression;) in which you will find so prudent, so weighty reasons, not to hearken to innovations, as will fully satisfy you, that it is dangerous to give the least ear to such innovators; but it is desperate to be misled by them: and to settle your judgment, mark but the admonition of the wisest of men, king *Solomon*, Prov. xxiv. 21. *My son, fear God and the king, and meddle not with those who are given to change.*]

4. TAKE heed, I beseech you, that you be not an instrument to countenance the *Romish* catholicks. I cannot flatter, the world believes that some near in blood to you are too much of that persuasion; you must use them with fit respects, according to the bonds of nature; but you are of kin, and so a friend to their persons, not to their errors.

5. THE archbishops and bishops, next under the king, have the government of the church and ecclesiastical affairs: be not you the mean to prefer any to those places, for any by-respects; but only for their learning, gravity and worth; their lives and doctrine ought to be exemplary.

6. FOR deans, and canons or prebends of cathedral churches: in their first institution they were of great use in the church; they were not only to be of counsel with the bishop for his revenue, but chiefly for his government in causes ecclesiastical: use your best means to prefer such to those places who are fit for that purpose, men eminent for their learning, piety and discretion, and put the king often in mind thereof; and let them be reduced again to their first institution.

7. You will be often solicited, and perhaps importuned to prefer scholars to church livings: you may further your friends in that way, *caeteris paribus*; otherwise remember, I pray, that these are not places merely of favour, the charge of souls lies upon them; the greatest account whereof
will

will be required at their own hands ; but they will share deeply in their faults who are the instruments of their preferment.

8. BESIDES the *Romish* catholicks, there is a generation of sectaries, the anabaptists, brownists, and others of their kinds ; they have been several times very busy in this kingdom, under the colour of zeal for reformation of religion : the king your master knows their disposition very well ; a small touch will put him in mind of them ; he had experience of them in *Scotland*, I hope he will beware of them in *England* ; a little countenance or connivency sets them on fire.

9. ORDER and decent ceremonies in the church are not only comely, but commendable ; but there must be great care not to introduce innovations, they will quickly prove scandalous ; men are naturally over-prone to suspicion ; the true protestant religion is seated in the golden mean ; the enemies unto her are the extreams on either hand.

10. THE persons of churchmen are to be had in due respect for their work's sake, and protected from scorn ; but if a clergyman be loose and scandalous, he must not be patroniz'd nor wink'd at ; the example of a few such corrupt many.

11. GREAT care must be taken, that the patrimony of the church be not sacrilegiously diverted to lay uses : his majesty in his time hath religiously stopped a leak that did much harm, and would else have done more. Be sure, as much as in you lies, stop the like upon all occasions.

12. COLLEGES and schools of learning are to be cherished and encouraged, there to breed up a new stock to furnish the church and commonwealth when the old store are transplanted. This kingdom hath in later ages been famous for good literature ; and if preferment shall attend the deservers, there will not want supplies.

II. NEXT to religion, let your care be to promote justice. By justice and mercy is the king's throne established.

1. LET the rule of justice be the laws of the land, an impartial arbiter between the king and his people, and between one subject and another : I shall not speak superlatively of them, lest I be suspected of partiality, in regard of my own profession ; but this I may truly say, they are second to none in the christian world.

[THEY are the best, the equallest in the world between prince and people ; by which the king hath the justest prerogative, and the people the best liberty : and if at any time there be an unjust deviation, *Hominis est vitium, non professionis.*]

2. AND, as far as it may lie in you, let no arbitrary power be intruded ; the people of this kingdom love the laws thereof, and nothing will oblige them more, than a confidence of the free enjoying of them ; what the nobles upon an occasion once said in parliament, *Nolumus leges Angliæ mutari*, is imprinted in the hearts of all the people.

3. BUT because the life of the laws lies in the due execution and administration of them, let your eye be, in the first place, upon the choice of good judges : these properties had they need to be furnished with ; to be learned in their profession, patient in hearing, prudent in governing, powerful in their elocution to persuade and satisfy both the parties and hearers, just in their judgment : and, to sum up all, they must have these three attributes ; they must be men of courage, fearing God, and hating covetousness ; an ignorant man cannot, a coward dares not, be a good judge.

4. BY no means be you persuaded to interpose your self, either by word or letter, in any cause depending, or like to be depending in any court of justice, nor suffer any other great man to do it where you can hinder it, and by all means dissuade the king himself from it, upon the importunity of any for themselves or their friends: if it should prevail, it perverts justice; but if the judge be so just, and of such courage, (as he ought to be) as not to be inclined thereby, yet it always leaves a taint of suspicion behind it; judges must be as chaste as *Caesar's* wife, neither to be, nor to be suspected to be unjust; and, sir, the honour of the judges in their judicature, is the king's honour, whose person they represent.

5. THERE is great use of the service of the judges in their circuits, which are twice in the year held throughout the kingdom; the trial of causes between party and party, or delivering of the goals in the several counties, are of great use for the expedition of justice; yet they are of much more use for the government of the counties through which they pass, if that were well thought upon.

6. FOR if they had instructions to that purpose, they might be the best intelligencers to the king of the true state of his whole kingdom, of the disposition of the people, of their inclinations, of their intentions and motions, which are necessary to be truly understood.

7. TO this end I could wish, that against every circuit all the judges should, sometimes by the king himself, and sometimes by the lord chancellor or lord keeper, in the king's name, receive a charge of those things which the present times did much require; and at their return should deliver a faithful account thereof, and how they found and left the counties through which they passed, and in which they kept their assizes.

8. AND that they might the better perform this work, which might be of great importance, it will not be amiss that sometimes this charge be publick, as it useth to be in the star-chamber, at the end of the terms next before the circuit begins, where the king's care of justice, and the good of his people, may be published; and that sometimes also it may be private, to communicate to the judges some things not so fit to be publicly delivered.

