

Another collection of philosophical conferences of the French virtuosi, upon questions of all sorts; for the improving of natural knowledg. Made in the assembly of the beaux esprits at Paris, by the most ingenious persons of that nation. Render'd into English / by G. Havers, Gent. & J. Davies of Kidwelly, Gent. [from T. and E. Renaudot].

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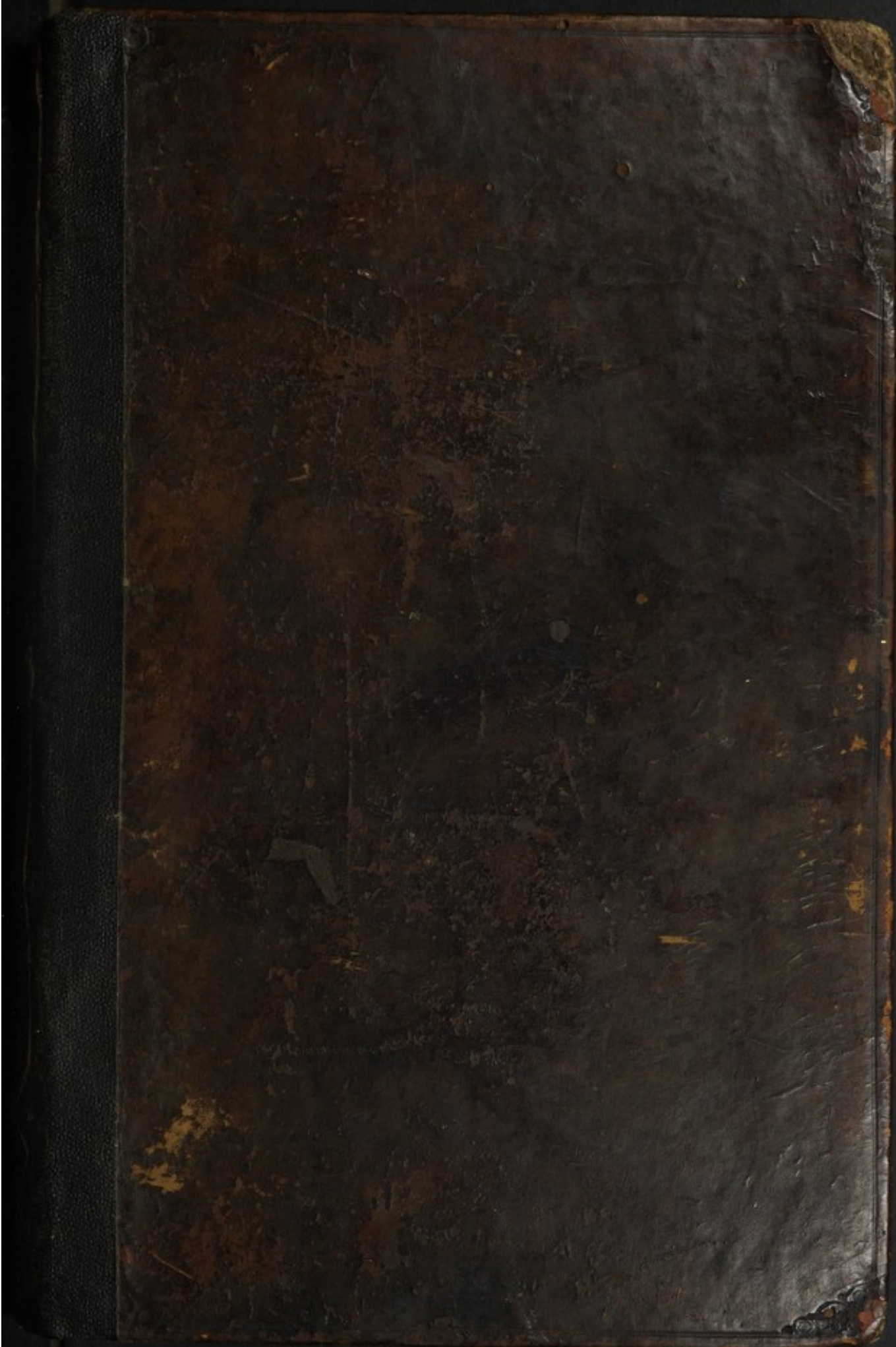
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ANOTHER
COLLECTION
OF
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OF THE
French Virtuosi,
UPON
QUESTIONS of all SORTS;
For the Improving of
Natural Knowledg.

Made in the Assembly of the *Beaux Esprits* at
Paris, by the most Ingenious Persons
of that Nation.

Render'd into English,
G. HAVERS, *Gent.*
By
J. DAVIES of Kidwelly, *Gent.*

LONDON,
Printed for Thomas Dring and John Starkey, and are to be
sold at their Shops at the George in Fleet-street neer Clifford's-Inn,
and the Mitre between the Middle-Temple-Gate and Temple-bar. 1665.

COLLECTION
OF
Philological
CONFERENCES
OF THE
French Academy

IMPRIMATUR,

Novemb. 20.
1663.

WILLIAM MORICE.



PREFACE.



THE good Reception a Volume of the like Conferences appears to have found last year by the speedy distribution of the Copies, hath given encouragement to the Version and Publication of this ; wherein I assure my self the Readers will not find themselves worse entertain'd at the second Course then they were at the first ; the Questions here being proportionably more Philosophical, and chosen from such Subjects as are most inquir'd into at this day by the Curious of our own Nation, who undoubtedly will find some contentment (if not satisfaction) in reading what the *Virtuosi* of our Neighbour-Nation have discours'd touching those Matters. I have often heard it spoken to the Commendation of an Eminent Peer in the last Reign, That for an hour or two together he made the most agreeable Conversation in the World ; but if, upon parting, any one of the Company happened to reflect upon what he had heard, he could not remember the least particular passage, saving that he had spent such a portion of Time very deliciously. 'Twas a happy Faculty for the Man ; for he did his business by it, and partly ow'd his Promotion to this Talent. I shall pronounce no otherwise upon him but thus, That perhaps (as *Tully* said in almost a like case) he was a better Gallant than a Wise Man should be : At least, this way of consuming Time, argued a great Disease in Mens Minds, when they could be contented to feed upon Air, and were so squeamish as not to be able to bear the wholsom Diet of solid Discourse. 'Tis too apparent that the same Humor is still

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predominant

Preface.

predominant in these our days, wherein Gaming makes the whole Converse amongst the Gentry, who, like rapacious Animals, meet together but to prey upon one another, whilst old Stories, or News, and (for want of matter so innocent) Detractions, Derisions, and Abuses are the only things that furnish talk to the Plebeians. Thus we live, and yet pretend to be Reasonable Creatures; whilst true and solid Reason is almost as obscurely discernable in our Commerce, as Sense and Motion are in Sponges and Oysters. But 'tis hop'd the better practice of some Excellent Persons amongst our selves, may contribute much to the Reformation of this; and to help it forward, it cannot but do some good (by exciting us to emulation) to see what been already done by some Gentlemen of France, to whose excellent Wits the World is beholden for these Conferences.

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AS Nature is the Principle of Motion, so she is also of Rest and Sleep; which is the cessation of the actions of an *Animal*, to whom alone it hath been assigned, in regard no other Creature besides becomes weary in its Operations: For all Animals, even the lowest degree of Insects, sleep; although such who have hard eyes and scales, sleep more obscurely then the rest; and Birds more lightly then four-footed Beasts which suck, because they have a less and dryer Brain, and consequently less need sleep, whose use is to moisten and refresh that part. Hence Man, having of all Animals the largest Brain, hath also need of the longest sleep, which ought to be about seven hours. Wherefore I cannot but wonder that *Plato*, in his first Book of Laws, would have his Citizens rise in the night to fall to their ordinary employments; for this disturbing of their rest were the way to make a Commonwealth of Fools; the Brain, by watchings acquiring a hot and dry intemperature, which begets igneous spirits, whose mobility not permitting the Mind to consider the species impress'd upon them, is the cause of unsteady and impetuous fallies of the Mind; as, on the contrary, sleep too excessive fills the ventricles of the Brain (wherein the Soul exercises her Faculties) with abundance of vapours and humidities, which offuscating and troubling the species, the Mind thereby becomes slothful and dull.

The second said, That Privations are understood by their Habits; and therefore Sleep, which is a privation of Sense, cannot

not be better known than by the functions of the outward Senses, which so long as an Animal exercises it is said to be awake, and to sleep when it ceases to employ the same. And being Sensation is perform'd by means of the animal Spirits, refin'd out of the natural and vital, and sent from the Brain into the Sensories, which Spirits receive the species of the sensible object, and carry it to the Inward Sense, the common Arbiter and Judge of all external objects; hence, when those Spirits happen to fail, or the Common Sense is bound up, the other external Senses cannot discharge their offices: Upon which account the Philosophers have defin'd Sleep, *The ligation of the First Sense*; or, *The rest of the Spirits and Blood*: And the Physitians, *The cessation of all outward Senses for the health and repose of an Animal*; hereby distinguishing it from the cessation of the outward Senses in Swoonings, Falling-sickness, Apoplexie, Lethargy, Carus, Coma, and such sorts of morbidick and præternatural sleep, produc'd by causes acting rather by an occult and somniferous property, then by excess of cold or moisture; otherwise Winter, Ice, and the coldest things, should cause sleep; Wine, Annis, Opium, Henbane, and abundance of hot Medicaments, should not be Narcotick, as experience evinces them to be. But natural sleep is produc'd by vapours elevated from the aliments into the brain; which moreover performing in us the office of a Ventose or Cupping-glass, draws to it self those humid vapours, condenses them by its coldness, and resolves them into a gentle dew, which falling upon the rise or beginning of the Nerves, obstructs the passage to the animal Spirits, the instruments of Sensation and voluntary Motion, which it hinders; though not Motion, so much as Sensation; because the Nerves of the hinder part of the Brain, destinated to Motion, being harder, do not so easily imbibe those vapours, as those of the fore-part, destinated to Sensation: But when the Heat and Spirits, whereof there had been an absumption, are again sufficiently repair'd, they move anew toward the Brain, where they resolve those dews which stopp'd the passage, and hindred the commerce of the vital Spirits with the animal; whereupon we naturally and without violence awake: So likewise, the violence of an extrinsecal object importunately striking the external Senses, obliges the Soul to send other Spirits to the assistance of the few remaining therein, and which before this supply apprehend objects only confusedly.

The Third said, Sleep is not the Quiescence of the animal Spirits; for these are active, and form Dreams whilst we sleep; nor of the vital, which have no relaxation or rest so long as the Animal hath life; much less of the natural, Nutrition being perform'd best during sleep, which is the cause why sleeping fattens. Neither is the Brain's humidity the cause of sleep, as 'tis commonly held; but the defect of vital heat in the Heart, in a sufficient degree for performing the functions of the outward Senses.

Senses. Moreover the sudden seizing and abruption of sleep; which we observe, cannot be produc'd but by a very movable cause, such as the gross vapour of aliments is not; but the vital heat is, being carried into all parts of the body in an instant: Whence it is that we observe the same to be more pale during sleep, (as having less of the said heat) than during Evigilation.

The Fourth said, That indeed the adequate cause of sleep is not a vapour arising from the aliments, since it is procur'd by abundance of other causes, which produce no evaporation; as Weariness, Musique, Silence, and Darknes: Neither is it the above-mentioned deficiency of Vital Heat, which indeed is necessary to the Organs, inasmuch as they are endu'd with life, but not to make them capable of sense; there being sufficient in them even during sleep, when the parts are found hot enough for Sensation, if heat were the cause thereof, as it is not: But the right cause consists in the Animal Spirits, for which, as being the noblest instruments of the Body, I conceive there is a particular faculty in the Brain, which administers and governs them, sending them to the Organs, when there is need of them; and causing them to return back, in order to be restor'd and suppli'd: As there is a particular faculty in the Heart, over-ruling and moving the Vital Spirits as it pleases; sometimes diffusing them outwards in Joy, Anger, and Shame; sometimes causing them to retreat, in order to succour the Heart in Sadness, Grief, and Fear.

The Fifth said, The Empire of Sleep, whom *Orpheus* calls King of Gods and Men, is so sweet, that Not to be of its party is to be an enemy to Nature: 'Tis the charm of all griefs both of body and mind; and was given to man, not only for the refreshment of both, but chiefly for the liberty of the Soul; because it makes both the Master and the Slave, the poor and the rich equal: 'Tis a sign of health in young people, and causes a good constitution of Brain, strengthening the same, and rendring all the functions of the mind more vigorous; whence came the saying, *That the Night gives counsels*; because then the Mind is freed from the tyranny of the Senses; it reasons more solidly, and its operations are so much the more perfect as they are more independent on matter; and 'twas during the repose of sleep that most of the Extasies and propheticall Visions happened to the Saints. Moreover frequent sleep is a sign of a very good nature: For being conciliated only by the benignity of a temper moderately hot and moist, the Sanguine and Phlegmatick, whose humour is most agreeable, are more inclined thereunto than the Bilious and Melancholly, in regard of their heat and driness, which resolve and dissipate the animal Spirits, as a vapourous humidity hinders their effusion, by the obstruction which it causeth in the original of the Nerves; or, which is most probable, because the clouds of those vapours occupying the ventricles of the Brain, by their humidity moisten and relax the ani-

mal Spirits, which remain immovable till they be deliver'd from the importunity of those vapours; which moreover more easily ascending, when the Body is at rest, it happens that Sleep is frequently caus'd, not only by watchings, cares, labour, bathing, heat, and other things which dissipate the Spirits; but also by sounds, gentle murmurs of water, frictions, and motions, silence, and darkness; unless we had rather say, That the animal Spirits, being most subtle and luminous bodies, retire inwards during the darkness, which is contrary to them.

The Sixth said, That Sleep being not only a depravation but a total privation of actions, since a thing exists but so far as it acts; at the same proportion that we love our own Being, we ought to hate Sleep, and love Watching. The great *George Castriot*, the scourge of the Turks, never slept more then two hours; and the Poets had reason to term Sleep, *The Image of Death*, which the Scripture also expresses by Sleeping. As therefore Death is to be avoided as much as possible, so also ought Sleep; were it not that both of them, being inevitable evils, all we can do is to keep as far off them, and suffer our selves to be led as little to them, as may be. The Poets themselves seem willing to imprint in us a horror of Sleep, when they feign it the Son of Hell or *Erebus*, and Night, the brother of Death, the father of *Morpheus*, and that his Palace was amidst the darkness of the *Cimmerians*. Moreover, the most imperfect Animals sleep more then others, which is the reason *Zoophytes*, or Plant-animals, as the Sponge, Coral, and Oysters, sleep continually; Snails, and some Flies, three or four months; Bears, longer then other Animals; and amongst these, Birds, as partaking more of the nature of Heaven, sleep less then four-footed Beasts: A Child, so long as it approaches a bestial life in its Mothers belly, and for the first years, sleeps more than when 'tis grown to Manhood; and being again become by Age a Child, sleeps more than formerly, till he comes to the last sleep of death, which reduces him to nothing. Women, phlegmatick persons, drunkards, and block-heads, sleep more then Men, sober, and witty persons. For we are no more to refer to the abuse of these Times in sleeping very much, then to other Vices of the Age; amongst the rest, Idleness, Eating and Drinking, wherein there is none sober at this day but exceed their just measure.

II. Upon the Second point it was said, That Strength, as well as
Which is the strongest thing in the World. most other things in the World, hath not an absolute but only a relative Being, a thing being called strong, in comparison of others which are less so. Thus *Antæus* was strong in respect of all other men; but weak, compared to *Hercules*: And as *Achilles* was invulnerable in every other part saving the heel; so Nature seems to have left in us a certain weakness and defect in some parts, wherein some are more tender then others: So that 'tis hard to find one thing alike powerful towards all men, since
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by reason of our several inclinations every one is differently affected: The Ambitious will hold for Honours; the Amorous, for Women; the Drinker, for Wine; and Truth, which in the Scripture was judg'd strongest by King *Darius*, who propos'd the present Problem to his four Courtiers, would possibly be deemed the weakest in the Judgment of the most; for to them that should take her part, the same question might be put which *Pilate* ask'd our Lord, *What is Truth?* It is so frequently disguis'd by lying, in moral matters; so envelop'd in darkness, and subject to the deceit of our Senses in natural things, that as it is the least understood, so we may say 'tis the least follow'd; our inclinations never tending towards an unknown object. The strongest thing therefore is that which hath most power to incline our Will towards it self; which Will following the counsel of the Understanding, as again this acts not but by the species wherewith the Imagination supplies it, 'tis to the Imagination that I ascribe the greatest strength in the world; since all other things borrow all their power from the Imagination, by the opinion of Honour, Profit, and Pleasure, which that Faculty makes us conceive therein; and, on the contrary, the same Imagination ruins and destroys the force of all things accounted the most powerful, whilst it considers them with a different bias: 'Tis by it that one abhors nothing more than Women, whom so many others idolatrize: Pleasures, Honours, Riches, and all the Goods of Fortune, are but so many crosses and punishments to those who have conceiv'd an aversion against them: Death it self, as terrible as it is, oftentimes is despis'd and sought after out of a powerful consideration of Honour; this too being nothing else but a Fancy, magnifi'd by the opinion rais'd of it in the world: Even Virtue draws all her power from Imagination alone; for many a one thinks he embraces her quite naked; whilst, like *Ixion*, he embraces nothing but a cloud and a phantasm, and yet is as well satisfi'd with this as if he had a perfect fruition of her.

The Second said, That the solution of this Problem depends upon the understanding of the term [*Strength*]: If it be taken for a certain quality and power which renders things active, that must be the strongest thing in the world which acts with most efficacy and power upon the most excellent things: But forasmuch as there are as many sorts of agents, as there are degrees of Being in Nature, in Morals, and in Transcendants, and we may compare things together which are of a different genus; yet there being no congruity and proportion but between those which are of the same species, 'tis hard to know absolutely which is the strongest thing, since every one hath a virtue wholly peculiar, because it hath a proper nature, which is the principle and cause of the diversity of motions and actions. According to which distinction I am of opinion, That of agents purely natural Fire is the strongest, since it alters and destroys all natural Bodies;

Bodies; and its quality, Heat, is the most active of all. Amongst living things Man is the strongest, inasmuch as he renders himself master of all the fiercest Animals, which he knows how either to subdue or tame. Amongst men Kings are the strongest, since they dispose of our Goods, Lives, and Wills. Moral agents are different in force and activity, according to the divers constitution of subjects upon which they act, and make a different impression. Honesty alone acts upon very few spirits; Pleasures, upon most; Interest, upon all: Nevertheless since they act only by the opinion which they produce either of an honest, profitable, or delightful Good, this Opinion and Imagination must be the strongest of all moral agents. Amongst the actions of the Imagination, which are the Passions, that of Love is the strongest, because it serves for a foundation to all the rest; it being true, that we fear, desire, and hate nothing, but so far as we love some other thing; so that he who can be free from this Passion, would be exempt from all others. Amongst Transcendents Truth is strongest; not that which is ill defin'd, *The conformity of our Understanding with the thing known*; since there are things above us which surpass the reach of our capacity, and yet cease not to be true: But this Truth is a property and affection of Entity, wherewith it is convertible; and, consequently, cannot be truly defin'd, no more then the other Transcendents; since a Definition requires a Genus, which being superiour, and more common, cannot be assign'd to Entity, or Truth, which is the same with Entity; otherwise there should be something more general then Entity; which is absurd. And although the nature of this Truth is not distinctly known, nevertheless the virtue of its effects is very sensible; for it acts every where, and in all; yea, above the strongest things in the world, whose actions depend upon the verity of their Essence, which they suppose. And as this Verity is the Principle of the actions of all Agents, so it is the End and First Mover, which gives rise to all their inclinations; whereby they all tend towards one Good, which is nothing else but Truth, which gives weight and value to Goodness: But the force of Verity appears principally in that it acts upon the most excellent thing in the World, to wit, the Understanding, which it convinces by its light, wherewith it extorts consent; and this so much the more as the Understanding is perfect; as we see in the Understandings of the Wise and Learned, who more easily suffer themselves to be overcome by Truth, than the Vulgar; and in those of Angels and Intelligences, who likewise yield to Truth. And because Verity and Entity are the same thing, therefore God, who possesses Entity Originally, is also the Prime Verity, which our Lord attributes to himself in the Gospel, when he saith, *That he is the Truth and the Life*. For whereas Truth is oft-times altered and clouded in the world, and frequently produces Hatred, the most infamous of all Passions; 'tis a defect not found but in dissolute Spirits, who cannot support the

the brightness of it, and hate its light because it discovers their faults: Yea, even when men contradict the Truth, and follow the deprav'd motions of their most disorderly Passions, 'tis allways under an appearance of Goodness and Truth. But if the shadow and appearance alone of Truth, hath so great an Empire over our minds, as is seen in the most erroneous Opinions, which never want followers; with more just reason must it self, when known, be invincible, and the strongest thing in the World.

In conclusion, were propos'd amongst the strongest things, Time, which consumes all; Death, which overthrows all the Powers of the Earth; Place, which embraces all in it self; and Necessity, so potent that it is not subject to any Law, but gives the same to all other things, which cannot avoid its Empire; in so much that the Ancients esteem'd the Gods themselves not exempted from it, but subject to the necessity of a Destiny.

CONFERENCE CII.

- I. *Of the Gowt.* II. *Which Condition is most expedient for the acquisition of Wisdom, Riches or Poverty?*

THe Gowt, (called *Arthritis*, or *Morbus Articularis*) is the general name of all aches of the Joynts caus'd by fluxion, which gave it the name of Gowt; and is different, according to the divers connexions of the Bones, and the Parts which it afflicts, being term'd *Podagra* in the Feet, *Chiragra* in the Hand, and the *Ischiatick* ach (by the vulgar, *Schiatica*) in the Hip. Nevertheless every Articular Pain is not the Gowt, as appears by Contusions, Luxations, Wounds, and the Pains of Women after Child-birth; in Virgins after their Evacuation; and in Bodies infected with the French Disease: But 'tis a Grief of the Parts indu'd with sense which are about the Joynts, accompanied sometimes with swelling, and caus'd by the fluxion of a sharp and ferous humour, transmitted out of the Veins and Arteries, into those Parts whose motion it hinders; and because the Feet are most remote from the source of heat, therefore Nature commonly drives thither the matter of this Malady, whereunto they are more dispos'd then other Parts, as well by reason of their composition of Nerves, Tendons, Veins, Arteries, Membranes, and Ligaments, spermatick and cold parts; as of their continual motion, which gives occasion to the fluxion: Hence the Gowt begins usually at the Feet, especially at the great Toe, whose motion is greatest; which hinders not but that it begins too in the Hand, Knee, and Hip, and sometimes in the Sides; and if the matter abound, sometimes it seizes upon the Joynts with such

such violence as would make Nature succumbe, were the fits continual, and not periodical, as they are; giving to some an interval of a year; to others, of six months, or less, according as there needs time for collecting the humour in those parts. The cause of this vehement pain is the acrimony of the corrosive and mordicant humour, which makes a solution of the parts, whose coldness renders this evil almost incurable, and makes it last forty days; the pain not being appeasable, saving when the cause which produces it is resolv'd, whereunto the coldness of its subject is not proper.

The Second said, That in the Gowt, as in all sorts of Fluxions, four things are to be consider'd; the Matter which flows, the Place whence it comes, the Way by which it passes, and the Parts upon which it falls. As for the first, the Gowt hath some Matter; not being, as some hold, a simple *Intemperies*, which could not subsist so long, nor cause such pungent pains, much less a tumour, as it happens sometimes in the part afflicted, which cannot proceed but from the affluence of Matter: This Matter some affirm to be Wind, or Flatuosity, with as little reason; for then it might easily be resolv'd, and would cause only a pain of distension. Most hold that 'tis the four Humours, arguing from the diversity of Symptomes of this Disease, and the various manner of curing; some being eas'd by hot Aliments and Medicaments, others by cold: And lastly, from the different colour of the tumours, appearing sometimes red, white, or of some other colour, by reason of the blood, phlegm, or other humours which produc'd them: But though a very acute pain may in this malady, as it doth in all others, attract the humours which abound in the body, and so cause a tumour; yet this humour which makes the inflation, cannot be the cause of the Gowt; since at the beginning, and before the parts are inflated, the pains are very great; but cease and diminish upon the appearing of the Tumour. Some have held it to be Blood alone; others, Melancholy; some, Bile, in regard of its mobility and activity; many, following the authority of *Fernelius*, that 'tis a cold, phlegmatick, and serous humour, and that every Gowt is cold. *Mercurialis* observing that Blood could not cause such great pains, that Melancholy was too heavy and thick to be active, Bile too subtle to descend, and Phlegm too cold to excite such pungent pains and sudden motions, which cannot proceed from a cold cause; conceiv'd it was Phlegm mingled with Bile, the latter serving as a Vehicle to the former, and that former to precipitate and make this latter descend. Some others, confessing their ignorance, acknowledg, *Qu'on n'y void goutte*, that they see not a jot in this Matter; referring this Disease to occult and malignant causes, acting by an unknown property, as contagious and venemous diseases do. I conceive it to be a salt humour, subtle, and picquant, partaking of the nature of Salts, which are all corrosive; which acrimony and mordacity of this
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humour is caus'd by the Salt or Tartar contain'd in its substance, or deriv'd to the Aliments (whereof the humours are produc'd) from the Earth, which is full of such Salt, Nitrous, or Tartareous Spirits, without which it would be unfruitful and barren, as is seen in Earth whence Saltpeter is extracted, which can never produce any thing. This Nitrous Spirit being all drawn out of the Earth by the Plants which serve us for food, and not being tameable by our heat, much less convertible into our substance (for an Animal is nourish'd with what is sweet, and hath had life, wherewith these Mineral Spirits were never provided) if the natural Faculty be strong, it expells them with the other unprofitable Excrements of the first concoction, and Urine and Sweat; and sometimes forms the Stone in the Kidneys, Bladder, or other Parts: But if it happens, either through the weakness of the expulsive Faculty, or the quality of the Matter, or some other defect, that this Tartareous Spirit is not expell'd, then it is carry'd with the Blood into the Parts, and being unfit for nutrition, transpires by the Pores, if it be subtil enough; or else, in case it be thick, and cannot be resolv'd, flows back into the great Vessels, and thence into the Joynts, where sometimes 'tis coagulated into knots and grits, and turn'd into a hard matter, like chalk or plaister, (which shews, that the four Humours are not the matter thereof, since the same do not suppurate) rendering then the Gowt incurable, and the Reproach of Physicians, because they find no Cure for it; no more than for that of old Men, those who have a dry Belly, and who live disorderly: But 'tis curable, saith *Hippocrates*, in young people, in such as have no grits or hardneses form'd in the Joynts, those who are laborious, obedient, and to whom some great Evacuations arrive, many having been cur'd of it by a Dysenterie. As for the Place where it is form'd, and the Way whereby the Matter which causes this Evil, descends; most, with *Fernelius*, conceive 'tis the Head, not the internal part of the Brain, whose Excrements are easily voided outwardly by the Nostrils; or inwardly, by the *Infundibulum* or Tunnel, and other Cavities; but the outward part between the skull and the skin; which being too thick and compact to give issue to the phlegmatick and serous humours there collected, being begotten of the Excrements of the Jugular Veins, which are expanded over all these Parts, those serous and thin humours glide down between the Skin, and other Teguments, into the Joynts: But the Place of this Nitrous Matter above-mentioned, are the *Viscera* of the Liver and Spleen, which generate this Matter two ways. 1. By the vitiosity of Aliments impregnated with this Nitrous Spirit, which they plentifully attracted from the Earth; whence it is that Wine, which hath more of this Spirit and Tartar than any other Aliment, is, by consent of all, very hurtful to the Gowt. 2. By their proper vitiosity; namely, a hot and dry *Intemperies*; whereby, instead of concocting, they adure the Blood, and so fix that salt

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serosity,

ferosity, which is the Salt or Tartar extracted out of its substance: Unless you had rather say, That as in the Kidneys of Persons subject to the Stone, there is a certain arenaceous or lapidifick constitution, proper for producing the Stone; so in the *Viscera* of those who are subject to the Gowt, there is a particular arthritical disposition, apt to beget that tartareous matter which produces it. The Way whereby this Matter is expell'd is the Veins and Arteries; these Vessels manifestly swelling when the fits of the Gowt begin. Moreover, as this Disease unexpectedly invades, by a sudden afflux of the Matter; so it suddenly changes place, especially by means of Refrigerants and Repercussives, which drive the Gowt from one Foot to the other, or into the Hand, and other Parts; which cannot be done but by the Veins and Arteries. Lastly, The Parts upon which this Matter falls, and which are about the articulations, are membranous and sensible, because the Membranes being the first subject of Touch, ought to be also of Pain, a Symptom thereof.

The Third said, That the greatest difficulty was, Why this matter rather falls upon the Joints than other Parts, which are not incommoded therewith, neither the Nerves nor the Veins through which it passes, no more than the Membranes and sensible Parts; besides those which are about the Joints: The cause whereof may be, That as in health the Parts by a strange property attract such humours as are fit for their nutrition; the Lungs, bilious Blood; the Spleen, melancholy Blood; the Kidneys, serous; the other carnos Parts, temperate Blood: so in sickness, and ill constitution of the Body, some of these Parts attract from all the rest certain humours wherewith they have most affinity: So in the new Disease call'd *Plica Polonica*, the viscous and glutinous humour which produceth it, is chiefly carri'd to the hair, which it knotteth and intangleth together; and to the nails of the Hands and Feet, which it makes hard and black: And in the cure of Fracture of Bones, the Stone call'd *Osteocolla* taken inwardly is carried towards the broken Bones, and causes them to re-unite. In like manner, the Humour producing the Gowt hath some affinity with the Bones of the Joints, especially with their Epiphyfes.

The Fourth said, That the Gowty have wherewith to comfort themselves; not so much for that they foretel the changes of the Air and Seasons, as for that this Disease is a token of health, and an evidence of the strength and vigour of Nature, which from the noble Parts drives the vicious humours upon the Joints. But amongst its antecedent causes, the Air is not to be forgotten; especially the hot and moist Air of the Spring, thawing the Humours lately congeal'd by the Winter; to the vitiosity of which Air, is that popular Gowt to be referr'd of which *Athenens* speaks in the second Book of his *Diænosophists*; which lasted twenty years, and afflicted two thirds of Men, Women, and Beasts; although some attributed it to the want of Mulberries,

berries, which fail'd during those twenty years, and which, they say, are good against the Gowt, because they loosen the Belly, and correct the heat of the Stomach. Women, as *Hippocrates* saith, are exempt from the Gowt, saving in the suppression of their Evacuations; Children, before the use of Venery; and Eunuchs, always; although the intemperance and luxury of all of them hath produc'd contrary experiences, as well in this Age as in that of *Seneca*; which made the Poets say, That the Gowt was the Daughter of *Bacchus* and *Venus*; the first, engendring plenty of crude humours; the second, debilitating the heat, and cooling the Body; which being render'd lax, the humours fall more easily upon the Joints. And to shew the oddness of this Disease; Anger, Fear, and Joy have oftentimes both given and cured it, the Humours being extreamly agitated by those Passions.

Upon the Second Point it was said, That Wisdom being a Habit mix'd of Science and Virtue, Poverty gives much more disposition to either than Riches; the Mind of a Poor Man being more capable of Knowledg than that of a Rich; either for that Nature compensates the want of the Goods of Fortune with those of Nature; or because Necessity and Hunger sharpens and renders them more subtile; or else because being free from the cares and pains caus'd by the conservation or acquisition of Riches, they have a more calm Spirit, and more capable of the Sciences, which require quiet and tranquillity of Mind. And as for Virtue, whose paths are so thorny, Poverty hath also many more accesles thereunto than Riches, not only in the Law of Grace, in which our Lord saith, That *'tis easier for a Cammel, or a Cable, to pass through the eye of a needle, than for a rich man to enter into the Kingdom of Heaven*; whereof nevertheless the gate is the practice of Virtues: but likewise in the moral sense of this present life, in which Poverty and affliction, according to the Scripture, gives Understanding and Prudence, teaches Temperance, Sobriety, and Chastity (its inseparable companion) disciplines us to Patience, and to suffer courageously the miseries of Life, the frequency whereof renders the Mind invincible. On the contrary, Riches are almost always accompanied with Vices most repugnant to Wisdom; as, amongst others, with Presumption, Vanity, Voluptuousness, and Delicacy; the first of which is opposite to Science; for Pride proceeds only from Ignorance; the second to Virtue, which the Poet calls masculine and laborious. Moreover, Nature shews us of what quality Riches are; for the sand that produces Gold is always extreamly barren and naked of all sorts of Fruits; and so are the Minds of those that possess it; and 'tis observ'd, That rich Nations, and such as live in a good soil, are the most vicious, lazy, and dull; whereas those who are in an unkind Land, are ordinarily more virtuous addicted to Industry.