9. I COULD wish also, that the judges were directed to make a little longer stay in a place than usually they do; a day more in a county would be a very good addition; although their wages for their circuits were increased in proportion, it would stand better with the gravity of their employment; whereas now they are sometimes enforced to rise over-early, and to sit over-late, for the dispatch of their business, to the extraordinary trouble of themselves and of the people, their times indeed not being *horae juridicae*; and, which is the main, they would have the more leisure to inform themselves (*quasi aliud agentes*) of the true estate of the country.

10. THE attendance of the sheriffs of the counties, accompanied with the principal gentlemen, in a comely, not a costly equipage, upon the judges of assize at their coming to the place of their sitting, and at their going out, is not only a civility, but of use also: it raiseth a reverence to the persons and places of the judges, who coming from the king himself on so great an errand, should not be neglected.

11. IF any sue to be made a judge, for my own part, I should suspect him: but if either directly or indirectly he should bargain for a place of judi-

judicature, let him be rejected with shame; *vendere jure potest, emerat ille prius.*

12. WHEN the place of a chief judge of a court becomes vacant, a puisne judge of that court, or of another court, who hath approved himself fit and deserving, should be sometimes preferred; it would be a good encouragement for him, and for others by his example.

13. NEXT to the judge, there would be care used in the choice of such as are called to the degree of serjeants at law, (for such they must be first before they be made judges:) none should be made serjeants but such as probably might be held fit to be judges afterwards, when the experience at the bar hath fitted them for the bench: therefore by all means cry down that unworthy course of late times used, that they should pay moneys for it; it may satisfy some courtiers, but it is no honour to the person so preferred, nor to the king, who thus prefers them.

14. FOR the king's counsel at the law, especially his attorney and solicitor general, I need say nothing: their continual use for the king's service, not only for his revenue, but for all the parts of his government, will put the king, and those who love his service, in mind to make choice of men every way fit and able for that employment; they had need to be learned in their profession, and not ignorant in other things; and to be dexterous in those affairs whereof the dispatch is committed to them.

15. THE king's attorney of the court of wards is in the true quality of the judges; therefore what hath been observed already of judges, which are intended principally of the three great courts of law at *Westminster*, may be applied to the choice of the attorney of this court.

16. THE like for the attorney of the duchy of *Lancaster*, who partakes of both qualities, partly of a judge in that court, and partly of an attorney general; for so much as concerns the proper revenue of the duchy.

17. I MUST not forget the judges of the four circuits in the twelve shires of *Wales*, who although they are not of the first magnitude, nor need be of the degree of the coif (only the chief justice of *Chester*, who is one of their number, is so,) yet are they considerable in the choice of them, by the same rules as the other judges are; and they sometimes are, and fitly may be, transplanted into the higher courts.

18. THERE are many courts (as you see) some superior, some provincial, and some of a lower orb: it were to be wished, and is fit to be so ordered, that every of them keep themselves within their proper spheres. The harmony of justice is then the sweetest, when there is no jarring about the jurisdiction of the courts; which methinks wisdom cannot much differ upon, their true bounds being for the most part so clearly known.

19. HAVING said thus much of the judges, somewhat will be fit to put you in mind concerning the principal ministers of justice: and in the first, of the high sheriffs of the counties, which have been very ancient in this kingdom; I am sure before the conquest: the choice of them I commend to your care, and that at fit times you put the king in mind thereof; that as near as may be they be such as are fit for those places: for they are of great trust and power; the *posse comitatus*, the power of the whole county being legally committed unto him.

20. THEREFORE it is agreeable with the intention of the law, that the choice of them should be by the commendation of the great officers of the kingdom, and by the advice of the judges, who are presumed to be

well read in the condition of the gentry of the whole kingdom: and although the king may do it of himself, yet the old way is the good way.

21. BUT I utterly condemn the practice of the later times, which hath lately crept into the court (at the back-stairs) that some who are prick'd for sheriffs, and were fit, should get out of the bill, and others who were neither thought upon, nor worthy to be, should be nominated, and both for money.

22. I MUST not omit to put you in mind of the lords lieutenants, and deputy lieutenants of the counties: their proper use is for ordering the military affairs, in order to an invasion from abroad, or a rebellion or sedition at home; good choice should be made of them, and prudent instructions given to them, and as little of the arbitrary power as may be left unto them; and that the muster-masters, and other officers under them, inroach not upon the subject; that will detract much from the king's service.

23. THE justices of peace are of great use. Anciently there were conservators of the peace, these are the same, saving that several acts of parliament have altered their denomination, and enlarged their jurisdiction in many particulars: the fitter they are for the peace of the kingdom, the more heed ought to be taken in the choice of them.

24. BUT negatively, this I shall be bold to say, that none should be put into either of those commissions, with an eye of favour to their persons, to give them countenance or reputation in the places where they live, but for the king's service sake; nor any put out for the disfavour of any great man: it hath been too often used, and hath been no good service to the king.

25. A WORD more, if you please to give me leave, for the true rules of the moderation of justice on the king's part. The execution of justice is committed to his judges, which seemeth to be the severer part; but the milder part, which is mercy, is wholly left in the king's immediate hand: and justice and mercy the true supporters of his royal throne.

26. IF the king shall be wholly intent upon justice, it may appear with an over-rigid aspect; but if he shall be over-remiss and easy, it draweth upon him contempt. Examples of justice must be made sometimes for terror to some; examples of mercy sometimes, for comfort to others: the one procures fear, and the other love. A king must be both feared and loved, else he is lost.

27. THE ordinary courts of justice I have spoken of, and of their judges and judicature: I shall put you in mind of some things touching the high court of parliament in *England*, which is superlative; and therefore it will behove me to speak the more warily thereof.

28. FOR the institution of it, it is very ancient in this kingdom: it consisteth of the two houses, of peers and commons, as the members; and of the king's majesty, as the head of that great body: by the king's authority alone, and by his writs, they are assembled, and by him alone are they prorogued and dissolved, but each house may adjourn it self.

29. THEY being thus assembled, are more properly a council to the king, the great council of the kingdom, to advise his majesty in those things of weight and difficulty, which concern both the king and people, than a court.

30. No new laws can be made, nor old laws abrogated or altered, but by common consent in parliament, where bills are prepared and presented
to

to the two houses, and then delivered; but nothing is concluded but by the king's royal assent; they are but embryos, 'tis he giveth life unto them.

31. YET the house of peers hath a power of judicature in some cases; properly to examine, and then to affirm; or if there be cause to reverse the judgments which have been given in the court of king's bench, (which is the court of highest jurisdiction in the kingdom for ordinary judicature;) but in these cases it must be done by writ of error *in parlamento*: and thus the rule of their proceedings is not *absoluta potestas*, as in making new laws (in that conjuncture as before;) but *limitata potestas*, according to the known laws of the land.

32. BUT the house of commons have only power to censure the members of their own house, in point of election or misdemeanors, in or towards that house; and have not, nor ever had power, so much as to administer an oath to prepare a judgment.

33. THE true use of parliaments in this kingdom is very excellent; and they would be often called, as the Affairs of the kingdom shall require; and continued as long as is necessary and no longer: for then they be but burthens to the people, by reason of the privileges justly due to the members of the two houses and their attendants; which their just rights and privileges are religiously to be observed and maintained: but if they should be unjustly enlarged beyond their true bounds, they might lessen the just power of the crown, it borders so near upon popularity.

34. ALL this while I have spoken concerning the common laws of *England*, generally and properly so called, because it is most general and common to almost all cases and causes, both civil and criminal: but there is also another law, which is called the civil or ecclesiastical law, which is confined to some few heads, and that is not to be neglected: and although I am a professor of the common law, yet I am so much a lover of truth and of learning, and of my native country, that I do heartily persuade that the professors of that law, called civilians (because the civil law is their guide) should not be discountenanced nor discouraged: else whensoever we shall have aught to do with any foreign king or state, we shall be at a miserable loss, for want of learned men in that profession.

III. I COME now to the consideration of those things which concern counsellors of state, the council table, and the great offices and officers of the kingdom; which are those who for the most part furnish out that honourable board.

1. OF counsellors, there are two sorts: the first, *consilarii nati*, (as I may term them;) such are the prince of *Wales*, and others of the king's sons, (when he hath more;) of these I speak not, for they are naturally born to be counsellors to the king, to learn the art of governing betimes.

2. BUT the ordinary sort of counsellors are such as the king, out of a due consideration of their worth and abilities, and withal, of their fidelities to his person and to his crown, calleth to be of council with him, in his ordinary government. And the council table is so called from the place where they ordinarily assemble and sit together; and their oath is the only ceremony used, to make them such, which is solemnly given unto them, at their first admission: these honourable persons are from thenceforth of that board and body: they cannot come until they be thus called, and the king at his pleasure may spare their attendance; and he may dispense with their presence there, which at their own pleasure they may not do.

3. THIS

ADVICE TO SIR GEORGE VILLIERS.

3. THIS being the quality of their service, you may easily judge what care the king should use, in his choice of them. It behoverh that they be persons of great trust and fidelity, and also of wisdom and judgment, who shall thus assist in bearing up the king's throne, and of known experience in publick affairs.

4. YET it may not be unfit to call some of young years, to train them up in that trade, and so fit them for those weighty affairs, against the time of greater maturity; and some also for the honour of their persons: but these two sorts not to be tied to so strict attendance, as the others from whom the present dispatch of business is expected.

5. I COULD wish that their number might not be so over-great; the persons of the counsellors would be the more venerable: And I know that queen *Elizabeth*, in whose time I had the happiness to be born, and to live many years, was not so much observed, for having a numerous, as a wife, council.

6. THE duty of a privy counsellor to a king, I conceive, is, not only to attend the council board, at the times appointed, and there to consult of what shall be propounded; but also to study those things which may advance the king's honour and safety, and the good of the kingdom, and to communicate the same to the king, or to his fellow-counsellors, as there shall be occasion. And this, sir, will concern you more than others, by how much you have a larger share in his affections.

7. AND one thing I shall be bold to desire you to recommend to his majesty: that when any new thing shall be propounded to be taken into consideration, that no counsellor should suddenly deliver any positive opinion thereof; it is not so easy with all men to retract their opinions, although there shall be cause for it: but only to hear it, and at the most but to break it, at first, that it may be the better understood against the next meeting.

8. WHEN any matter of weight hath been debated, and seemeth to be ready for a resolution; I wish it may not be at that sitting concluded (unless the necessity of the time press it;) left upon second cogitations there should be cause to alter; which is not for the gravity and honour of that board.

9. I WISH also that the king would be pleased sometimes to be present at that board; it adds a majesty to it: and yet not to be too frequently there, that would render it less esteemed when it is become common; besides, it may sometimes make the counsellors not to be so free in their debates in his presence, as they would be in his absence.

10. BESIDES the giving of counsel, the counsellors are bound by their duties *ex vi termini*, as well as by their oaths, to keep counsel; therefore they are called *de privato consilio regis, & a secretioribus consiliis regis*.

11. ONE thing I add, in the negative, which is not fit for that board, the entertaining of private causes, of *meum & tuum*; those should be left to the ordinary course and courts of justice.

As there is great care to be used, for the counsellors themselves to be chosen; so there is of the clerks of the council also, for the secreting of their consultations: and methinks, it were fit that his majesty be speedily moved to give a strict charge, and to bind it with a solemn order (if it be not already so done,) that no copies of the orders of that Table be delivered out by the clerks of the council, but by the order of the board; nor any, not being a counsellor, or a clerk of the council, or his clerk, to have access to the council books: and to that purpose, that the servants attending

attending the clerks of the council be bound to secrecy, as well as their masters.

13. FOR the great offices and officers of the kingdom, I shall say little; for the most part of them are such, as cannot well be sever'd from the councellorship; and therefore the same rule is to be observed for both, in the choice of them. In the general, only, I advise this, let them be set in those places for which they are probably the most fit.