II.
Which Condition is most expedient for the acquisition of Wisdom, Riches or Honour?

The Second said, That as the Goods of Fortune, no less than those of the Body, are referr'd to those of the Mind, as the Means to their End; in like sort, the inconveniences both of Fortune and Body are hinderances in acquiring those Goods of the Soul, which are the perfection of its two principal Faculties, the Understanding and the Will; namely, Knowledge and Virtue: For Knowledge, and the Arts call'd Liberal, require a generous and liberal, not a sordid and low Soul; like that of a Poor Man (whom *Alciat's* Embleme very well represents, by a Lad with one hand stretch'd up into the Air, with Wings fastened to it, intimating a desire to fly higher; but the other hand fastened to a heavy Stone, hinders him:) For their Spirit being loaden with misery, thinks of nothing but of the means how to live, and to be deliver'd from the heavy yolk of Necessity, which deprives them of the means of having either living or dumb Teachers; yea, makes them despise all the rigours of Laws, and oft-times abandons them to Rage and Despair, which makes them hate their miserable life, and renders them masters of those of others: Hence not only Mutinies, Seditions and Revolts are commonly made by the Poor and Miserable, lovers of Innovation, wherein they are sure to lose nothing, and may possibly gain; but also are almost the sole Authors of Thefts, Murders, and Sacriledges. Whereas Rich Persons, having from their birth receiv'd such good Instruction as the poor want, are more stay'd in their Actions, and better inclin'd to Honesty and Virtue, which without Fortunes or Estates can never produce anything great and considerable; whence, in our Language, Riches are justly stiled Means; without assistance whereof, Justice can neither render to every one what belongs to him, nor repel the Enemies of the State by a just War, whereof Money is the Sinner and principal Strength. Upon this account they are sought after by all the World, and are not only the end of the noblest part of Morality and Oeconomy, (Families, which are the Pillars of a State, not being preserv'd but by the lawful acquisition of Wealth; in which, for this reason, some Politicians place Nobility; but all agree, that they serve for an Ornament thereunto and heighten its lustre); but those who have parted with them cannot live without them, but are constrained to beg of others. And in Policy, whether Riches be acquired or come by succession, they are always in esteem; as on the contrary, Poverty is disparag'd with reproach, and is a sign either of baseness of Extraction, or of Negligence and profusion. Hence a Poor Man is as unfit to be trusted with a Publick Charge, as with a sum of Money; and 'tis not without reason, that he who is distress'd with Poverty is extremely asham'd of it, this defect hindring and being a *remora* to all his designs: Whereas Riches raise the Courage, incite to great Attempts, and serve for a spur to Virtue, which thrives by Praise and Glory, but freezes and languishes by the Contempt and Derision inseparable from Poverty; which indeed

indeed hath been commended by the same Sacred Mouth which requires us to turn the other cheek to him that strikes us upon the one; yet this hinders not, but that (speaking naturally, as we do here) 'tis better to defend ones self, than to be beaten patiently.

The Third said, That in matter of Wisdom we ought to refer our selves to the wisest of all Men, *Solomon*, who prays God to give him *neither Riches*, for fear of Pride; *nor Poverty*, for fear of becoming a Thief; but a middle Estate: For, as too great Plenitude and an Atrophy are equally contrary to Health, which consists in a moderation and temper of qualities; so the condition of Persons extremely Rich, and that of Begger (the degree here under consideration) is equally an enemy to Wisdom: And if in any case we ought to desire the Golden Mediocrity, 'tis in the acquisition of Wisdom, especially of Virtue, which consists in Mediocrity; either extreme whereof is the Territory of Vice.

CONFERENCE CIII.

I. Of Glass. II. Of Fucusses, or Cosmeticks.

AS there is in all sublunary Bodies a vital and celestial Spirit, without which neither Food nor Physick hath any virtue, and which is the principle of all actions and motions of mix'd Bodies; so all those Bodies have in them an incorruptible Matter, partaking of a celestial Nature, which the Chymists call Virgin-Earth, and is the Matter whereof Glass is form'd, being found in all sorts of Bodies capable of calcination and vitrification; but chiefly in Nitre, Saltpetre, Sand, Shells, certain Stones, Wood, and Plants, from which they draw Glass, different in beauty, according to the Matter whence it is extracted by means of a most violent fire, which resolving the compound, consumes all its parts except that vitreous matter, which is proof against its violence. We owe its Invention, by *Pliny's* testimony, to certain Merchants of Nitre, who having landed in *Phœnicia* of *Syria*, bordering upon *Judea*, near a Lake call'd *Cendevia*, which is at the foot of Mount *Carmel*, whence flows the River *Belus* or *Pagida*, of small extent; and making their Kitchen upon the Sand of this River, us'd some clods of their Nitre, as a Trevet for their Kettle; and the heat of the fire melting the Sand and Nitre into Glass, they took notice of it, and publish'd the Invention. Afterward Moulds were found out, wherein to cast it into all sorts of figures; Pipes or Tubes to run it in; others to blow it, and give it all sorts of Colours, which almost miraculously arise from the very substance of the Glass, without other mixture, only by the wind and blast manag'd according to the

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Of Glass.

rules of Art; as also Mills, to calcine and pulverise Gravel, Stones, or Sand; amongst which, that of *Viturne* in *Italy*, and of *Eftampes* in *France*, is most excellent for this use; for which likewise they imploy the Ashes of a Plant call'd *Salicot*, (*Salt-wort*, or *Glass-wort*) which grows in *Provence* and *Languedoc*, nam'd likewise *Sonde*, because heretofore it serv'd only to glaze earthen Pots.

The Second said, As there are but two things that can open Bodies in order to their separation, namely, Water and Fire; which is verifi'd by the proofs made by Refiners of Gold and Silver; so there are but two things to separate, to wit, the Volatil, and the Fix'd. Fire commonly separates the Volatil, such as sulphureous and aqueous things are; and Water separates the Fix'd, as the Salt from the earthy parts. Of Fix'd things, some are so in part, as the same Salt; others intirely, or altogether, as Earth; which is either slimy, clayie, or sandie, which last species is made of the two former, as is seen in Rivers, where the Water having wash'd away the fat part, nothing remains but the Sand: By which means Nature renders Valleys and low Places more fruitful; and men, by her example, have oftentimes rais'd, meliorated, and render'd low and marshy places, formerly unprofitable, fit for culture, by stirring the Earth during the Rain and Floods, which by this means carries away all the fat and unctuous parts from the higher places into the lower, rendring the Mountains and Hills sandy, and consequently unfruitful and barren. For, as Sand is incorruptible, being neither putrid by Water nor consum'd by Fire; so neither can it generate any thing, nor be turn'd into any other nature, like other species of the Earth, which serve for nutriment of Plants and some Insects, and for the production of Animals. On the contrary, it preserves things buried in it, as appears by Mummies kept in it for two or three thousand years; and Fruits, which are kept no way better than in Sand. Now, as Sand is the Matter of Glass (for any Sand melted in the Fire vitrifies) so Glass suits with the nature of its Principle, being, like it, incorruptible and eternal; yea, being it self one of the Principles of Nature, according to modern Chymists, who reckon four; namely, Mercury, resembling Water; Sulphur, or Oyl, corresponding to Air; Salt, to Fire; and Glass, to Earth; which Glass is found clean and pure in the centre of all mix'd Bodies, there being nothing but may be reduc'd into ashes, and no ashes but of which Glass may be made, which they call a shining and not burning Fire, having affinity with that of Heaven, as the Fire kindled in Sulphur, and any oylie Matter, is both burning and shining; and that which is in Lime and Salts is burning, and not shining, such as is seen in Potential Cauteries, but not (as others have said) in Coals, which have some although a weak light. Glass wants but one thing, and that is the removing its brittleness or fragility; were it not for which, it would be the most precious thing in the World.

Of

Of the possibility hereof a certain Artist having shewn a tryal to *Tiberius*, hath rais'd a desire in others to make like attempts, which have hitherto been unsuccessful. Moreover, the Transparence of Glas, caus'd by the simplicity and tenuity of its parts, is incompetent with the consistence which renders things ductile and malleable, which is a tenacious viscosity, and oleaginous humidity, from whence opacity proceeds; as appears by Horns and colour'd Glas, which is less transparent then other, by reason of the unctuousity of the Sulphur employ'd to give it that extraneous colour.

The Third said, That *Archimedes*, in his Fabrick of a Glas-Sphere, was as judicious, in reference to the matter he chose, as the form; since the Matter of the Heavens being incorruptible and diaphanous, they cannot be represented better than by Glas, which hath both those qualities. Moreover, all the perfectest Bodies of Nature are of a vitreous substance; as, amongst others, the first of all the Heavens, call'd the CrySTALLINE. 'Tis held, That the glorified Bodies are luminous and transparent, and (according to some) of a vitreous Nature; which is the utmost perfection of every Body, and shall be also communicated to the Earth at the last Judgment, to be executed by Fire, which brings Mettals to their highest degree of excellence; for by the help of Lead, Gold it self is turn'd into Glas, so pure and perfect, that in the *Apocalyps* Paradise is pav'd with such Glas of Gold; and in *Ezechiel*, God's Throne is made of it; the word *Hamal* being a fit Etymologie for our *Esmah* (or, *Enamel*) which is nothing but Glas. And the affinity or correspondence of Mettals with Glas is so great, that, like them, it is extracted out of Sand, elaborated in a Furnace, receiving the alliances of Nitre, Copper, and the Load-stone, which they mingle in its Mine, to get an attractive quality of Glas as well as of Iron. With purifi'd Glas, call'd *Sal Alkali*, they counterfeit the Diamond, Emerald, Turcoise, Ruby, and other precious Stones. The Eye it self, the noblest part of Man, symbolises with Glas, by that crystalline humour wherein the point of the visual ray terminates. But as all things in the World, like Fortune which governs them (whom the Poet describes of Glas) are no sooner arriv'd to the point of their perfection, but they are most subject to be corrupted; so Fragility is inseparable from Glas, arriv'd to that high degree; which proceeds from the connexion of the Fix'd and the Volatil, which cannot but be brittle between two Bodies extreamly arid, as the ashes of Glas-wort and Fern are with Sand.

The Fourth said, That as Gold is the Master-piece of Nature, so is Glas of Art, which cannot produce any thing more noble. Hence in *France* the making of it is permitted only to the Nobles or Gentry, as a mark of the nobleness of Glas, the fairest and cleaneft of all Bodies, as partaking the most of Light, the noblest and divinest of all sublunary Bodies, to which alone its affords passage through its imperceptible pores, being by that means

means the most useful and delightful piece of Architecture; the beauties and proportions whereof cannot be seen but by Light, half of which Lattices intercept, but Glass communicates intire; serving, moreover, to correct the defects of sight in old men, by Spectacles; and of the Countenance, in Looking-glasses; by means of which, Man perfectly knows himself. But to judge how Glass may be malleable, we must know that it is compos'd of two Substances; the one, Earthy; the other, Gummos, serving for cement to unite those dry parts, whose connexion in any Body whatsoever is impossible, but by aerious humidity, without which the Earthy parts would fall to dust. Now to remedy the brittleness of Glass, 'twere expedient to find out two Matters whose union might be closer, or to link them together better by some more humid and oleaginous Matter than the ordinary, which would no more hinder the transparence of Glass than it doth that of *Talk*, which is wholly oleaginous in its substance, and nevertheless diaphanous and flexible. The Fire likewise, being very sharp and violent, consumes almost all the moisture of Glass, and makes it more brittle, for which reason it ought to be moderated.

II. Upon the Second Point it was said, As Beauty is the most excellent quality of the Body, and the most apparent token of the Beauty and Goodness of the Soul; so is it the most desired: Love, the transcendent of all concupiscible Powers, being it self nothing else but a desire of Beauty; and Good, the object of the Will, being nothing else but the same with Fair. But this Passion is most conspicuous in Women, who have receiv'd Beauty as all their portion from Nature, and that wherein all their power and authority over Men consists. Now Beauty being subject to the destiny of all other things, 'tis reason that Art supply the defects of Nature, for preserving that rich treasure from the injuries of Time and Years, by variety of Paints; as inseparable from the persons of Women, as the desire of being fair is natural to them. Moreover, *Ulpian*, in *Lib. 25. Sect. 4. ff. De auro & argento legato*, has given them a more particular property in their Cosmeticks, than in their Cloaths and Jewels, reckoning these only amongst external Ornaments, but Paints and Pomatums in the Inventory of their Feminine Accoutrements, as things annex'd to their Bodies, and making up part of its shape and essence. These Cosmeticks, besides Contentment and good Nourishment, the natural and internal Principles of Beauty, (amongst the species of which Nourishment, Asses milk was us'd by *Poppæa*, Nero's Mistress) may be divided into such as only cleanse the spots and obscurities of the skin, such as polish it, give it lustre, take away wrinkles, soften and smooth it; and such as colour it. The first are the most innocent, being nothing but simple Waters distill'd of Flowers, as Lillies, Nenufar, Bean-flowers, Primrose, seeds of Cucumber and Melon, roots of Dock,

Dock, Serpentine, Cuckow-pint, *Solomon's-Seal*, Gladon, Kidney-beans, Lupines, the Liquor distilling from the branch of a Vine wounded, Juice of Limons distill'd in *Balneo-Mariæ*, and May-dew. Of the second sort, the gentlest are Whites of Eggs, Consummates of Veal, Sheeps-marrow, Snail-water, the Oyls of Almonds, Seeds of Gourd, Myrrh and Camphire, and above all, the no less famous than rare Oyl of *Talk*, the Philosophers Stone of all Cosmeticks. As for colouring materials, there are but two sorts in *Europe*, where Beauty consists in a lively Whiteness; namely, Whites and Reds: Reds are made of Sanders temper'd in Vinegar, the shavings of Brasil or Alkanet, in Allum-water; or, of Vermillion. Whites are made commonly of Sublimate, Ceruse, or Spanish-white, wash'd in the water of wild Tansey, or of Pearls calcin'd and apply'd as Vermillion, by those who account nothing in Nature more precious than Beauty. The Teeth, Hair, and Hands, as they contribute to Handsomness, so they have their peculiar Cosmeticks. The Teeth are polish'd by Powders and Opiates; especially by Acidum of Sulphur, and the Spirit of Vitriol mingled with common Water. The Hair receives such colour as is most agreeable in each Country: In *Italy* most Women guild theirs with an ounce of Honey, a drachm of Saffron, and the yolk of an Egg mingl'd in Barbers-suds; or else they rub the Comb well with Oyl of Mastick and Tartar. On the contrary, at *Ragusa* they black the Hair with Litharge, Black-lead, or with leaden Combs. In *France* they powder them, to make them white. At *Tunis*, and throughout all *Barbary*, the Women black the ends of their Fingers, Nails, and Lips with green Walnut-shells, as our Ladies and Courtiers lay black patches upon their Faces, to heighten or set off its whiteness the more. In fine, there is no part of the Body but receives its Fucus and Colour; only the Eye, like the Soul, whose Mirror it is, is subject to no alteration of colour; from which Nature hath with good reason left it exempt, that being unprepossess'd of any, it might be the judg of true Beauty.

The Second said, 'Tis injurious to blame the Artificial Handsomness of Ladies, since nothing can please us in any other things without it; Natural Beauty being like a rough Diamond, unless Art polish it, and give it a foil. That we differ one from another, we owe to Artifice; being all equal by Nature. The goodliest Palaces appear so only by reason of their incrustations of Marble, Guildings, and Pictures; and Painting it self, whose excellence is nothing but the cunning mixture of Colours, is heighten'd and preserv'd by the superinduction of Varnish. Musick is flat without Quavers and Sharps, which are disguisings of the Voice. All the Arts serve for nothing but the ornament and embellishment of Man. What is Eloquence, with all its flowers and colours of Rhetorick, but a Fucus of natural Discourse? or Pleading, but the Art of setting off a Fact well, and rendring

it plausible? The Complements and Civilities of Courts; what are they else but a cloaking and disguising of the thoughts? The truth is, Life being nothing but a Comedy, wherein the habits, actions, and discourses are only disguises; are we to think it strange that Women, who always play one of the principal parts in it, sometimes borrow Masks to disguise their Countenances? And if the insinuations and praises, made use of by Men to caress them, are nothing but flatteries, why should not they too reciprocally endeavour to deceive Men, whilst they represent for the object of their Lies only the Image of Artificial Beauty?

The Third said, That the Countenance being the Tablet and Mirror of the Soul; as Hypocrisie and Lying in the Soul, is contrary to Candour and Sincerity, without which there would be no confidence nor true Friendship in the World, but perpetual dissimulations and diffidences; so a Fucus upon the Face is unlawful, and the more pernicious in that it is a speaking Lye: For as a Liar speaks otherwise than he thinks, and hath another thing in his Mind than upon his Tongue; so a painted Face appears outwardly wholly other then what it really is; unjustly covering, under the plaister and tincture of a Fucus, its natural imperfections and defects; which to go about to mend, is to resist the Wisdom of God, the Author thereof, who disposing all things wisely, hath perhaps deny'd the advantage of Beauty to certain Persons, out of fore-sight that they would abuse it; and who otherwise having imprinted the Character of his Divinity upon our Countenances, the Person that paints and disguises the same, seems to be ingrateful, and unworthy of such a favour; yea, to deprive himself of all credit among honest men: For, who will give belief to the Words of one that wears a Lye upon his Fore-head? Besides that in time those Mixtures alter and destroy the health of the whole Body; Sublimate (amongst the rest) the commonest of all Cosmeticks: Not to mention the danger of letting it get into the eyes, and more of swallowing it down, it wrinkles the skin, renders the eyes hollow, blacks the teeth, and corrupts the breath.