14. BUT in the quality of the persons, I conceive it will be most convenient to have some of every sort, (as in the time of queen *Elizabeth* it was :) one bishop at the least, in respect of questions touching religion, or church government; one or more skilled in the laws; some for martial affairs; and some for foreign affairs: by this mixture one will help another in all things that shall there happen to be moved. But if that should fail, it will be a safe way, to consult with some other able persons well versed in that point which is the subject of their consultation; which yet may be done so warily, as may not discover the main end therein.

IV. IN the next place, I shall put you in mind of foreign negotiations and embassies, to or with foreign princes or states; wherein I shall be little able to serve you.

I. ONLY, I will tell you what was the course in the happy days of queen *Elizabeth*, whom it will be no dis-reputation to follow: she did vary, according to the nature of the employment, the quality of the persons she employed; which is a good rule to go by.

2. IF it were an embassy of gratulation or ceremony (which must not be neglected,) choice was made of some noble person, eminent in place, and able in purse; and he would take it as a mark of favour, and discharge it without any great burthen to the queen's coffers, for his own honour's sake.

3. BUT if it were an embassy of weight, concerning affairs of state, choice was made of some sad person of known judgment, wisdom and experience, and not of a young man, not weighed in state matters: nor of a mere formal man, whatsoever his title or outside were.

4. YET in company of such, some young towardly noblemen or gentlemen were usually sent also, as assistants or attendants; according to the quality of the persons; who might be thereby prepared and fitted for the like employment, by this means, at another turn.

5. IN their company were always sent some grave and sad men, skilful in the civil laws, and some in the languages, and some who had been formerly conversant in the courts of those princes, and knew their ways; these were assistants in private, but not trusted to manage the affairs in publick; that would detract from the honour of the principal ambassador.

6. IF the negotiation were about merchants affairs, then were the persons employed for the most part doctors of the civil law, assisted with some other discreet men; and in such, the charge was ordinarily defrayed by the company or society of merchants, whom the negotiation concerned.

7. IF legier ambassadors or agents were sent to remain in or near the courts of those princes or states (as it was ever held fit, to observe the motions, and to hold correspondence with them, upon all occasions) such were made choice of as were presumed to be vigilant, industrious, and discreet men, and had the language of the place whither they were sent; and with these were sent such as were hopeful to be worthy of the like employment at another time.

8. THEIR

8. THEIR care was, to give true and timely intelligence of all occurrences, either to the queen herself, or the secretaries of state, unto whom they had their immediate relation.

9. THEIR charge was always born by the queen, duly paid out of the exchequer, in such proportion, as, according to their qualities and places, might give them an honourable subsistence there: but for the reward of their service, they were to expect it upon their return, by some such preferment as might be worthy of them, and yet be little burthen to the queen's coffers or revenues.

10. AT their going forth they had their general instructions in writing, which might be communicated to the ministers of that state, whither they were sent; and they had also private instructions, upon particular occasions; and at their return, they did always render an account of some things to the queen her self, of some things to the body of the council, and of some others to the secretaries of state; who made use of them, or communicated them, as there was cause.

11. IN those days there was a constant course held, that by the advice of the secretaries, or some principal counsellors, there were always sent forth, into several parts beyond the seas, some young men, of whom good hopes were conceived of their towardliness, to be trained up, and made fit for such publick employments, and to learn the languages. This was at the charge of the queen, which was not much; for they travelled but as private gentlemen: and as by their industry their deserts did appear, so were they farther employed or rewarded. This course I shall recommend unto you, to breed up a nursery of such publick plants.

V. For peace and war, and those things which appertain to either; I in my own disposition and profession am wholly for peace, if please God to bless this kingdom therewith, as for many years past he hath done: and,

1. I PRESUME I shall not need to persuade you to the advancing of it; nor shall you need to persuade the king your master therein, for that he hath hitherto been another *Solomon*, in this our *Israel*, and the motto which he hath chosen (*Beati Pacifici*) shews his own judgment: but he must use the means to preserve it, else such a jewel may be lost.

2. GOD is the God of peace (it is one of his attributes;) therefore by him alone we must pray, and hope to continue it: there is the foundation.

3. AND the king must not neglect the just ways for it; justice is the best protector of it at home, and providence for war is the best prevention of it from abroad.

4. WARS are either foreign or civil; for the foreign war by the king upon some neighbour nation, I hope we are secure; the king, in his pious and just disposition is not inclinable thereunto, his empire is long enough; bounded with the ocean, as if the very situation thereof had taught the king and people to set up their rests, and say, *Ne plus ultra*.

5. AND for a war of invasion from abroad; only we must not be over-secure: that's the way to invite it.

6. BUT if we be always prepared to receive an enemy, if the ambition or malice of any should incite him, we may be very confident we shall long live in peace and quietness, without any attempts upon us.

7. TO make the preparations hereunto the more assured: in the first place, I will recommend unto you the care of our out-work, the navy royal and shipping of our kingdom, which are the walls thereof: and every great ship is as an impregnable fort; and our many safe and commodious

dious ports and havens, in every of these kingdoms, are as the redoubts to secure them.

8. FOR the body of the ships, no nation of the world doth equal *England*, for the oaken timber wherewith to build them; and we need not borrow of any other, iron for spikes, or nails to fasten them together; but there must be a great deal of providence used, that our ship-timber be not unnecessarily wasted.

9. BUT for tackling, as sails and cordage, we are beholden to our neighbours for them, and do buy them for our money; that must be foreseen and layed up in store against a time of need, and not sought for when we are to use them: but we are much to blame that we make them not at home, only pitch and tar we have not of our own.

10. FOR the true art of building of ships, for burthen and service both, no nation in the world exceeds us: ship-wrights and all other artificans belonging to that trade must be cherished and encouraged.

11. POWDER and ammunition of all sorts we can have at home, and in exchange for other home commodities we may be plentifully supplied from our neighbours, which must not be neglected.

12. WITH mariners and seamen this kingdom is plentifully furnished: the constant trade of merchandizing will furnish us at a need; and navigable rivers will repair the store, both to the navy royal and to the merchants, if they be set on work, and well paid for their labour.

13. SEA captains and commanders and other officers must be encouraged, and rise by degrees, as their fidelity and industry deserve it.

[LET brave spirits that have fitted themselves for command, either by sea or land, not be laid by, as persons unnecessary for the time; let arms and ammunition of all sorts be provided and stored up, as against a day of battel; let the ports and forts be fitted so, as if by the next wind we should hear of an alarm; such a known providence is the surest protection. But of all wars, let both prince and people pray against a war in our own bowels: the king by his wisdom, justice and moderation, must foresee and stop such a storm, and if it fall must allay it; and the people by their obedience must decline it. And for a foreign war intended by an invasion to enlarge the bounds of our empire, which are large enough, and are naturally bounded with the ocean, I have no opinion either of the justness or fitness of it; and it were a very hard matter to attempt it with hope of success, seeing the subjects of this kingdom believe it is not legal for them to be enforced to go beyond the seas, without their own consent upon hope of an unwarranted conquest; but to resist an invading enemy, or to suppress rebels, the subject may and must be commanded out of the counties where they inhabit. The whole kingdom is but one intire body, else it will necessarily be verified, which elsewhere was asserted, *Dum singuli pugnamus, omnes vincimur.*]

14. OUR strict league of amity and alliance with our near neighbours the *Hollanders*, is a mutual strength to both; the shipping of both, in conjuncture, being so powerful, by God's blessing, as no foreigners will venture upon; this league and friendship must inviolably be observed.

15. FROM *Scotland* we have had in former times some alarms, and inrodes into the northern parts of this kingdom; but that happy union of both kingdoms under one sovereign, our gracious king, I hope, hath taken away all occasions of breach between the two nations. Let not the cause arise from *England*, and I hope the *Scots* will not adventure it; or if they

do, I hope they will find, that although to our king they were his first-born subjects, yet to *England* belongs the birthright : but this should not be any cause to offer any injury to them, nor to suffer any from them.

16. THERE remains then no danger, by the blessing of God, but a civil war, from which God of his mercy defend us, as that which is most desperate of all others. The king's wisdom and justice must prevent it, if it may be ; or if it should happen, *quod absit*, he must quench that wild-fire, with all the diligence that possibly can be.

17. COMPETITION to the crown, there is none, nor can be, therefore it must be a fire within the bowels, or nothing ; the cures whereof are these, *Remedium praeveniens*, which is the best physick, either to a natural body, or to a state, by just and equal government to take away the occasion ; and *Remedium puniens*, if the other prevail not : the service and vigilancy of the deputy lieutenants in every county, and of the high sheriff, will contribute much herein to our security.

18. BUT if that should not prevail, by a wise and timous inquisition, the peccant humours and humorists must be discovered, and purged, or cut off ; mercy, in such a case, in a king, is true cruelty.

19. YET if the heads of the tribes can be taken off, and the mis-led multitude will see their error, and return to their obedience, such an extent of mercy is both honourable and profitable.

20. A KING, against a storm, must foresee, to have a convenient stock of treasure ; and neither be without money, which is the sinews of war, nor to depend upon the curtesy of others, which may fail at a pinch.

21. HE must also have a magazine of all sorts, which must be had from foreign parts, or provided at home, and to commit them to several places, under the custody of trusty and faithful ministers and officers, if it be possible.

22. HE must make choice of expert and able commanders to conduct and manage the war, either against a foreign invasion, or a home rebellion ; which must not be young and giddy, which dare, not only to fight, but to swear, and drink, and curse, neither fit to govern others, nor able to govern themselves.

23. LET not such be discouraged, if they deserve well, by mis-information, or for the satisfying the humours or ambition of others, perhaps, out of envy, perhaps, out of treachery, or other sinister ends : a steady hand, in governing of military affairs, is more requisite than in times of peace, because an error committed in war, may, perhaps, prove irremediable.

24. IF God shall bless these endeavours, and the king return to his own house in peace, when a civil war shall be at an end, those who have been found faithful in the land must be regarded, yea, and rewarded also ; the traitorous, or treacherous, who have mis-led others, severely punish'd ; and the neutrals and false-hearted friends and followers, who have started aside like a broken bow, be noted, *Carbone nigro* ; and so I shall leave them, and this part of the work.

VI. I COME to the sixth part, which is trade ; and that is either at home or abroad. And I begin with that which is at home, which enableth the subjects of the kingdom to live, and layeth a foundation to a foreign trade by traffick with others, which enableth them to live plentifully and happily.

I. FOR the home trade, I first commend unto your consideration the encouragement of tillage, which will enable the kingdom for corn for the natives

natives, and to spare for exportation: and I my self have known, more than once, when, in times of dearth, in queen *Elizabeth's* days, it drained much coin of the kingdom, to furnish us with corn from foreign parts.

2. GOOD husbands will find the means, by good husbandry, to improve their lands, by lime, chalk, marl, or sea-sand, where it can be had: but it will not be amiss, that they be put in mind thereof, and encouraged in their industries.

3. PLANTING of orchards, in a soil and air fit for them, is very profitable, as well as pleasurable; cyder and perry are notable beverage in sea voyages.

4. GARDENS are also very profitable, if planted with artichokes, roots, and such other things as are fit for food; whence they be called kitchen gardens, and that very properly.

5. THE planting of hop-yards, sowing of woad and rape-seed, are found very profitable for the planters, in places apt for them, and consequently profitable for the kingdom, which for divers years was furnished with them from beyond the seas.

6. THE planting and preserving of woods, especially of timber, is not only profitable, but commendable, therewith to furnish posterity, both for building and shipping.

7. THE kingdom would be much improved, by draining of drowned lands, and gaining that in from the overflowing of salt waters and the sea, and from fresh waters also.

8. AND many of those grounds would be exceeding fit for dairies, which, being well houswived, are exceeding commodious.

9. MUCH good land might be gained from forests and chases, more remote from the king's access, and from other commonable places, so as always there be a due care taken, that the poor commoners have no injury by such improvement.