The Fourth said, since Beauty is one of the four gifts of the Body, it ought not to be of worse condition than the other three, Health, Strength, and Goodness of the Senses; but 'tis lawful to preserve and encrease the same so far as we can, especially that of the Visage, which being the Mirror of the Deity, should be carefully adorn'd and embellish'd; considering too, that our Lord commands us in the Gospel to wash our Faces, and suffer'd his own Feet to be annointed with precious Unguents; the use whereof was common among the Ancients, who annointed the Head, and all the rest of the Body, with Aromatick Oyls and Compositions, more for Beauty than for Health. And Physick, in one of its parts call'd *Cosmetica*, treats of Fucusses, and Ornaments of the Body and Face; which the Law approves in *L. 21. ff. De Auro Mundo*, making four sorts of Fucus, namely, for Pleasure,

Pleasure, Health, Ornament, and Cleanness. Moreover, 'twould seem a contempt of that Divine Gift of Heaven, Beauty, not to preserve it. And as no man, being to chuse a dwelling-house, but prefers a handsom and agreeable one before another; so, if Souls had the choice of their Bodies when they come into the World, they would undoubtedly take the fairest and best shap'd, because they might exercise their operations best therein. And indeed the Soul is so curious of this Beauty, that as soon as any stroke, or other external injury deforms the Body, it ceases not to repair the ruines thereof; and without the continual industry which she imployes, not only to re-establish the perpetual deperdition of our triple substance, but also to cause re-generation of the consumed flesh, the re-union of parts disjoyn'd by solution of continuity, and to reduce to a better conformation the depravations thereof, there would be more Monsters than Men. Why then should it be a crime for Art, which perfects Nature, to assist her in this work, by taking away what is superfluous, or adding what is deficient; which are also the two parts of Physick.

CONFERENCE CIV.

I. Of Tobacco. II. Whether the Invention of Guns
hath done more hurt than good.

THE Herb call'd by the Spaniards *Tobacco*, from an Island of the same name in the *West-Indies*, wherein it grows in abundance, is nam'd by the Indians *Petun*; by others, for its great virtues, *Herba Sancta*; and *Jean Nicot*, Embassador of *Francis II.* having first brought out of *Portugal* into *France* some of the seed of it to *Queen Catherine de Medicis*, with the description of its virtues, it became denominated from him in French *Nicotiane*, or *Herbe a la Reine*, (the Queens Herb;) as in *Italy* it was term'd *Herbe de Santa Croce*, (of Holy Crofs) because a Cardinal of that name was the first that brought it to *Rome*. Some others still call it *Antarctical Englosse*, *Henbane* of *Pern*, and *Indian Wound-wort*. It grows, many times, to the height of three Cubits, with a straight and thick stalk, so fat that it seems anointed with Honey; it sends forth sundry large branches, with many leaves long and broad, rounder than those of great Comfrey, somewhat like those of great *Personata*, or Bur-dock; fleshy, fat, and little rough, of a pale green, unpleasing smell, and biting taste: On the top of the stalk it hath many flowers, oblong, hollow, and large, in form of a Trumpet, of a white inclining to purple; to which succeed little slender cods or husks, full of a brownish seed, smaller than that of Poppey. Its root is thick,

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Of Tobacco.

hath several lobes, is woody, yellow within, bitter, easily separating from its bark, and, like all Herbs hot and dry, (for this is so in the second degree) it requires moist places and shadow, and delights to be cultivated. Moreover, 'tis kept in Gardens, as well for its beauty, as for its faculties of curing abundance of Maladies; to which 'tis the more proper, in that it hath an unctuousness familiar to our Body, whose excrementitious humours (the seed of most Diseases) it potently resolves. For as Plants are of a middle nature between Minerals and Animals; so they are more proper and safe for the preservation and restoring of Man's health than Animals themselves, which by reason of their similitude act less on us; or than Minerals and inanimate Bodies, which through the too great diversity of their nature act with too much violence.

The Second said, That this Herb heats, resolv's, deterges, and is somewhat astringent; whence it is, that its leaf apply'd hot to the head cure the Meagrim and old headach, proceeded from cold or wind; and if the pain be contumacious, you must rub the place first with oyl of Orange-flowers. Moreover, 'tis us'd for the Cramp, and all other pains arising from the same cold humour; particularly, for that of the Teeth, by filling them with the leaf bruis'd. Its decoction in common Water is good for maladies of the Breast of the same kind, as the Asthma, and old Coughs, causing expectoration of the phlegm which produces it. Also, Its smoak taken by the nose, and swallow'd down by respiration, frequently cures the Asthmatick, and such as have ulcers in the Lungs; by the same reason that *Galen* saith, he saw a Baker's Wife cur'd of one, by frequent respiration of a hot and dry Air, which she attracted as she put her bread into the Oven, and took it out again. The leaves roasted under the ashes, and apply'd hot with their ashes to the Navil, are good for the Wind-collick, and other obstructions of the Bowels proceeding from the above-said causes; especially, for crudities of the Stomach. The Indian women make use of it to kill worms, making their children take a very little quantity of it with Sugar; but more safely by applying the leaf to the Navil, and adding a very little of the juice in lotions. The same, apply'd, helps the Stone-Collick, and is highly advantageous in strangulations of the womb, being laid likewise upon the Navil; and if Women have their usual swoonings, the smoak puff'd into their nostrils fetches them again. They also ease the pains of swollen limbs, and cold Gowts. Scurf, Itch, Child-blains, and clefts of the heels, proceeding from cold, are cur'd by being rub'd therewith, as also venomous wounds and bitings: Whereof the Spaniards bear witness, who seizing upon a part of the Indies, the Cannibals assaulted them with envenom'd Arrows, the wounds whereof they cur'd by sprinkling them with prepar'd Sublimate; all their stock whereof being spent, the wounded dy'd, till it was found that the juice of Tobacco, apply'd, wrought the same effect. Moreover, the leaves

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stop the blood of fresh wounds, and agglutinate them. The juice heals old Ulcers, and prevents Gangreens. The Indian Priests, observing all these virtues, transferr'd them to the Mysteries of their Religion: For being interrogated concerning the events of War, they suck the smoak of this Herb with long Canes, then suffer themselves to fall down, and being afterwards awakened, relate wonders to their hearers, giving them to understand that they have had divine Dreams. They make use of it likewise, to recover weariness, and support hunger, burning certain shells, and powdering them with equal quantity of these leaves, of which they make pills, which they lay between the lower lip and the teeth, continually sucking their liquor, which, if it nourish not, at least it takes away the sense of the inconveniences of hunger and thirst; which is an admirable secret, whereby they travel two or three days together. Possibly by their example our Sailors, and Souldiers who have been at Sea, take Tobacco with so much pleasure, that since they have once gotten a habit of it, they cannot be broken from it by the severest Laws: For to alledg the prejudice of excessive taking Tobacco, is of no more moment than what should be said against Wine for its abuse; it having been said by many, That those things must be excellent which are capable of being abus'd; and this may always be inferr'd from that immutable practice of Tobacco, That there is a great familiarity between it and our Nature; since the Grand Signior cannot hinder his Turks from the use of it, who nevertheless abstain from Wine.

The Third said, That if ever *Pliny's* condemning and decrying Drugs and foreign Roots was reasonable, it was chiefly at the time when the Trade of the Indies transmitted them to us in Europe, and, with their use, new and unknown Diseases: Amongst which Medicaments, Tobacco, as 'tis the most common, so 'tis the more dangerous, in that a false opinion of health and purgation gives it credit, although its temperament, hot and dry in a high degree, renders it not only contrary to young and cholerick people, and to the stomach, which it provokes to vomiting; but by a peculiar malignity 'tis an enemy to the Brain, causing Stupefaction, Vertigo, Lethargy, and a dulness of all its Powers, and by a violent desiccation spoliing its natural constitution: For 'tis so far from dis-inebriating, that, on the contrary, by its sharp and biting vapours it fills the head, and intoxicates much more; like *Opium*, the herb of which it resembles; neither of them serving for any thing but to trouble the Reason; upon which account Tobacco is a sworn enemy to Hellebore, which every one knows is the remedy for Folly, and promotes the good constitution of the Brain. As for the evacuation of phlegm, for which it is esteem'd; besides that 'tis a dangerous thing to purge such as are in perfect health, as most takers of Tobacco are; 'tis certain, that all sort of smoak is bad for the Brain, which it clouds and dulls, by stirring the animal Spirits,
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and filling the cavities of its Ventricles, which it also infects by its smell, and pricks its Membranes by its Acrimony, inseparable from every kind of fume; it being found, that men have had black scirrhous spots in the Meninges, produc'd by the vapours of Tobacco they were accusom'd to take; which Custom also enuring Nature in that manner to evacuate the pituitous excrements, whereof the Brain is never destitute, if the use thereof be at any time interrupted, great accidents happen by that defluxion, which had gotten a long course that way, and turn'd the Custom of it into Necessity; which use (besides) being shameful, and proper only to Rogues and Robbers, whom our Arrests comprise under the name of *Takers of Tobacco*; it seems that the name and effects of this Herb are of as bad an odour as its smoak.

The Fourth said, That the Brain being the source not only of all cold maladies, but also of most affections of the Lungs, whose scituation and spongy substance makes them the Emunctory of all the superiour Parts; whence the Asthma, Peripneumonia, Empyema, Phtisick, Cough, Orthopnea, and other affections of the Breast, caus'd by defluxion of humidity falling from the Brain upon the Lungs; Physick hath invented three sorts of Remedies to divert the course of those Excrements, namely, *Errhines*, *Ptarmicks*, and *Apophlegmatisms*. *Errhines* compos'd of Rue, Gentian, Celandine, Origanum, and other deterfive Simples, attract the phlegm adhering to the Membranes of the Brain, and evacuate it by the Nose. *Ptarmicks*, or *Sternutatories*, which are made of the above-mention'd things powder'd, or of Pepper and white Hellebore, Euphorbium, Castoreum, and Pyrethrum, by their acrimony stimulating the expulsive faculty of the Brain, to excretion of the pituitous Excrements which are in its Ventricles. *Apophlegmatisms*, us'd either in Masticatories or Gargarisms, or by rubbing the palate of the Mouth, are made of Mastick, roasted Raisins, Hyssop, Origanum, bark of Caper-roots, Mustard, Turbith, and such other things as melt and attenuate phlegm, and make it distil down the Palate of the Mouth. Now Tobacco may serve for these three Uses, being taken either by the Nose, or in the Mouth, as a Masticatory; but not in smoak, which is an enemy to the Brain and Spirits.

II. Upon the Second Point it was said, That Nature having given wild Beasts Horns, Claws, or Teeth for their defence, has yet produc'd Man wholly naked, and without any other Arms but those of Reason; to shew, that being a Reasonable Animal, he needed no other arms to decide his Quarrels with his like, but Justice and right Reason. Nevertheless, Necessity having oblig'd him to defend himself from Beasts, Robbers, and Publick Enemies, he hath, instead of fifty-cuffs, stones, cudgels, and bones of Animals, his first Weapons, made use of Iron, framing it

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it into Swords, Axes, Spears, and Javelins; till encreasing in malice, to offend at greater distance, he invented Slings and Ballists, then ambulatory Machins to enter Places, and beat down the Walls of Cities: Yea, Fire was likewise brought into use; by some, that of Burning-glasses, with which *Archimedes* burnt the Ships of *Marcellus*, who besieg'd the City of *Syracuse*; by others, Granado's, and Pitch-barrels set on fire, as *Cæsar* did at the Siege of *Marseilles* and *Alexandria*. But all this was nothing, in comparison to the Gun; which although, according to the *Portugal Relations*, invented in the 85. year of our Lord, in the Kingdom of *China*, where most other Inventions began, by one of their Kings, nam'd *Vitey*, a great Magician; yet appear'd not in *Europe* till about the year 1350. when it was found out by one named *Bertoldus*, a German, occasionally, by the experience which he saw happen in a mixture of Sulphur and Nitre, inclos'd in a vessel over the Fire, in order to an operation of Chymistry, whereof he made profession. This mischievous and diabolical Invention, having been hatch'd in the Country of the North, (whence the Scripture assures us that all evil is to come) was afterwards carried from thence into *Italy*, and then into *France*, Anno 1366. by some Germans, who also gave two pieces of Artillery to the Venetians who besieg'd *Candia Fossa*, a Town belonging to the Genoeses, from whom it was presently taken by these new Engines; which, although small, and ill made, being only of Iron bow'd, and hoop'd together with Iron bands, yet fail'd not to produce their effect.

The Second said, Since Kings are call'd Gods in Scripture, 'twas reasonable they should be arm'd with Thunder, which might make them reverenc'd by others; there being no better expedient to preserve Majesty, than Terroure. And as the depravation of men renders War in these last Ages as necessary as just; so, without doubt, the most powerful way of overcoming, must also be the most advantageous and considerable. This is it which hath made Artillery so esteem'd by Sovereigns, that they have lodg'd it in Arsenals and Magazens with their Treasuries, and given it in charge to great Masters, principal Officers of their Crown; making a shew of it to Strangers, as the abridgment of their Power, and a mark of their Sovereignty. Moreover, 'tis by this Cannon-Law that all their Quarrels are decided: These are the last Embassadors which carry their Commands with execution; and those whose ears are stopp'd to their other Reasons, always find peremptory ones in the mouth of their Cannons. For as the Mosaical Law was given amongst Thunders and Lightnings from Mount *Sinai*; and that of Christianity confirm'd by a Tempest of Wind and Fire: In like manner, Princes at this day establish not their Laws more powerfully than by help of the Thunder-claps of their Artillery; as the Conquest of the new World makes manifest, the easiness whereof is due only to this Invention, which made those Nations receive Laws of Religion

ligion and State from such as shot the first Cannons amongst them, at the report of which they presently yielded; conceiving that there was something divine in those Machins, which have likewise been the Keys of Gold, wherewith they have enriched *Europe* by another way of Alchimy than that to which the Disciples of this Science employ it. Moreover, by this Invention, which secures Commerce, the boldness has been taken to overrun the World, and despoil it of all its Riches; the Conquest whereof hath been more or less easie, according as its use was known or unknown to the invaded Nations. The truth is, he that shall make comparison of the ancient Machins, Rams, Slings, Balists, or Bows, with any Fire-Arms whatever, will find that theirs were but Childrens-play, in respect of our true Combates. And so far is this Invention from doing wrong to Valour, that (on the contrary) it advances the same to its highest point: For if Valour appears only proportionally to the dangers it incurs, then there is most room for the exercising of it where the greatest are present. Now the ruine of some particular Persons, is not considerable, in respect of the publick advantage, to which the good of every one, consider'd by himself, is subordinate; seeing that these Arms serve as well for the Defensive as the Offensive, the one and the other being only respective, regard being had no those that employ them; that which serves for defence to one, being offence to the other. And besides, the Sword, which for so many Ages hath kill'd many more, would be more subject to this blame. But, on the contrary, the excellence of a Weapon consists in killing and terrifying, since 'tis an Instrument of War, whereof the principal end is to exterminate Enemies; for the fewer are left, the sooner it is ended; and in the speedy razing of their Fortresses, consists the beating down of their Pride and Confidence. Wherefore, seeing no Invention in the World can be without its inconveniences, one or two cannot counter-balance the good which Artillery hath brought, by the Conquest of so many Kingdoms and Riches; so that if Arms are most usefull for the preservation and amplification of a State, the Invention of the Gun must be the more so, inasmuch as it is the most powerful Instrument of War, surpassing all other Arms in execution; and making a Prince not only obey'd during War, but also respected and redoubted in Peace, during which 'tis employ'd to testify the publick rejoycings and gladnesses.

The Third said, As Philosophy is the noblest exercise of Man, so Morality is the fairest part of Philosophy; whence *Socrates* acquir'd the honour of having brought it down from Heaven. The most excellent part of Morality is the Politicks, of which the noblest piece is the Art Military, as Mechaniques are the noblest part of this Art. Hence *Cæsar* is more particularly exact in describing the construction of his Bridges, and other Engines, than his war-like exploits. Since then the Gun is with-
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out dispute the goodliest part of the Mechanicks, it follows that the Gun and its Invention is the goodliest thing of the World. For the excellence of an Engine consists in moving a great weight speedily, and to the greatest distance that may be, as the Cannon alone doth, whose power would be judg'd impossible, did not Experience attest it: Nor doth its violence depend upon the ordinary rules of Nature, the Principle of the regular motion of every Body; but 'tis caus'd by the same Nature constituted in a violent state, in danger of admitting either a *Vacuum* or penetration of Dimensions; to avoid which, she sometimes breaks the Cannon; or, if the same be too strong, she violently drives out the iron bullet, which hinders the free eruption of the inflamed matter, which, by reason of the rarefaction of its parts, requiring 10000 times more place than before, and not finding the same in the Cannon, issues forth to seek it; by the same reason that an Exhalation inflam'd in the middle Region of the Air, disengages it self from its prison, by breaking the Cloud which holds it inclos'd in its belly, thereby forming the Lightnings and Thunders, whereof the shots of the Cannon are true Images upon Earth, where nothing comes nearer Thunder; and consequently the Power of God, who oftentimes employs those Arms to punish the crimes of men: Whence Pagan Antiquity assign'd indeed severally a Trident, a Sythe, a Bow, a Helmet, a Lance, a Club, a Sword, and such other Instruments, to their false Deities; but all attributed Thunder to the mightiest of the Gods.

CONFERENCE CV.