10. THE making of navigable rivers would be very profitable; they would be as so many in-draughts of wealth, by conveying of commodities with ease from place to place.

11. THE planting of hemp and flax would be an unknown advantage to the kingdom, many places therein being as apt for it, as any foreign parts.

12. BUT add hereunto, that if it be converted into linen-cloth or cordage, the commodity thereof will be multiplied.

13. SO it is of the wools and leather of the kingdom, if they be converted into manufactures.

14. OUR *English* dames are much given to the wearing of costly laces; and, if they be brought from *Italy*, or *France*, or *Flanders*, they are in great esteem; whereas, if the like laces were made by the *English*, so much thread as would make a yard of lace, being put into that manufacture, would be five times, or perhaps, ten or twenty times the value.

15. THE breeding of cattel is of much profit, especially the breed of horses, in many places, not only for travel, but for the great saddle; the *English* horse, for strength, and courage, and swiftness together, not being inferior to the horses of any other kingdom.

16. THE minerals of the kingdom, of lead, iron, copper, and tin, especially, are of great value, and set many able-bodied subjects on work; it were great pity they should not be industriously followed.

17. BUT of all minerals, there is none like to that of fishing, upon the coasts of these kingdoms, and the seas belonging to them: our neighbours, within half a day's sail of us, with a good wind, can shew us the use and value thereof; and, doubtless, there is sea-room enough for both nations, without offending one another; and it would exceedingly support the navy.

18. THIS realm is much enriched, of late years, by the trade of merchandize which the *English* drive in foreign parts; and, if it be wisely managed, it must of necessity very much increase the wealth thereof: care being taken, that the exportation exceed in value the importation; for then the balance of trade must of necessity be returned in coin or bullion.

19. THIS would easily be effected, if the merchants were persuaded, or compelled, to make their returns in solid commodities, and not too much thereof in vanity, tending to excess.

20. BUT especially care must be taken, that monopolies, which are the cankers of all trading, be not admitted, under specious colours of publick good.

21. To put all these into a regulation, if a constant commission, to men of honesty and understanding, were granted, and well pursued, to give order for the managing of these things, both at home and abroad, to the best advantage; and that this commission were subordinate to the council-board; it is conceived, it would produce notable effects.

VII. THE next thing is that of colonies and foreign plantations, which are very necessary, as out-lets, to a populous nation, and may be profitable also if they be managed in a discreet way.

1. FIRST, in the choice of the place, which requireth many circumstances; as, the situation, near the sea, for the commodiousness of an intercourse with *England*; the temper of the air and climate, as may best agree with the bodies of the *English*, rather inclining to cold than heat; that it be stored with woods, mines, and fruits, which are naturally in the place; that the soil be such as will probably be fruitful for corn, and other conveniencies, and for breeding of cattel; that it hath rivers, both for passage between place and place, and for fishing also, if it may be; that the natives be not so many, but that there may be elbow-room enough for them, and for the adventives also: all which are likely to be found in the *West-Indies*.

2. IT would be also such as is not already planted by the subjects of any christian prince or state, nor over-nearly neighbouring to their plantation. And it would be more convenient, to be chosen by some of those gentlemen or merchants which move first in the work, than to be designed unto them from the king; for it must proceed from the option of the people, else it sounds like an exile; so the colonies must be raised by the leave of the king, and not by his command.

3. AFTER the place is made choice of, the first step must be, to make choice of a fit governor; who, although he have not the name, yet he must have the power of a viceroy; and if the person who principally moved in the work be not fit for that trust, yet he must not be excluded from command; but then his defect in the governing part must be supplied by such assistants as shall be joined with him, or as he shall very well approve of.

4. As at their setting out they must have their commission, or letters patents from the king, that so they may acknowledge their dependency upon
tha

the crown of *England*, and under his protection; so they must receive some general instructions, how to dispose of themselves, when they come there, which must be in nature of laws unto them.

5. BUT the general law, by which they must be guided and governed, must be the common law of *England*; and to that end, it will be fit, that some man, reasonably studied in the law, and otherwise qualified for such a purpose, be persuaded (if not thereunto inclined of himself, which were the best) to go thither as chancellor amongst them, at first; and when the plantation were more settled, then to have courts of justice there, as in *England*.

6. AT the first planting, or as soon after as they can, they must make themselves defensible both against the natives, and against strangers; and to that purpose, they must have the assistance of some able military man, and convenient arms and ammunition for their defence.

7. FOR the discipline of the church in those parts, it will be necessary, that it agree with that which is settled in *England*, else it will make a schism and a rent in *Christ's* coat, which must be seamless; and, to that purpose, it will be fit, that by the king's supreme power in causes ecclesiastical, within all his dominions, they be subordinate under some bishop and bishoprick of this realm.

8. FOR the better defence against a common enemy, I think it would be best, that foreign plantations should be placed in one continent, and near together; whereas, if they be too remote, the one from the other, they will be disunited, and so the weaker.

9. THEY must provide themselves of houses, such as, for the present, they can, and, at more leisure, such as may be better; and they first must plant for corn and cattel, &c. for food and necessary sustenance; and after, they may enlarge themselves for those things which may be for profit and pleasure, and to traffick withal also.

10. Woods for shipping, in the first place, may doubtless be there had, and minerals there found, perhaps, of the richest; howsoever, the mines out of the fruits of the earth, and seas and waters adjoining, may be found in abundance.

11. IN a short time they may build vessels and ships also, for traffick with the parts near adjoining, and with *England* also, from whence they may be furnished with such things as they may want, and, in exchange or barter, send from thence other things, with which quickly, either by nature or art, they may abound.

12. BUT these things would, by all means, be prevented; that no known bankrupt, for shelter; nor known murderer or other wicked person, to avoid the law; nor known heretick or schismatick, be suffered to go into those countreys; or, if they do creep in there, not to be harboured or continued: else, the place would receive them naught, and return them into *England*, upon all occasions, worse.

13. THAT no merchant, under colour of driving a trade thither, or from thence, be suffered to work upon their necessities.