I. Of Blood-letting. II. Which is the most Excellent of the Soul's three Faculties, Imagination, Memory, or Judgment.

Blood-letting, (whose invention is fabulously attributed to the Sea-horse, who finding himself too full of Blood, rubs himself against the sharp points of Reeds or Canes, and afterwards stops the wound with mud) is celebrated either in the Arteries, and is call'd *Arteriotomie*; or in the Veins, and is term'd *Phlebotomie*; which Physitians, by good right, hold with *Galen* (in the Book which he writ thereof against *Erasistratus*) for a singular remedy, and one of the readiest for all sorts of Diseases, especially Inflammations, Fevers, Revulsions or Derivations, griefs of the Eyes, difficulties of Urine, Pleurisie, Peripneumonie, Squinancy, Epilepsie, Fractures, Luxations, and all acute Pains and Diseases. And as there are two general and most frequent

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quent causes of Diseases; namely, *Plethora*, or Repletion; and *Cacochymia*, or depravation of the Humours: Blood-letting is the remedy of the former, and Purgation of the latter: But Blood-letting is the best and safest, causing less agitation and disturbance in the Oeconomy of the Body than Purgatives, which are ordinarily violent, and enemies of Nature; yea, it serves not only to evacuate the juices which abound in excess, but sometimes remedies their depravation, by correcting the hot and dry *Intemperies* of the Bowels, which is the cause of *Cacochymie*; because Bleeding of its own Nature evacuates and makes revulsion, but, by accident refrigerates, and takes away obstructions: Therefore *Avicenna*, and all his followers, enemies of Blood-letting, are ridiculous; alledging, That the Blood being (*Frenum Bilis*) the bridle of choler, this becomes exasperated and inflam'd, the less Blood there is to restrain it. For if there be any Humour that keeps Choler in order, it must be Phlegm, which is contrary thereto; and not Blood, which symbolises with it by heat: But Blood-letting checks the impetuous motions of Choler, which it evacuates with the Blood, if it be in the greater Vessels; and if out of them, as about the cavities of the Liver, it tempers them, correcting the ardent constitution of the Liver which produces it.

The Second said, That by reason of Contraries, affections against Nature, as well as Health, have their seat in the Parts, Spirits, and Humours. The Parts are the seat of Maladies; the Spirits, of Symptoms and lesion of Functions; and the Humours, of the Morbifick causes, either antecedent or conjunct. And as these humours, which are the source and leven of most Diseases, being in a natural state, are in their proper place, in the quantity and quality requisite to their Nature; so in a state against Nature, they are out of their due place, and offend either in quantity or quality. To these three defects Physick opposes Revulsion, Alteration, and Evacuation; this latter is done either by evacuating only the bad, by convenient ways in Purgation; or the good with the bad, by Blood-letting, which is defin'd an Evacuation of all the humours of the Body, by section of the Vessels. For though the Blood be the Treasure of Life, the Source of all Passion, and (if we believe *Galen*) the Seat of the Soul; nevertheless, its corruption, as that of the best things of the World, being so much the more dangerous as it is the most perfect and temperate of all the Humours, it must be presently evacuated out of the Body; not only in *plenitude*, where Nature requires nothing but to be discharg'd; but also in depravation of the Blood, by mixture of the other Humours corrupted; of which the less there is, the more easily they are subdu'd by Nature, which wants not strength to re-produce more laudable Blood than that from which she was unburden'd: But regard must chiefly be had to the distinction of Veins, according to the diversity of Diseases. So the most apparent Veins of the arms

arms are open'd when the Body is plethorick, without affection of any Part: If it be so by suppression of the Moneths or Hemorrhoids, the Vein of the Foot must be open'd: If it be by Choler, then that of the right arm: If by Melancholy, then that of the left arm, in regard of the situation of the Liver and Spleen; as for the various communication of the Vessels the Cephalick, Basilick, or Median are chosen. *Hippocrates* opens the Vein of the Forehead call'd *Præparata*, in pains of the Hinder part of the head; that of the *Occiput*, in fluxions of the Eyes; the *Hypoglossides*, or Veins under the Tongue, in the Squinancy, for derivation; that of the tip of the Nose, or great Canthus of the Eye, in its Inflammations; the Jugulares and Salvatella, those of the Temples; and, in brief, all others are open'd according to the sundry intentions of the Physitian.

The Third said, That Blood-letting is the greatest of Remedies; there being none sooner communicated to all the Parts, which having need of nourishment, which is carried to them by the Veins, you cannot evacuate any one sensibly, but that motion will be communicated with all the Blood in the other Veins; that is to say, over all the Body. Its use was anciently so rare, that *Galen* and the Greeks made conscience of letting Children blood before fourteen years of Age; and *Avenzoar* was accounted too venturous in Phlebotomising his own Son at seven. *Hippocrates* appoints it in four cases; in *Inflammation*, *Metastasis*, *Repletion*, and *Obstruction*. 'Tis above all necessary, when the Body is too replete, evidenced oft-times by spontaneous evacuations at the Nose, and Hemorrhoids; whether this Repletion respect the *Vessels*, which are too full, and in danger of breaking; or the natural strength, oppress'd under the weight of the humours: But it seems to me impertinent and unprofitable in case of *Cacochymie* without Repletion, which requires Purgatives to purifie the sanguinary mass, and not this bleeding Remedy: For, there being three principal seats of *Cacochymie*, to wit, the *First Region*, the *Veins*, and the *Habit of the Body*; Blood-letting is alike unprofitable to them all. As for the *First Region*, which is the sink and channel of the humours, Blood-letting cannot reach thither, without emptying all the Blood of the Body; and should it penetrate thither, it would draw those excrementitious humours into the Veins, where they would corrupt the laudable Blood. But *Cacochymie* residing in the Region of the Veins, Purgation (which only eliminates the corrupted humours, without the good and laudable) is more proper thereunto than Phlebotomie; which, on the contrary, sometimes evacuates the good juice, and not the vicious, when the same is impacted and adherent to some part remote from the open'd Vein. In fine, Blood-letting is as little profitable when the impurity is in the habit of the Body: Whence 'tis too hard to draw the humours into the Veins; but it is more expedient to resolve and make them transpire by sweats, exercise, abstinence, and other labours.

The Fourth said, That Blood-letting is profitable in every vitiosity of the Blood, which either is corrupted in substance and quality, or offends in quantity, or causeth a fluxion upon some Part, or presses and loads it, or else is too much inflam'd: Nevertheless with this precaution, that regard is to be had to the Disease; the strength, temper, age, sex, habitation, custom, and particular nature of the Patient. But generally, every great, hot, and acute Disease requires Phlebotomie; which, on the contrary, is an enemy to cold Diseases, and all crudities; because it refrigerates, by the loss of heat and spirits flowing out with the Blood. Also, diminution of strength, caus'd by any evacuation or resolution, prohibits bleeding; but not that where the strength is oppress'd by abundance of humours, which must be presently eliminated. Children, who need Blood for their growth, as breeding Women do for the nourishment of their Child; old men, who want heat and Spirits; those who have small Veins, or rare and softish flesh; ought not to be let blood but with great precautions. Nor is Phlebotomie to be administred in great cold or great heat, nor after great watchings and labours. And although the quantity of Blood depends upon the strength, and the Disease, yet 'tis safest to take rather less; but by no means to imitate the Ancients, who let Blood till the swooning of the Patient, in Inflammations, violent Pains, and very burning Fevers; which they sometimes cur'd by this course, but commonly caus'd a cold *Intemperies* to the whole Body, during the remainder of life.

II. Upon the Second Point it was said, That God having in the Universe imprinted an Image of his own Majesty, to the end to make himself known to men, hath also contracted the same in each part thereof, wherein we observe some shadow of the distinction of the Divine Essence into Three Persons: And 'tis with this Ternary Number that he hath as 'twere stamp'd for his own Coin the noblest parts of the World, which the Pythagoreans have also for that reason divided into three; namely, The *Intellectual*, which are the Heavens, (the place of Intelligences); the *Elementary*, and the *Animal*; each of which is again divided into three parts; The Intellectual or Celestial, into the *Heaven of Planets*, the *Firmament*, and the *Empyrean*; The Elementary, into the *Air*, *Water*, and *Earth*; And the Animal, into *Vegetable*, *Sensitive*, and *Rational*, which is Man, who comprehends in himself eminently all those parts of the World; the Elementary being in the *Liver*, the Animal in the *Heart*, the Intellectual in the *Brain*, wherein, as in its principal Sphere, the Rational Soul establishes a particular World; every ones Head being a Globe, which is divided again into three parts, which are the *Imagination*, *Memory*, and *Judgment*: Amongst which, the *Imagination*, the principle of the others motion and action, represents the animal World; *Memory*, serving for a subject matter to receive the impressions

impressions of the species consign'd to it, is the Elementary; and *Judgment*, the Intellectual. The three parts of each of which Worlds are again correspondent to the same Faculties. The *Imagination*, upon account of the continual circumvolution of the Species, is the Heaven of Planets: The *Memory*, in reference to the fixation of the same Species, is their Firmament: And the *Judgment*, the highest of these Powers, is the *Empyreal*. To the three parts of the Elementary, The *Imagination*, for its mobility and subtilty, is like the Air; *Memory*, for its soft humidity, fitting it to receive all sorts of Figures, may be compar'd to the Water; and *Judgment*, the base and foundation of the rest, for the solidity of its consistence and siccity, symbolizeth with the Earth. Lastly, to the three parts of the Animal World; the *Memory*, receiving increase or diminution by humidity, the principle of vegetation, resembles the Vegetable; the *Imagination*, by its heat and activity, the Animal; and the *Judgment*, the Rational. And though these three Faculties be united in the substance of the Soul, nevertheless they are different, not only in their temperaments, actions, and ages, but also in their seats; as that of *Memory* is the hinder part of the Brain, which people scratch to call any thing to mind; that of *Imagination* is the forepart, whence they lift up their heads when they would vehemently imagine any thing; and that of *Judgment* is the middle part, which is the cause why in a deep study people hold down the head. But to make choice of each in particular, their operations must be consider'd: Some make very much noise, and little action; as Advocates and Proctors of a Court, who make much a do to put a business in order, to lay it open, and digest it, although without deciding any thing; and such is the *Imagination*, which unites and compounds the Species, represents them to the Judgment, carries them to the register of the Memory, or extracts them out by Reminiscence. Others make little bustle, and much action; as Judges, and so doth the *Judgment*. The last have neither stir nor action; as the Registers, who only transcribe what is dictated to them; and so doth the *Memory*, a passive Power. The Sciences themselves, which fall under the Jurisdiction of the Mind, are also subject to each of these Faculties. *Memory* hath under it the Tongues, Grammar, Positive Theologie, History, Humanity, Law, Geography, Anatomy, Herbarry, and almost all the Theory of Physick. The *Imagination* hath Eloquence, Poetry, Musick, Architecture, Geodesie, Fortifications, most part of the Mathematiques, and all the Arts whose works depend only on the force of the Imagination. The *Judgment* hath Philosophy, Scholastical Divinity, the Practice of Physick and Law, and all the Sciences which depend on soundness of reasoning. Nevertheless, because it seems that the *Judgment* cannot judg to its own advantage without injustice, being both Judg and Party; 'tis best to arbitrate in this sort, and say, That the excellence and necessity of things being considered, or so far

as they are for our profit, or that of others; for our own profit 'tis best to have a good Judgment, and less of Memory or Imagination: For the Imagination serves more for Invention, and this to ruine its Author when it is destitute of Judgment; Memory to make a man admir'd; and Judgment, for conduct and government.

The Second said, Since the Imagination gives the rise to all the motions of the Soul, by the *species* which it supplies to it, wherewith it forms the Passions in the Inferior Appetites, Desires in the Reasonable Appetite, namely, the Will; and Notions in the Understanding, which cannot know any thing but by the phantasms or *species* forg'd in the Imagination; it must be the most excellent of all the Faculties of the Soul. Moreover, the Temper which constitutes it being the most laudable, and the Age wherein it prevails being the most perfect, its Actions must also be the most sublime; since being not performable but by help of corporeal Organs, the more perfect these are, the more will the Minds actions be so too. Now the Qualities of the Imagination have much more conformity to the Soul, according to the Opinion of some Ancients, of an igneous nature; and according to others, an Entelechie and continual motion, which either causes or depends on heat, the most active quality of all, wherewith the Brain being impregnate, renders the Spirit more lively, quick in retorts, and in all that they call *Pointe d'Esprit*, or *acumen*; and inspiring Enthusiasms to Poets. On the contrary, the Judicious, who want this Imaginative Virtue, are cold, heavy, and as tedious in conversation, as the other are agreeable and welcome: Yea, the Judgment it self owes all its advantage to it: For if it were equitable, it would regulate it self only by the *species* which the Imagination represents to it; and if it be corrupted, and without having regard to the pieces offer'd to its view, will follow its own sentiments, it runs the hazard of committing a thousand extravagances and impertinences. Yea, all the Judicious Sciences are ambiguous, and their followers divided; a sure note of their weakness, as well as of that of Judgment which guides them; since Abstracted Truth, its Object being unknown, it must leave the same in perpetual darkness, unless it borrow light from the Imagination. Moreover, the Sciences, Arts, and Disciplines of this Faculty are all pleasant, and as delightful and certain, as those of Memory are labile, the Faculty only of Children and Liars. Yea, the maladies of the Imagination are in such veneration, that *Hippocrates* calls them Divine, as having miraculous effects.

The Third said, That there is no intire and perfect Good in this World, is verifi'd also in the Goods of the Mind, which are not often possess'd by one single man, but every one hath his share therein: For goodness of Wit, consisting in the excellence of his three Faculties, Imagination, Memory, and Judgment, the first of which forms the *species*, the second preserves, and the last

last judges of, and frames its Notions from them; 'tis a very rare thing to find a man possessing these three advantages in an excellent degree; besides that, they are incompatible in one and the same subject, inasmuch as they depend upon the contrary temperaments. The Memory on a hot and moist, such as that of Children; which nevertheless must not be like water, which easily receives, but retains not, all sorts of Figures; but it must be aerial, and have some consistence and viscosity to retain the imprinted *species*. The Imagination requires a hot and dry temper, for fabricating and composing abundance of *species*; like that of cholerick and young men, who are inventive and industrious. The Judgment demands a constitution of Brain cold and dry, like that of melancholy and old men, to hinder the sudden eruptions or sallies of the Mind; which therefore reasons better when the Body is at rest, than when it is in motion, which produces heat, as much an enemy to the operation of the Reasonable Soul, as profitable to those of the Sensitive or Vegetative, whose actions are perform'd by the Spirits and Heat. But the Imagination cannot know any thing without Memory, which furnishes it with *species*; nor this remember, without help of the Imagination; nor the Judgment conceive and judg without the help of both. Nevertheless, as amongst Qualities there is always one predominant; so amongst these three Faculties, one commonly excels the rest; and the Judgment is the more excellent, inasmuch as 'tis peculiar to Man; whereas the Imagination and Memory are common to him with Beasts. So that the Judgment is our proper good, and is better worth cultivating than the Memory, to which they who wholly addict themselves, are like bad Farmers, who improve others Commodities, and let their own perish. On the contrary, they who only form their Judgment, acquire the true Treasures of Wisdom, and may be said rich of their own Stock: But great Memories are commonly like *Æsop's* Crow, adorn'd with borrow'd Plumes; and indeed raise admiration in the weak minds of the Vulgar, but not in those who are accustomed to solid Truths, the Principle whereof is the Judgment.

CONFERENCE C VI.

I. Of Dew. II. Whether it be expedient for Women to be Learned?

IF *Pindar* deem'd Water so good, that he thought nothing better to begin his Odes with; Dew, which is celestial Water, deserves to be esteem'd, since it surpasses that as much as
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Of Dew.
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Heaven, whence it comes, is elevated above the Earth. For Heaven is the source of Dew, whence it distills hither below, impregnated with all æthereal qualities and properties, incommunicable to any other thing; whether it come by a translocation of super-celestial Waters, which the Hebrews call *Maim* in the Dual Number, to signify the Waters on high and those below; or whether there be a Quintessence and Resolution of the Heavens whence it proceeds, like those Waters which Chymists distil from Bodies put into their Alembicks, indu'd with their odour and other qualities, and sometimes augmented in virtues: Whence some Divines endeavour to derive the reason why *Manna*, which is nothing else but Dew condens'd, for forty years together wanting one Moneth, and allotted by God for sustenance of his people, had all sorts of Tastes; for (say they) Heaven, whence it fell, contains *eminently*, as the efficient equivocal cause, all the forms of things to whose generation it concurs here below; and therefore God employ'd this Dew to represent the several kinds of each Aliment. And Honey, whose sweetness is so familiar to our Nature, (yea, so priz'd by the Scripture, that God promises his people nothing so frequently, to raise their longing after the Land which he had promis'd them) what else is it but this same Dew condens'd and gather'd by the Bees, who rubbing their thighs upon the flowers and leaves of Plants on which this Liquor falls, load themselves therewith, and lodge it in their hives? Wherefore Naturalists seem too gross, in teaching, Dew to be only a Vapour rais'd from the Earth, by the heat which the Sun leaves in the Air at his setting, and; for want of other sufficient heat, unable to advance it self higher than the tops of herbs: for its tenuity and effects manifest the contrary; its tenuity much exceeding that of Water; witness their experiment, who make an egg-shell fill'd with Dew ascend alone to the top of a Pike plac'd a little bowing in the Sun; which it will not do, if fill'd with common Water, how rarefied soever. Its effects also are, to penetrate much more powerfully than ordinary Water; which is the reason why it very speedily whitens whatever is expos'd to it, as Linnen and Wax; for the effecting of which, Rain requires thrice as long time: But its penetrativeness appears yet further, in that it dissolves even Gold it self; for which reason some have thought fit to wash several times in it such Medicaments as they would have penetrate, as well as others are wont to do in Vinegar.