14. AND that to regulate all these inconveniencies, which will insensibly grow upon them, that the king be pleased to erect a subordinate council in *England*, whose care and charge shall be, to advise, and put in execution, all things which shall be found fit for the good of those new plantations; who, upon all occasions, shall give an account of their proceedings to the king, or to the council-board, and from them receive such directions as may best agree with the government of that place.

15. THAT

ADVICE TO SIR GEORGE VILLIERS.

15. THAT the king's reasonable profit be not neglected, partly, upon reservation of moderate rents and services; and, partly, upon customs; and partly, upon importation and exportation of merchandize; which for a convenient time after the plantation begin, would be very easy, to encourage the work; but, after it is well settled, may be raised to a considerable proportion, worthy the acceptance.

[YET these cautions are to be observed in these undertakings :

1. THAT no man be compelled to such an employment; for that were a banishment and not a service fit for a free man.

2. THAT if any transplant themselves into plantations abroad, who are known schismatics, outlaws, or criminal persons, that they be sent for back upon the first notice; such persons are not fit to lay the foundation of a new colony.

3. To make no extirpation of the natives under pretence of planting religion: God surely will no way be pleased with such sacrifices.

4. THAT the people sent thither be governed according to the laws of this realm, whereof they are, and still must be subjects.

5. To establish there the same purity of religion, and the same discipline for church government, without any mixture of popery or anabaptism, lest they should be drawn into factions and schisms, and that place receive them there bad, and send them back worse.

6. To employ them in profitable trades and manufactures, such as the clime will best fit, and such as may be useful to this kingdom, and return to them an exchange of things necessary.

7. THAT they be furnished and instructed for the military part, as they may defend themselves; lest, on a sudden, they be exposed as a prey to some other nation, when they have fitted the colony for them.

8. To order a trade thither, and thence, in such a manner as some few merchants and tradesmen, under colour of furnishing the colony with necessities, may not grind them, so as shall always keep them in poverty.

9. To place over them such governors as may be qualified in such manner as may govern the place, and lay the foundation of a new kingdom.

10. THAT care be taken, that when the industry of one man hath settled the work, a new man, by insinuation or misinformation, may not supplant him without a just cause, which is the discouragement of all faithful endeavours.

11. THAT the king will appoint commissioners in the nature of a council, who may superintend the works of this nature, and regulate what concerns the colonies, and give an account thereof to the king, or to his council of state.

AGAIN, For matter of trade, I confess, it is out of my profession, yet in that I shall make a conjecture also, and propound some things to you, whereby (if I am not much mistaken) you may advance the good of your country and profit of your master.

1. LET the foundation of a profitable trade be thus laid, that the exportation of home commodities be more in value, than the importation of foreign; so we shall be sure that the stocks of the kingdom shall yearly increase, for then the balance of trade must be returned in money or bullion.

2. IN the importation of foreign commodities, let not the merchant return toys and vanities (as sometimes it was elsewhere apes and peacocks) but solid merchandize, first for necessity, next for pleasure, but not for luxury.

3. LET

3. LET the vanity of the times be restrained, which the neighbourhood of other nations have induced; and we strive apace to exceed our pattern: let vanity in apparel, and, which is more vain, that of the fashion, be avoided. I have heard, that in *Spain*, (a grave nation, whom in this I wish we might imitate) they do allow the players and courtesans the vanity of rich and costly clothes; but to sober men and matrons they permit it not, upon pain of infamy; a severer punishment upon ingenuous natures than a pecuniary mulct.

4. THE excess of diet in costly meats and drinks fetched from beyond the seas would be avoided: wise men will do it without a law, I would there might be a law to restrain fools. The excess of wine costs the kingdom much, and returns nothing but surfeits and diseases; were we as wise as easily we might be, within a year or two at the most, if we would needs be drunk with wines, we might be drunk with half the cost.

5. IF we must be vain and superfluous in laces and embroideries, which are more costly than either warm or comely, let the curiosity be the manufacture of the natives; then it should not be verified of us, *materiam superabat opus*.

6. BUT instead of crying up all things, which are either brought from beyond sea, or wrought here by the hands of strangers, let us advance the native commodities of our own kingdom, and employ our countrymen before strangers; let us turn the wools of the land into cloaths and stuffs of our own growth, and the hemp and flax growing here into linen cloth and cordage; it would set many thousand hands on work, and thereby one shilling worth of the materials, would by industry be multiplied to five, ten, and many times to twenty times more in the value being wrought.

7. AND of all sorts of thrift for the publick good, I would above all others commend to your care the encouragement to be given to husbandry, and the improving of lands for tillage; there is no such usury as this. The king cannot enlarge the bounds of these islands, which make up his empire, the ocean being the unremoveable wall which encloseth them; but he may enlarge and multiply the revenue thereof by this honest and harmless way of good husbandry.

8. A VERY great help unto trade are navigable rivers: they are so many indrafts to attain wealth, where by art and industry let them be made; but let them not be turned to private profit.

9. IN the last place, I beseech you, take into your serious consideration, that *Indian* wealth, which this island and the seas thereof excel in, the hidden and rich treasure of fishing: Do we want an example to follow? I may truly say to the *English*, *Go to the pismire, thou sluggard*. I need not expound the text; half a day's sail with a good wind, will shew the mineral and the miners.

10. To regulate all these it will be worthy the care of a subordinate council, to whom the ordering of these things may be committed, and they give an account thereof to the state.]

VIII. I COME to the last of those things which I propounded, which is, the court and curiality.

THE other did properly concern the king, in his royal capacity, as *Pater patriae*; this more properly, as *Pater-familias*: and herein,

I. I SHALL, in a word, and but in a word only, put you in mind, that the king in his own person, both in respect of his household or court, and in respect of his whole kingdom, (for a little kingdom is but as a great household,

hold, and a great household as a little kingdom) must be exemplary, *Regis ad exemplum*, &c. But for this, God be praised, our charge is easy; for our gracious master, for his learning and piety, justice and bounty, may be, and is, not only a precedent to his own subjects, but to foreign princes also; yet he is still but a man, and seasonable *Memento's* may be useful; and, being discreetly used, cannot but take well with him.