The Second said, If it suffic'd to speak of Dew in a Poetical way, I should call it the sweat of Heaven, the spittle of the Stars, the dropping of the celestial Waters, or the crystalline humour which flows from the eyes of the fair *Aurora*; or else that 'tis a Pearl-Garland, wherewith the Earth decks her self in the morning, to appear more beautiful in the eyes of the Sun, and the whole Universe; to which if the Vapours serve for food, the Dew is its Nectar and Ambrosia. But to speak more soberly,

If conceive it a thin and subtle Vapour, rais'd by a moderate Heat; till either meeting some Body, it adheres thereunto; or being attracted near the Middle Region of the Air, 'tis condens'd by cold, and falls down again upon the Earth. Nevertheless, this Vapour proceeds not only from a humour purely Aqueous, but somewhat partaking of the Spirits of Nitre, Sugar, or a sweet Salt; since the thinnest part of it being evaporated, the rest remains condens'd upon leas and stones, or becomes Honey and Manna; and who so shall lightly pass his tongue over the leas of Nut-tree, and other compact and close Plants, shall taste a sweetness upon them in temperate Climates or Seasons, which is nothing else but an extract of this same Dew. Moreover, the fertility which it causes in the Earth, its purgative and deterfive virtue, sufficiently manifest this Truth. For Dew could not fertilise the Earth, if it were bare Water, destitute of all sort of Spirits; and particularly those of Nitre, which is the most excellent Manure that can be used to improve Land; for the Earth from which it is extracted remains barren, till it have been anew impregnated with those Spirits by the influx of Dew, to which they expose it for some time, that it may again become capable of producing something. This purgative virtue, whereof not only Manna partakes (being a gentle purger of serosities) but also pure Dew, which sometimes causes a mortal Diarrhoea or Lax in Cattle, purging them excessively when it is not well concocted and digested by the heat of the Sun, which consumes its superfluous phlegm; and that deterfive Faculty whereby Dew cleanses all impurities of the Body, which it whitens perfectly, cannot proceed but from that nitrous Salt, which, as all other Salts, is penetrative and deterfive. Nor can that ascending of the Egg-shell proceed from any other cause but the virtue of certain leight and volatil Spirits; which being actuated and fortifi'd by the heat of the Sun-beams, are set on motion; and flying upwards, carry the inclosing shell with them; which an aqueous humour cannot do; because though the heat of the Sun could so subtilise, attenuate, and rarefie it, as to render it an aery Nature, which is the highest point of rarity it can attain; yet it would not sooner attract the same than the rest of the air; much less would it raise up the Egg-shell; but it would transpire by little and little through the pores of the shell, or be expanded in it so far as it had space, and at last either break it, or be resolv'd into fume; Heat imprinting no motion in Water, but only rarifying and heating it by degrees; which is not sufficient to raise up the Vessel which contains it, since the same being full of heated air, would remain upon the ground.

The Third said, That all natural things being in a perpetual flux and reflux, to which this Elementary Globe supplies Aliments, to make them return to their Principle; Dew may be term'd the beginning and end of all things, the Pearl or Diamond which terminates the circular revolution of all Nature;

since being drawn upwards by the Sun from the mass of Water and Earth, subtilis'd into vapour, and arriv'd to the utmost point of its rarefaction, it becomes condens'd again, and returns to the Earth, to which it serves as *sperm*, to render it fruitful, and to be transform'd upon it into all things, whose qualities it assumes; because being nothing but a Quintessence extracted from all this Body, it must have all the virtues thereof eminently in it self. Moreover, anciently the ordinary Benediction of Fathers to their Children was, that of the Dew of Heaven; as being the *sperm* of Nature, the First Matter of all its Goods, and the perfection of all its substance, recocted and digested in the second Region of the Air: For the same vapour which forms Dew in the Morning, being that which causes the Serein in the Evening; yet the difference of them is so great, that the latter is as noxious as the former is profitable; because the first vapours which issue out of the bosome of the Earth, being not yet depurated from their crude and malignant qualities, cause Rheums and Catarrhs; but those of the Morning being resolv'd of Air condens'd by the coldness of the Night, have nothing but the sweetness and benignity of that Element; or else the pores of the Body being open'd by the diurnal heat, more easily receive the malignant impressions of extraneous humidity, than after having been clos'd by the coldness of the night.

The Fourth said, Although Vapour be an imperfect Mixt, yet 'tis as well as other perfect Bodies compos'd of different parts; some whereof are gross, others tenuious. The gross parts of Vapour being render'd volatile by the extraneous heat, wherewith they are impregnated, are elevated as far as the Middle Region of the Air, whose coldness condenses them into a cloud, which is ordinarily dissolv'd into Rain, sometimes into snow or hail; into the former, when the cloud before resolution is render'd friable by the violence of the cold, which expressing the humidity, closes the parts of the cloud, and so it falls in flocks: and into the latter, when the same cloud being already melted into rain, the drops are congeal'd, either by the external cold, or else by the extreme heat of the Air, which by Antiperistasis augmenting the coldness of the rain, makes it close and harden; which is the reason why it hails as well during the sultry heats of Summer, as the rigours of Winter. And amongst the gross parts of the Vapour, such as could not be alter'd or chang'd into a cloud, descend towards our Region, and there form black clouds, and mists or foggs: But the more tenuious parts of this Vapour produce Dew; in which two things are to be considered. I. The Matter. II. The Efficient Cause. The Matter, is that tenuious Vapour, so subtil as not to be capable of heat, and too weak to abate it. The Remote Efficient Cause, is a moderate Heat; for were it excessive, it would either consume or carry away the Vapour; whence it comes to pass, that there is no Dew made but during the Spring and Autumn, which
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are temperate Seasons; but never in Winter or Summer, the former congealing those Vapours, and the latter dissolving and consuming them. The Proximate Efficient Cause is the coldness of the Night, which must also be moderate; otherwise it congeals them, not into Dew, but white-Frost, as it turns the Waters into Ice by the extream cold of the Air; which moreover must be calm and serene, because if beaten and agitated by Winds, the Vapour cannot be condens'd, for the same reason which hinders running Waters from freezing, as standing do; whence also Dew is more frequent in low places than high. Now as Dew is form'd of Vapour alone; so if together with that tenuious Vapour, some terrene but very fine parts be carried up, especially towards the morning, there is produc'd a very sweet juice, of which Honey is made; and when those terrene parts prevail above the humid parts of the Dew, there is made a less liquid juice call'd Manna, whereof the best is found in *Calabria*; that of *Briançon*, and some other places, being through want of heat less digested than is requisite; or mingled with too many impurities, by the excess of that which attracted them too violently from the Earth: But the sweetness of this Honey and Manna proceeds from a most perfect mixture of siccidity with humidity, in a degree which is unknown to us.

Upon the Second Point it was said, That God having subjected the Woman to the Dominion of the Man (endu'd with strength to keep himself in possession of that Empire;) as Absolute Power is sometimes accompani'd with Tyranny, so he hath not only reserv'd to himself alone the Authority of making Laws (whereunto Women not being call'd, have always had the worst) but hath also appropriated the best things to himself, without admitting them to partake therein: For Men, not content to have reduc'd them by those Laws into perpetual Wardship, which is a real Servitude; to have so ill provided for them in Successions; and to have made themselves Masters of their Estates, under the Title of Husbands; further, unjustly deprive them of the greatest of all Goods, to wit, that of the Mind, whose fairest Ornament is Knowledge, the chief Good both of this World and the next, and the noblest Action of the Souls most excellent Faculty, the Understanding, which is common to Women as well as to Men, over whom too they seem to have the advantage of Wit; not only for the softness of their Flesh, which is an evidence of goodness of Wit; but because of the Curiosity, which is the Parent of *Philosophy*, defin'd, for this reason, *The Love and Desire of Wisdom*: And this vivacity is conspicuous in their loquacity and their artifices, intrigues, and dissimulations; their Wits being like those good Soils, which for want of better culture run out into weeds and briars. Their Memory, caus'd by the moist constitution of their Brain, and their sedentary and solitary life, is further favourable to Study. Moreover, not to

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ſpeak of theſe of the preſent Times, we have the examples of *S. Bridgid*, who excell'd in Myſtical Theologie; *Cleopatra*, Siſter of *Arſinous*, in Phyſick; *Pulcheria*, in Politicks; *Hupetia* and *Athenais*, wife to *Theodoſius*, in Philoſophy; *Sappho*, and two *Corynne*, in Poetry; *Cornelia*, the Mother of the *Gracchi*, and *Tullia*, doubly *Cicero's* Daughter, in Eloquence. Now if it be true, that Politicks and Oeconomicks are founded upon the ſame Principles, and there needs as much Knowledg to preſerve as to acquire; then ſince Women are in a Family what Men are in a State, and are deſtinated to keep what Men get, why ſhould not they have the knowledg of the ſame Maxims as Men have by Study and Theory; inaſmuch as the reſervedneſs and modeſty of their Sex allows them not to have the experience thereof, by frequentation of the World? Hence, our ancient *Gauls* left to them the Adminiſtration of the Laws, and other exerciſes of Peace; reſerving to themſelves only thoſe of War. And as for other Sciences, ſince their *Encyclopaedy* is a World which hath yet many unknown or leſs frequented Parts, if Women joyn'd together with Men in the diſcovery of them, who doubts but a feminine Curioſity would ſerve to exacuate the point of Mens Wits, diſtracted by extraneous Affairs, and make marvellous progrefſes, and find out ſundry rare Secrets, hitherto unknown.

The Second ſaid, That Women are of themſelves prone enough to take the aſcendant over Men, without need of giving them that of Learning, which, puffing up the mind, would render them more proud and inſupportable than before; the good opinion they would have of themſelves, being inconſiſtent with the Obedience to which they are bound. We read, That our firſt Father *Adam* was indu'd with Knowledg, but not *Eve*; on the contrary, her ſole deſire to become knowing, by eating the forbidden Fruit, ruin'd the whole World. The active life of Huſwifry, to which they are born; the tenderneſs of their Bodies, impatient of the labours and ſweat wherewith Science is acquir'd; the humidity of their Brain, which is an enemy to Science; and the weakneſs of their capricious Spirit; are ſufficiently ſtrong Reaſons to prohibit that Sex the Sciences, which require ſolidity of Judgment, always found wanting in the Writings of Women accounted the moſt Learned: Becauſe Judgment is an act of the Intellect, reflecting upon its Notions; which reflection depends upon a dry Temper, contrary to that of a Woman's Brain, whoſe Animal Spirits being obſcur'd by the clouds of humidity, ſhe hits well ſometimes at the firſt aſſay, but not in ſecond thoughts, which are always weaker than the firſt; a moſt ſure mark of their weakneſs: (On the contrary, the ſecond thoughts of Men prevail over the firſt.) Whence it is that they are heady in their deſires, and violent in their firſt Paſſions, wherein ordinarily they have neither meaſure nor mediocrity: Therefore a Woman always either hates or loves; ſhe never knows a mean.

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The Third said, Since the more imperfect a thing is, the more need it hath of being perfectionated; were the Minds of Women weak and imperfect, as is pretended, it would follow, that they have more need of the Sciences to cover their defects. Had our first Mother been indu'd with Knowledg, she would not so easily have suffer'd her self to be deluded by the fair promises of the Devil, who rightly judging, that *Adam* with all his Knowledg would have discover'd his subtilties, was aware of meddling with him, but set upon the poor, ideot, and ignorant Woman. 'Tis therefore an injustice to require Women to be more perfect and wise than Men, and withal to interdict them the means of becoming so: For how shall they be virtuous, if they know not what Virtue is? which being a Habit of the Will (a Faculty of it self blind, till illuminated by the advisees of the Intellect, which are acquir'd by the Sciences) 'tis impossible for them to attain it. Those who doubt lest the knowledg of natural things might prejudice the honesty and modesty of that Sex, know not that the cognition of bad things, as well as of false, is always honest and laudable; and that the Understanding is no more soil'd therewith, than the Sun by shining upon dunghills. For though the Will receive tincture of goodness and evil from the objects to which it tends, yet the Understanding is not corrupted by the most impure and abominable things which fall under its notice. Yea, since Knowledg depends upon purity and simplicity; which makes Divines say, That Angels and separated Intelligences are more perfect in their cognitions than Men; it seems, the safest course Women can take for securing their purity and Chastity (their only Treasure) is, to make provision of Learning and Knowledg. Moreover, 'tis a thing unheard of to this day, that a Woman was Learned, and not Chaste and Continent; which the Ancients meant to represent by *Minerva* the Goddess of Sciences, and the Nine Muses, all Virgins.

CONFERENCE CVII.

I. *Whether it be good to use Chymical Remedies?*

II. *Whether the Reading of Romances be profitable?*

ALL Sublunary Bodies having been created for the health of Man, who is the Rule of their Temperature, and the Judge and Arbitrator of their Goodness; Physick considers them either as Aliments, or Medicaments, or Poysons. Aliments preserve Nature, which assimilates them. Poysons destroy and corrupt it, by communicating their malignant qualities. Medicaments are between both; neither being converted into our substance,

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substance, as Aliments; nor corrupting it, as Poysons: but either evacuating the peccant humours, or altering Nature, to restore it to its natural temper, when they are rightly administred, and not otherwise; the former are call'd Purgative, the latter Alterative Remedies. All these Remedies were first found out by Experience, which gave place to the most ancient Sect of Physitians, call'd *Emperica*, invented by *Acron*, and afterwards supported by the two general Maxims of the Methodists, of whom *Theffalus* was Authour; which were, *To loosen constipated Bodies*; and, *To stop the fluxions of others*. Lastly, They have been authoriz'd by Reason, joyn'd to Experience; which hath given place to the most authentique Sect call'd the Dogmatists, or Rationalists, and Galenists, from their Author; proceeding upon *Hippocrates's* Principle, who cur'd Contraries by their Contraries; whereas the Chymists (call'd also *Hermeticks* from *Hermes Trismegistus*, and *Spagyricks* from the business of their Art, which is to separate and conjoyn Bodies) cure like Maladies by like Medicaments; which they say act by a propriety of their whole substance against Diseases; not by their temperament or various mixture of contrary qualities, which nevertheless are alone active; for no action can be between things perfectly alike, in regard one thing acts upon another only in order to assimilate the same; so that if it be already like, there will not be any action. Moreover by the reason of Contraries, since Health is preserv'd by things of resembling Nature, it follows, That Diseases must be cur'd by their Contraries. And as Health consists in Mediocrity; so Sickness, either in Excess or Defect: On which account, Physick is defin'd *Detraction* and *Addition*, because it retrenches what is superfluous, and supplies what is deficient. Now both Excess and Defect are increas'd by use of things alike. Wherefore the Chymical Principle being overthrown, all the Remedies founded thereupon ought to be suspected.

The Second said, That those two Principles which seem contrary one to the other, are not so, if rightly understood: For, when the Chymists say, That *Similia curantur similibus*, they speak not of Diseases, as the *Galenists* do, with whom they agree, That the same are augmented by use of resembling things; but of the part diseas'd, which (being the Seat of Affections against Nature) can alone be said to be cur'd, and not the Diseases; which being only a privation, error, or disorder of the Body, cannot be capable of sanation, but only the parts of the Body; which the Dogmatists, as well as the Chymists, cure by Remedies like in substance to the Nature of those Parts which they strengthen: For whatever is a Friend to Nature, call'd by *Hippocrates*, *Morborum Medicatrix*, is also an Enemy to that which is against Nature.

The Third said, Since Remedies are the more excellent, by how much the neerer they come to our Nature; it follows, That Minerals, Metals, and all Fossiles, prescrib'd us by Chymistry, having

having malignant and venomous qualities, are much more dangerous than the ordinary Remedies taken from Animals and Plants, which have life as well as we. However prepar'd, they always leave an evil tincture in the noble Parts, and whole Body, against which they act with violence; which they have not only of their own Nature, altogether remote from ours; but also from the Fire, which gives them an extraneous heat, contrary and destructive to ours; any dry heat being an enemy to the natural, which is humid and benign; and although they make use of Medicines extracted from Vegetables, yet 'tis with as little success; since their purgative virtue depends on their temperament, which is wholly destroy'd by their Distillations and Extractions: Besides that, being all hot, they are unprofitable to all acute Diseases (ordinarily hot, and always the most dangerous) and noxious in Fevers, which are generally complicated with most Diseases. Moreover, all Remedies acting by the first, second, and third Qualities, which depend on a Matter temper'd after a particular Matter; therefore Mixts separated from their Matter, which serves for a base and foundation to the actions of the Form, lose their former force and virtue, which is more efficacious and sensible in a material and gross subject, as that of ordinary Remedies is, prepar'd by decoction or infusion, in *Bolus*, Powder, Opiate, Conserve, Lozenges, or such other solid Body; than in an Essence, Spirit, or the like subtil and tenuious Body; which freed from its grosser parts, which serv'd to check it, flies like lightning into the Parts of the Body wherein the Morbifick cause resides, which it can never subdue or eradicate, though its virtue should not presently vanish, but be preserv'd in the Body; which, besides being accusom'd to material things, because they conserve and compose it, it oftentimes receives great damage from too subtil things; on which account, the Air of the Supreme Region cannot be attracted by the Lungs.

The Fourth said, That the Characteristick of a Good Medicament being to Cure *speedily, Certainly, and Pleasantly*; the Chymical, being such, ought to be not only employ'd, but also preferr'd above others. The speediness of their Effect is from their Forms, which alone are active, especially when depurated and loosned from Matter, a Principle purely passive, and incapable of action. They are also agreeable and sure, as being depriv'd of their impurities, malignant qualities, bad smells and tastes, by means of the various degrees of Fire; which if it communicate an *Empyreuma* or Burntness to these Medicines, so it doth, not only to vulgar Remedies prepar'd by Fire, but also to all our Meats and Aliments. Besides, many of these Chymical Remedies are prepar'd with a moderate heat, as that of a Dung-hill, Ashes, *Balneum Mariæ*, which cannot give them such *Empyreuma*: And should they all have it, yet being but an extraneous and adventitious heat, 'tis easily separated from them, either of

it self in time, or speedily by ablutions, wherewith even Precipitate *Mercury* is render'd very gentle, and *Antimony* void of all malignity. What is objected of the violence wherewith Mineral and Metallick Medicines act, by reason of their disproportion to our Nature, is as little considerable; since *Hippocrates*, and the ancient Physitians, us'd *Euphorbium*, *Hellebore*, *Scammony*, *Turbith*, *Colocynthis*, and such other most violent Remedies, which are still in use; and *Galen* employ'd *Steel*, *Sandarach*, burnt *Brass*, and the like Medicines, taken from Minerals wholly crude, and without preparation, which was unknown in his time. *Rondeletius* uses crude *Mercury* in his Pills against the Venereous Disease, whereof this Mineral is the true *Panacea*: *Cardan* and *Matthiolus*, crude *Antimony*; *Gesner*, *Vitriol*; *Fallopianus*, *Crocus Martis* against the Jaundies; almost all Physitians, *Sulphur*, against the Diseases of the Lungs; and such Patients as cannot be cur'd by ordinary Remedies, they send to Mineral Waters. And since not only Garlick, Onyons, and Mustard, which we use in our Diet; but also the Juices of Lemmons, Citrons, Berberries, and Cantharides, although corrosive, are still in use; why should we not use Chymical Medicines in small quantity, purg'd from their corrosion, and taken with convenient Waters and Vehicles?

The Fifth said, There is in all natural things a certain fix'd Spirit, the sole principle of their Virtues and Operations; which being separated from them, they remain only Carcasses without Souls: As is seen in Earth, render'd barren by extraction of its nitrous Salt; in Wine dead or sowre; and in the insipid phlegm of the same Wine, separated from its Spirit by Chymical distillation, which separates the good from the bad, the pure from the impure, the subtil from the gross, the form from its more crass matter; in a word, the Spirit from its Body; which being impregnated with the virtue of the whole Mixt, reduc'd into a very narrow Volume, is very active and proper, not only to serve for Aliment to an Animal, which is nourish'd with this Spirit, the rest being unprofitable, and as such converted into Excrements; but also principally for the curing of Diseases, by repairing and strengthening the fix'd Spirits, which are the true seats of Diseases, as well as of Health; a Disease being nothing but the lesion of the Functions, whereof the Spirits are the Principles; whereas ordinary Physitians, instead of separating the virtues of each Mixt, to oppose the same, as Specificall Remedies to all Diseases, as the Chymists do, stifle and destroy them by the confus'd mixture of abundance of Simples and Drugs, whereof their Medicaments are compounded, which by this means acquire a new temperament and particular virtue, resulting from the ingredients, whose qualities and properties are abated, or rather extinguish'd; in like manner as of the Elements united together is made a Compound wholly different from its principles. Wherefore we may justly retort against such Remedies,

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what they charge upon those of Chymistry; namely, That they are taken from dead Ingredients, corrupted and depriv'd, by the Fire, of their Radical Humidity, wherein consisted their prime purgative virtue, which is not so easily dissipated; since when a Nurse takes a Purge, the strength of the Physick is convey'd by her Milk to the Child; and we feed she-Goats and Pullen with Purgatives, to render the Milk of the one, and the Flesh of the other such. However, since there are so many incurable Diseases, whose causes are sufficiently known, but to which no Specific Remedies are found; Chymistry, which opens the means thereunto by the solution of all Bodies, ought to be cherish'd, and not condemn'd, as it is by the ignorant or malicious, who must at least acknowledg it one of the members of Physick, as belonging to Pharmacy, which consists in the choice and preparation of Medicaments, and is part of the Therapeutical Division. But we say rather, That the three parts of Medicine, or its three ancient Sects, are the three parts of the World, *Europe, Asia, and Africa*; and Chymistry is that new World, lately discover'd, not less rare and admirable than the others, provided it be as carefully cultivated, and rescu'd out of the hands of Barbarians.

Upon the Second Point it was said, That Truth is not the most powerful thing in the World; since oftentimes Fables and Romances have more attractives, and no fewer followers than Histories; as the Poets meant to signify by the Fable of *Pigmalion*, who fell in Love with a Statue. For Romances, which are nothing else but the Images of a phantastick Beauty, are nevertheless lov'd and idolatris'd by abundance of Persons; not only for the Eloquence, whose fairest lines are seen in those fabulous Books; but for the Gracefulness and Gallantry of the actions of their Personages, which may serve for a perfect model of Virtue; which having never been found compleat in all points in any Illustrious Man, whose Life is always blemish'd with some spot, History cannot give us a perfect example to imitate, unless it be assisted by Romances; without which, Narrations purely Historical, describing a naked fact, are but exornated Skeletons, and like the first lines of a Picture grossly trac'd with a Crayon, and consequently disagreeable, if artifice give them not colour and shadows. Thus *Xenophon*, and in our times *Don Guevara*, aiming to draw the Model of a perfect Prince, one in the Person of *Cyrus*, the other of *Marcus Aurelius*, have heap'd together so many contrarieties to Truth, that they have made rather Romances of them than Histories. Thus *Achilles's* exploits appear far otherwise in *Homer* than in *Dionysius Cretensis*; those of *Charlemain*, in *Eginard* and *Ariosto*, than in the Annals: 'Tis to Romances that they owe half their Glory; and if their Example hath given any excitation to the Readers Spirits, 'tis what the Romances aim'd at, not the Histories. The Romancer is the Master and Contriver of his Subject; the Historian

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storian is the Slave of it. And as by refraction of the visual rays, variously reflected in a triangular Glass, is form'd an *Iris* of colours, which although not real yet cease not to please: so by the variety of those accidents, variously interwoven with the mixtures of Truth and Fiction, is form'd so agreeable a Medley, that it delights more in its Inventions than the Body of an uniform History; from which Romances borrowing the most memorable accidents, may be term'd the Essence and Abridgment of the same, re-uniting all the Beauty, Pleasure, and Profit which they afford: For these Books serve not only for delight, but profit; the one never being without the other; since Fair, which is the object of Delight; and Good, of Profit; are reciprocal and inseparable: And the pleasure we take in any thing is an infallible mark of its goodness and utility; which is so much the greater in Romances, as they instruct with pleasure, artificially marrying Benefit and Delectation. Under supposed Names they freely tax, without incurring the envy or hatred of those whom they reprehend. Thus the Prophet *Nathan* by a Parable drew from *David* the condemnation of his Crime; which otherwise possibly he would never have own'd, or at least would have excus'd in his own Person. As for the abuse and danger of reading these Books, for the most part fill'd with dishonest Loves, 'tis common to them with the best things of the World, that they may be turn'd to a bad use: But if the Love be honest and lawful (as it proves always in conclusion) the Romances deserve no blame for it; if unlawful, the Lovers have always an unhappy end; and Vices are never unpunish'd. 'Tis here that Distributive Justice is exactly kept; not by the blind Judgment of Fortune, but by the judicious choice of the Author; that the Good are always rewarded, and the Wicked punish'd. For the object of Romances, as well as of Histories, is the description of humane actions; which being most often bad, by reason of the depravation of Nature, they appear more scandalously in History than in Romances. Why therefore do not their Censors likewise proscribe Histories, so much more dangerous, as they afford us many true examples of Sacrileges, Parricides, Adulteries, and Incests, the Authors whereof have escaped punishment. And not to speak of the dangerous Maxims of *Tacitus* and *Polybius*; Who would take the Fables of *Herodotus*, and the Prodigies of *Livie*, for more probable things than those of Romances? To omit the contrariety of Historians of the same time; so that we may say, That the truest amongst them is the most likely.

The Second said, If the Platonists saying be true, *That there is nothing real in this World; but we perceive only shadows and phantasms in this life*, which the Scripture compares to a Dream; there will be little difference, as to reality, between a History and a Romance. And though the one be a meer fiction, yet this will no more infer the despising of it, than it doth of a Comedy, because the Actors are not the very Personages; or of

a Landskip or Perspective well drawn, only because 'tis the Invention of the Painter, and not of Nature; whose Works, as excellent as they are, yet yield to those of Art, which we esteem above the true and natural, from which the same are counterfeited; our minds extreamly delighting in Imitations; whence it is that we so much esteem in their Copies and Representations such things whose Originals are disagreeable to us. But that which augments the glory of Romances is, that their declared enemies have not been able to encounter them but by Romances too; as *Plato* and *Isocrates* could not reprehend the Sophisters, but by making use of their Eloquence.

The Third said, That Romances are commonly either of the valorous Exploits of Knights, or of Amorous pass-times. The first are for the most part ridiculous, and full of Knights Errant, who force Enchanted Castles, kill Monsters, Giants, and Men like Flies. The latter are infamous, contrary to Good Manners, and dangerous to young Persons, entertaining them in a loose Idleness, the Mother of all Vices; besides the dangerous impressions those Lies leave in tender Minds, and which remain therein all their life after. But this belongs to all fabulous Discourses, that they denote weakness of Judgment in those addicted to them, and a disorderly Wit in their Authors. And since, according to Physicians, the first degree of Folly is to imagine phantastical Opinions; and the second, to tell them to others; the third (in my conceit) will be, to write them.

CONFERENCE CVIII.

I. Of Talismans. II. Whether a Country-life or a City-life is to be preferr'd?

Talismans (which the Chaldeans call *Tsilmenai*; the Hebrews, *Magen*; the Greeks, *Charakter*) is an Arabick word, form'd by transposition and addition to the beginning and end of the two Hemantical Letters *Tau* and *Nun*, of the Hebrew word *Tselem*, which signifies Image, Figure, or Character. For those Talismans (of which *Zoroaster* is made the first Author) are nothing else but Images in relief, or engrav'd upon Medals or Rings, ordinarily of Mettal or precious Stones, in shape of Men or Animals, fabricated under certain Constellations and Aspects of Stars, whose influence they thereby receive and keep, being afterwards instead of the same Stars; yea, with the greater virtue, in that the re-union of influences being made in one point, their activity is redoubl'd: As Burning-glases take more heat from the Sun, than perhaps he hath himself. These Figures act, as they say, either upon mens minds, as to cause one to be lov'd, honour'd,

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honour'd, enrich'd, or fear'd; or upon their Bodies, as to cure them: Of which some shadow is seen in the magnetical cure of Wounds, by applying the Medicine to the Weapon that did the hurt, or to the bloody shirt. Or else these Figures act upon natural things, as to keep away from a place rain, hail, and wild or venomous Beasts; only by natural means: For we speak not here of magical or diabolical Characters, whose virtues for the most part depend upon either a tacite or express compact with the evil Spirit, who sometimes really produces those effects, often deludes our Senses; and not the Character, Word, Sound, Number, or such other means, commonly inept, and incapable of such action. But we speak only of natural Agents, which acting almost all by a propriety of their whole substance, and by occult and sympathetical virtues, cause many strange effects, which the ignorant Vulgar incongruously ascribe to Magick or Sortilege. There might be doubt of the effect of these *Talismans*, if divers Histories did not give assurance thereof: For those *Teraphims*, such as *Laban's* Puppets were, might be call'd *Talismans*, as the Brazen-Serpent and the Golden-Calf are by *Marsilius Ficinus*; the one to preserve from the morsures of Serpents, by its sight; the other to turn away the heats and droughts of the Scorpion, and of *Mars*. The Idols of the Pagans may also be put in this rank, as *Memnon's* Statue in *Egypt*, which mov'd and spoke when shone upon by the Sun; that of *Paphian Venus* in *Cyprus*, upon which it never rain'd; the *Valladium* of *Troy*; the *Ancilia* or Bucklers of *Rome*, which kept the Fortune of the Empire; the *Dii Penates*, figur'd by two Serpents; those call'd *Averrunci*, who kept away domestick misfortunes; *Sejanus's* Statue of Fortune, which the Emperours left to their Successors; *Virgil's* brazen Fly and golden Horseleech, with which he hinder'd Flies from entring *Naples*, and kill'd all the Horseleeches in a Ditch; the Figure of a Stork, plac'd by *Apollonius* at *Constantinople*, to drive them away thence in the year 1160; and that wherewith he drove away Gnats from *Antioch*; those of *Tripoli* in *Syria*, and *Hampis* in *Arabia*, which were preserv'd from venomous Beasts by the *Talisman* of a Scorpion engraven upon one of their Towers; that at *Florence*, made against the Gowt, by a Carmelite nam'd *Julianus Ristonius à Prato*; those of *Paracelsus* against the Pestilence; and infinite others; render their effects as common, as their existence certain: Which is prov'd also by the example of *Gamabés* or *Carmaten*, which are Stones naturally figur'd by the impressions of the Stars, which consequently may have influence upon Artificial Figures. For as the Sun may lighten or heat a mans Picture, as well as a Man; so may the Stars give their influences to the Figure of a Thing, as well as to the Thing it self; especially when the subject is fitted thereunto, as the *Talisman* is; not only by its metallick matter, symbolizing with that of the Star, both in colour and solidity; but especially by the Figure im-

printed on it, which is like the Sign whose influences it receives. For though the Constellation be not very like that Figure, yet in regard the Qualities of the Animal which the Figure represents, are like those of the Sign, (whence the Constellations of the Zodiac are call'd, The *Ram*, the *Bull*, &c. not for the resemblance of such Animals parts with those of those Signs) the Figure of the Animals attracts them of the same Sign much more powerfully by sympathy. And indeed we see many things have qualities consentaneous to the Figure they bear; as the Stone call'd *Ophites*, for the small veins which cut it in form of little Serpents, cures their poyson; as also the Stones of *Maltha* do, which bear the Figure of a Serpents-tongue; and the Herb call'd by that name: The Squill and the Poppy, which resemble the head, assuage the pains thereof: Wild Tansey and Eye-bright cure the Eye, whereto they are like. But if it be said, That 'tis not the Figure that acts in them, but a particular virtue depending on the temper of their Qualities; since losing their Figure either by distillation or infusion, they cease not to act, yea more effectually than before. I answer, That in the spirits of those same active qualities remains always the Form and Figure; as some Chymists have resuscitated Roses and other Flowers, by holding their ashes in a glass Phial, over a Candle.

The Second said, That *Talismans* cannot produce the effects attributed to them; whether you consider them in their Matter and Substance, or in their Figure. Not in the former; for any sort of Matter, as Wood, Wax, Stone, Metal, &c. are made use of for cutting of these *Talismans*; which, besides, lose their Name when they produce an effect by the virtue of their Matter; as a Scorpion engraven on a Bezoar-stone would not cure the bitings of that venomous Animal by its *Talismanical* Figure, no more than any other; but 'tis an effect depending on the Stone it self. Nor do Simples cure by the resemblance between the Parts of our Body and their external Figure (of which we speak here), but by the virtue and property of their Substance, which remains when they are powder'd and despoil'd of their Figure; which, moreover, is a Quality indeed, but no active one; being only a certain situation and disposition of Parts, and a mode of quantity; which depending on Matter, a purely passive thing, is as incapable of any action by it self, as the Figure which terminates it. But though the artificial Figure of a *Talisman* could act, it could produce no natural effect, because beyond its power; much less upon the Will, to incite Love or Hatred, as is pretended. For 'tis a ridiculous and groundless vanity to imagine a sympathetical Commerce between a Constellation and a Figure of an Animal, graven upon Copper, or such other Matter, which is much less fit to receive the influences of the Stars to which such Animal is subject, than the Animal it self, whose skin stuff'd with straw were more proper to drive away other

other Beasts of the same Kind; there being nothing Living-creatures dread so much as the dead Bodies of their own kind.

The Third said, It needs not to seek Reasons and Authorities to prove *Talismans*, either in Art or Nature; since Man himself may be said to be the *Talisman* and Perfection of God's Works, plac'd by him at the Centre of the Universe; as of old *Talismans* were plac'd at the Foundations of Cities: His countenance being a Medal imprinted with all the Characters of the Stars, the two brightest of which are at the Eyes; *Saturn* at the Eye-brows, the Seat of Severity; *Jupiter* at the Fore-head, the place of Honour; *Mars* at the Nose, where Anger resides; *Mercury* in the Mouth, where Eloquence lies; *Venus* at the Chin, and rounding of the Cheeks, the pourfit of the grace of this Medal, which serves him for an Universal *Talisman*; in its Beauty to procure Love; in its Majesty, to cause Respect; not only to drive away Flies or Frogs, but to reign over all Animals, by the prerogative of this Face, before which they tremble. Are not his Hands (the Artificers of his Felicity) *Talismans* noted with the Characters of the Signs and Planets, which the Rules of Chiromancy uncypher? In the Right Hand are his Days and Years, (saith the Wiseman) the *Talisman* of his long life; in the Left are Riches and Honours, the *Talisman* of his good Fortune. In short, Is not his Soul the *Talisman* of his Immortality; which at the instant of its Creation receiving all the influences of the Deity, and retaining the Image thereof, hath been inserted into this Work, not to preserve it from Thunder and Tempests, which can touch only the least part of it; but from Corruption and Extinction, to which all other Creatures are subject.