2. BUT your greatest care must be, that the great men of his court (for you must give me leave to be plain with you, for so is your injunction laid upon me,) your self in the first place, who are first in the eye of all men, give no just cause of scandal, either by light or vain or by oppressive carriage.

3. THE great officers of the king's household had need be both discreet and provident persons, both for his honour and for his thrift; they must look both ways, else they are but half-sighted: yet in the choice of them, there is more latitude left to affection, than in the choice of counsellors, and of the great officers of state, before touched, which must always be made choice of merely out of judgment; for in them the publick hath a great interest.

[AND yet in these, the choice had need be of honest and faithful servants, as well as of comely outsidés, who can bow the knee, and kiss the hand, and perform other services, of small importance compared to this of publick employment. King *David*, Pf. ci. 6, 7. propounded a rule to himself for the choice of his courtiers. He was a wise and a good king; and a wise and a good king shall do well to follow such a good example; and if he find any to be faulty, which perhaps can't suddenly be discovered, let him take on him this resolution as king *David* did, *There shall no deceitful person dwell in my house*. But for such as shall bear office in the king's house, and manage the expences thereof, it is much more requisite to make a good choice of such servants, both for his thrift and for his honour.]

4. FOR the other ministerial officers in court, (as, for distinction sake, they may be termed) there must be also an eye unto them and upon them. They have usually risen in the household by degrees, and it is a noble way, to encourage faithful service: but the king must not bind himself to a necessity herein, for then it will be held *ex debito*: neither must he alter it, without an apparent cause for it: but to displace any who are in, upon displeasure, which for the most part happeneth upon the information of some great man, is, by all means, to be avoided, unless there be a manifest cause for it.

5. IN these things you may sometimes interpose, to do just and good offices; but for the general, I should rather advise: meddle little, but leave the ordering of those household affairs to the white-staffs, which are those honourable persons, to whom it properly belongeth to be answerable to the king for it, and to those other officers of the green-cloth, who are subordinate to them, as a kind of council, and a court of justice also.

6. YET for the green-cloth law, (take it in the largest sense) I have no opinion of it, farther than it is regulated by the just rules of the common laws of *England*.

7. TOWARDS the support of his majesty's own table, and of the princes, and of his necessary officers, his majesty hath a good help by purveyance, which justly is due unto him; and, if justly used, is no great burthen to the subject; but by the purveyors, and other under officers, is many times abused. In many parts of the kingdom, I think, it is already reduced to a
certainty

certainty in money; and if it be indifferently and discreetly managed, it would be no hard matter to settle it so throughout the whole kingdom; yet to be renewed from time to time, for that will be the best and safest, both for the king and people.

8. THE king must be put in mind, to preserve the revenues of his crown, both certain and casual, without diminution, and to lay up treasure in store against a time of extremity; empty coffers give an ill sound, and make the people many times forget their duty, thinking that the king must be beholden to them for his supplies.

9. I SHALL by no means think it fit, that he reward any of his servants with the benefit of forfeitures, either by fines in the court of star-chamber, or high commission courts, or other courts of justice, or that they should be farmed out, or bestowed upon any, so much as by promise, before judgment given; it would neither be profitable nor honourable.

10. BESIDES matters of serious consideration, in the courts of princes, there must be times for pastimes and disports: when there is a queen, and ladies of honour attending her, there must sometimes be masques, and revels, and interludes; and when there is no queen, or princess, as now; yet at festivals, and for entertainment of strangers, or upon such occasions, they may be fit also: yet care would be taken, that, in such cases, they be set off more with wit and activity, than with costly and wastful expences.

11. BUT for the king and prince, and the lords and chivalry of the court, I rather commend, in their turns and seasons, the riding of the great horse, the tilts, the barriers, tennis, and hunting, which are more for the health and strength of those who exercise them, than in an effeminate way to please themselves and others.

AND now the prince groweth up fast to be a man, and is of a sweet and excellent disposition; it would be an irreparable stain and dishonour upon you, having that access unto him, if you should mislead him, or suffer him to be misled by any loose or flattering parasites; the whole kingdom hath a deep interest in his virtuous education; and if you, keeping that distance which is fit, do humbly interpose your self, in such a case, he will one day give you thanks for it.

12. YET dice and cards may sometimes be used for recreation, when field-sports cannot be had; but not to use it as a mean to spend the time, much less to mispend the thrift of the gamesters.

SIR, I shall trouble you no longer; I have run over these things as I first propounded them; please you to make use of them, or any of them, as you shall see occasion; or to lay them by, as you shall think best, and to add to them; as you daily may, out of your experience.

I MUST be bold, again, to put you in mind of your present condition; you are in the quality of a centinel; if you sleep, or neglect your charge, you are an undone man, and you may fall much faster than you have risen.

I HAVE but one thing more to mind you of, which nearly concerns your self; you serve a great and gracious master, and there is a most hopeful young prince, whom you must not desert; it behoves you to carry your self wisely and evenly between them both: adore not so the rising son, that you forget the father, who raised you to this height; nor be you so obsequious to the father, that you give just cause to the son, to suspect that you neglect him: but carry your self with that judgment, as, if it be possible;

may please and content them both, which, truly, I believe, will be no hard matter for you to do; so may you live long beloved of both.

[IF you find in these or any other your observations (which doubtless are much better than these loose collections) any thing which you would have either the father or the son to take to heart, an admonition from a dead author, or a caveat from an impartial pen, whose aim neither was nor can be taken to be at any particular by design, will prevail more and take better impression than a downright advice; which perhaps may be mistaken as if it were spoken magisterially.

THUS may you long live an happy instrument for your king and country: you shall not be a meteor or a blazing star, but *stella fixa*: happy here and more happy hereafter. *Deus manu sua te ducat*:] which is the hearty prayer of

Your most obliged and devoted Servant.



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