The Fourth said, He's too sensual that impugns the truth of things, under pretext that they fall not under our Reason; which though very weak and uncertain, abusing the principality which it usurps over all the Faculties, hath turn'd its denomination into Tyrannie: Whence if Experiences be alledg'd she denies them, because not able to accord them with the weakness of her Judgment. Witness what is seen in all the admirable works of Nature and Art, in the Magnetical cure of Wounds, and that of Diseases, by Amulets or Periapts; and what *Cicero* and all Antiquity affirms of *Gyges's* Ring, upon turning of the Stone whereof inwards, he became invisible; and returning it outwards, was perceiv'd. Such also was *Minerva's* Shield, where-with *Perseus* combated the *Gorgons*, which was of Glass, through which one might see, without being seen; as also the Rings of those Mistresses of *Alexander the Great*, and *Charlemain*. For what be said of the first, That *Olympius* shewing her self stark naked to him, made him confess, That the great Beauty of all the parts of her Body was the only *Talisman* wherewith she enchanted *Alexander*: The same cannot be said of the latter; since after his death the *Talismanical* Ring found under her Tongue caus'd *Charlemain* to love not only her, but also the Lake of

Aix-la-Chapelle whereinto it was cast; and that which was found in the Foundations of the Walls of this City of *Paris*, under *Chilperic*, where there was a Fire engraven upon a Brass-plate, a Serpent, and a Rat; which having been remov'd from the place, the very next day a great Fire happened in the same City. For if every thing below is as that which is above, and the effects of inferiour things proceed from the various configuration of the Celestial Bodies, as of the different combinations of the Letters of the Alphabet are compos'd infinite Books, there may be some proportion and correspondence between those Celestial Figures, and such as are made upon fit and suitable materials; the knowledg of which sympathetical Correspondences, is the true Magick; which is, by the testimony of *J. Picus Mirandula*, the highest point of humane Knowledg, marrying Heaven with Earth; as black Magick is detestable, shameful, and ridiculous.

The Fifth said, That every thing acts in the World by the first or second Qualities, or by its Substance; whence proceed occult Properties and Sympathies: But Talismanical Figures cannot act by any of these ways; for 'tis certain, that they act neither by heat, cold, hardness, softness, or such other first or second Quality, no more than by their Substance, which is different in *Talismans* of Copper, Iron, Stone, &c. Although the Authors of this Art ascribe the same virtue to all, provided they be graven with the same Figures, and under the same Constellations and Aspects of the Starrs, from whom alone they make them derive their strange virtues; alledging, as a Principle, That there is nothing in the World but hath both its Contrary and its Like, as well in Heaven as on Earth; where we see not only the Marigold and the Sun-flower follow the motion of the Sun; the Sele-notrope, that of the Moon; the Cock proclaims the approach of the Sun: As also, on the contrary, Dogs commonly run mad in the Dog-days, and Lions under the Sign *Leo*: But also some Persons beheld with an evil eye by some Planets, others being propitious. So to cure hot and dry Diseases they engrave their *Talismans* under a Constellation contrary to the Evil, as cold and moist; having regard to the Signs whereunto every Malady and diseas'd Part is referr'd; which is an Invention of *Paracelsus*, who fancies Poles, a Zenith, a Nadir, an Equator, a Zodiack, and other phantastical Figures in our Bodies, answering to those of Heaven, without the least proof of his sayings.

Upon the Second Point it was said, Since Man is compos'd of Body and Soul, the best Life he can lead is that which is most proper for the perfection and good of both. Such is the Country-life, being accompanied with the Goods of the Body, Fortune, and the Mind. Those of the Body, as Health and Strength, are possess'd with advantage by Rusticks, who know not so much as the Names of Diseases; the cause whereof is their Exercise

11.
Whether a
Country-life
or a City-life
is to be pre-
ferr'd?

and

and Labour, which dissipates and resolves the humours that produce most Diseases; as also the purity of the Air they breathe, which is the more healthful in that it hath free motion, and is less confin'd; for which reason Physitians send their recovering Patients to confirm their Health in the Air of the Country: Which also supplies the Goods of Fortune, the true and natural Riches, to wit, the Fruits of the Earth, and the Spoils of Animals; Gold, Silver, and other artificial Goods, being but imaginary and useless without those first, whereunto they are subservient. But above all, the Goods of the Mind, which consist in Knowledg and Virtue (the two Ornaments of its two chief Faculties, the Understanding and the Will) may be acquir'd much more easily in a Country-life, in regard of the purer Air, which begets like Spirits, as these frame purer *Species* and Phantasms, on which depend the actions of the Understanding; which, besides, cannot meditate nor improve without rest and silence, scarce found in a civil and tumultuary Life, as that in Cities is, which hold our Minds as well as Bodies in captivity, depriving us of the free aspect of Heaven, the rising and setting of the Sun and Stars, and of the means of considering the Wonders of God in the production of Flowers, Fruits, and Plants. Hence the Poets feign'd the Muses, the Goddesses of the Sciences, living in the Mountains of *Helicon*, and in Woods; not in the inclosure of Cities, where Virtues are also more difficultly practis'd than the Sciences, nothing of them being left there but shadows and phantasms, which under veils of Dissimulation, Hypocrisie, Complements, and other testimonies of Virtue, cover Injustices, Sacriledges, Impieties, and other Crimes unknown in the Country, where Simplicity and Innocence are sure tokens of true Virtue; which is also better retain'd amongst the Thorns and Sweats of the Country, than in the Luxury and Idleness of Cities. And if things may be judg'd of by their beginnings, the Sacred History tells, That *Cain*, the first Murtherer, was the first that built a City, named *Henoch*, after the Name of his Son; as a little after did the first Tyrant of the World, *Nimrod*, who built *Niniveh*. On the contrary, all holy Personages have lead a Country-life: *Adam* was a Husband-man, and so was *Cain*, as long as he continu'd in the state of Innocence, which as soon as he lost he desir'd to become a Burgefs. *Jacob*, and the twelve Patriarchs his Sons, were Shepherds; as also the Kings, *Saul* and *David*; and the Prophets *Amos*, *Elisha*, and many others; in imitating whose example we cannot erre.

The Second said, That Man being a sociable and political Animal, the habitation of Cities is as consentaneous to his Nature, as the Country-life is repugnant to the same. And therefore Men had no sooner discover'd the inconveniences of the Rustick-life, but they unanimously conspir'd to build Cities, to the end to supply one anothers Necessities, and defend themselves from wild Beasts and their Enemies, to whose fury they were expos'd

expos'd before they liv'd in some Town, which is a Sacred Society or Unity of Citizens, all aspiring to the conservation of the State, to the maintaining of the Laws and Justice, and to the publick Ornament and Glory; making Arts and Disciplines flourish, and procuring Safety to all People, by the distribution of Rewards to Virtue, and Punishment to Vices, which have not their effect but in publick: For our Lives would not differ from those of Brutes, if we were oblig'd to dwell in Dens, or wander up and down Woods, as the Barbarians of the new World do; whose Brutality, Irreligion, Cruelty, Ignorance, and Misery, compar'd with the Politeness, Devotion, Humanity, Knowledge, and Happiness of others, sufficiently manifest what difference there is between a City and a Country-life.

CONFERENCE CIX.

I. Of Volcano's, or Subterranean Fires. II. Which Age is most desirable.

THE effects of *Volcano's* and Subterranean Fires are no less manifest than their cause is unknown; although the desire of teaching us the same, occasion'd the death of *Pliny*, by having too near approach'd the Fires of *Mont Gibel* (or *Ætna*), and made *Empedocles* cast himself head-long into them: But the former did not attain it; and the latter left us nothing but his Pantofles. The Artifice of Man hath indeed excavated the entrails of the Earth, and descended into the Abysses of the Waters, to get out their most hidden treasures; yea, he hath pervaded with his sight the vast expanses of Heaven, there to consider the Stars: But he hath not yet been able to familiarise the Fire to himself, which like a Salvage-beast devours every thing it meets. Now although it be found almost in all places, yet *Sicily* nourishes it more than any; having amongst others the *Mont Gibel*, or *Ætna*, those of *Hiera*, *Lipara*, and many others in the Volcanian Islands, which are adjacent to it; and of *Stromboli*, twenty Leagues distant from these. Such also are those of *Modena* and *Vesuvius* in *Italy*, which smoak to this day; the three burning Mountains of *Hecla*, *Sainte Croix*, and *Helga* in *Ise-land*, which cast forth Flames only at their feet, (their tops being all cover'd with Snow) and whose Fire is augmented by casting Water in, which serves it for Fuel. Such were also that which, by the report of *Tacitus* in the fifteenth of his Annals, burnt the Territory of the *Obii* under *Claudius Nero*, and could never be extinguish'd with Water, but with Stones, Cloth, Linnen, and other dry things; that mention'd by *Titus Livius*, which in three days reduc'd into ashes three Acres of the Territory

tory of *Calena*, at this day *Carignola* in *Campania*; that which burnt for sixteen years together a great part of *Scotland*; and not long since the Island of *St. George*, which is one of the *Afores*; and divers other fat Lands near the Sea, which continually supplies unctuous matter to these Conflagrations; whence the most remarkable of them are seen in Islands, and other maritim places.

The Second said, That the *Pythagoreans*, who place Fire in the entrails of the Earth, as its Centre, would not be so much at a loss here, as those who with *Aristotle* hold, That it is there in a violent state, and contrary to its Nature, which requires the highest part of the World. For since nothing violent can be of long duration, How is it that Fire, the most active of all the Elements, hath not hitherto been able to free it self out of its Prison, and get out of this state of confinement? 'Tis better therefore to say, That Fire being the principal Agent of Nature, necessary to all sorts of Generations which are made in all places, is likewise found every where, especially in the Earth, where it is most sensible, and is preserv'd longest, in regard of the solidity of its Matter: For Fire cannot subsist without Matter, which serves it for Food and Aliment: Whence the Poets describ'd *Vulcan*, the God of Fire, lame; intimating its need of fewel and sustenance to support it; none of which being found under the Orb of the Moon, above the higher Region of the Air, 'tis reasonable to judg, that there is no other Elementary Fire on high but that of the Sun; who by his heat, light, and other qualities, concurs more perfectly to the generation of all Mixts, than that invisible and imaginary Fire. 'Tis therefore necessary that Fire have Matter to feed upon; otherwise it dies and vanishes, not only in an Enemy-country, and among its Contraries, who endeavour to destroy it; but also in its own sphere or centre, wherever it be, since it must needs act there; otherwise it would be weaker in its Centre than out of it: But it cannot act upon it self; for then it should destroy it self: But nothing acts upon it self; and therefore it must act upon some subject besides it self. Wherefore the Matter of all Fire is any oylie, fat, and aerious Body; whence Ashes, wholly despoil'd of that unctuous humidity, are incombustible. That of Subterranean Fires is of two sort, Sulphur and Bitumen; both which are observ'd plentiful in burning places. The Live or Fossile Sulphur, which serves for Matter to these Fires, is a terrestrial fat or oyl, mingled with the slime of the Earth: For, the other sort of Sulphur, found on the surface of Stones, is nothing but the purer part of the former, which being sublim'd by heat, is stop'd and condens'd by those solid Bodies into a Matter call'd Flowers of Sulphur; by which example Chymistry makes the like Flowers. The Bitumen is also a fat juice; which is either liquid, like Oyl, call'd by some *Petroleum*, and the *Naphtha* of the *Babylonians*; so inflammable that it attracts Fire at a distance, and retains it in the Water, which serves it for nourish-

nourishment; as is seen in that Bituminous Fountain which burns four Leagues from *Grenoble* in *Dauphiné*, and many other, which cast forth both Flames and Waters at the same Out-let. There is some too, of the consistence of soft Wax; as that slimy Bitumen floating upon the Lake of *Sodome*: Some other hard, like the Pit-coal, call'd *Tourbe*, whereof our Marshes are full; which is the most general Matter of Subterranean Fires; to whose violence the Nitre found there, may also contribute: for as Bituminous Earth makes these Fires durable, which otherwise could not subsist so long with Sulphur alone, which presently is evaporated and spent: So the Nitre and Saltpeter (wherewith the Earth is every where impregnated, and which hath been before shewn to be the cause of its fertility) is the cause of their impetuosity and violence, which the situation of places may also promote.

The Third said, That the Earth, as well as the Air, hath three Regions in its profundity; the first temper'd and alter'd either apparently or really, according to the various disposition of the ambient Air: The second or middle, extremely cold: The third always hot and burning. And as the Matter of Thunder is a Sulphureous, Nitrous, and Bituminous Exhalation of the Earth, drawn up by the Sun to the middle Region of the Air, where 'tis inflam'd by Antiperistasis of the ambient cold (because being in the next disposition to Inflammation, the least concurrent circumstance presently reduces that Power into Act:) So the inclosed and difficultly evaporable heat of the Earth, finding the same easily-inflammable Matter there, namely, the Exhalations which issue from that third Subterranean Region upon the opening of Mines, which testify by their smell, thickness, and other qualities, how much they partake of Minerals; these hot and dry Exhalations ascending to the second Region of the Earth, there meet with cold Spaces, which being for the most part hollow or cavernous, and stor'd with Sulphur, Bitumen, and other fat Earths, become inflam'd by the Antiperistasis of cold and the proximity of those Materials. And because the Earth which feeds these Fires consists of two parts; the one arid, and the other unctuous; this unctuousness approaching nearer the Fire, coming to be consum'd, the Fire must needs be extinguish'd; till the heat, excited by the conflagration of many years, having attracted all the unctuousness of the neighbouring Earth, and this having by degrees impregnated that dry Earth which the Chymists call *Caput mortuum*, it becomes again inflammable, and continues fir'd till the same be deficcated again; and so forward in a circle; nothing hindring but that, as Plume- or Stone-allume is an eternally incombustible Wick, provided it be supply'd with new Oyl when the former is spent, this Earth may do the like: Unless we had rather, that wise Nature dispenses combustible matter in the bellies of Mountains, after the manner of *Vitruvius's* his Lamps, which need filling but once a

year; and those Water-Receptacles for Birds, which are supply'd with fresh as fast as the former Water is spent. Or else, that Nature (excepting the extraordinary eruptions which seldom happen to these flammivomous Mountains, and then only when the Fire cannot get issue but by violence) makes what the curious often aspire to, an inextinguishable Fire, or perpetual Light, by resolving again into oily and combustible matter that which was evaporated by Inflammation; as Water elevated in vapour by heat, falls down again in the same form. The Architect, Nature, finding Cavities great enough in those vast Mountains to facilitate what Art finds impossible, by reason of the smallness of Vessels, which extinguish Fire when it hath not Air, or suffer its Matter to exhale when it hath; although *S. Austin* and *Lodovicus Vives* make mention, the former of a Lamp in the Temple of *Venus*, which could not be extinguish'd or consum'd, though neither Oyl nor Wick were put to it; and the latter, of another burning Lamp found in a Sepulchre, where it had been fifteen hundred years, but upon admission of Air forthwith went out. Although without recurring to this subtilty, that of Fire, and its activity, is sufficient to attract or fetch in its sulphureous food; which being only an excrement of the Earth, and like the foot of our Chimneys, is found every where, but especially in Mines, which are repair'd in less time than is believ'd, and whose various qualities make the variety of these Subterraneous Fires, of their duration, continuity, and interval; which some have compar'd to Intermitting Fevers, excited in our Bodies by an extraneous heat, which holds the same place in us as Fire doth in the Earth.

11.
Which Age
is most desir-
able?

Upon the Second Point it was said, That Age is the measure of the Natural Mutations to which Man is subject by the Principles of his Being, and which differ according to every ones Nature; some being *Puberes*, having a Beard and gray Hairs, and such other tokens, sooner than others, according to the diversity of their first conformation; whence arises that of their Division. *Aristotle*, following *Hippocrates*, divides them into Youth, Middle-age, and Old-age; that is to say, the Beginning, Middle, and end: Or, according to *Galen*, into Infancy, Man-hood, and Old-age: According to most, into Adolescence, Youth, Age of Consistence, and Old-age. Adolescence comprehends Infancy, which reaches to the seventh year; the Age of Puerility, to the fourteenth; Puberty, to the eighteenth; and that call'd by the general name, Adolescence, to the twenty fifth. Youth, which is the flower of Age, reaches from twenty five to thirty five. Man-hood and Consistence, from thirty five to forty eight; when Old-age begins, which is either green, middle, or decrepit. These four Ages are the four Wheels of our Life, whose Mutations they mark out: The first, next the *primordia's* of generation, is hot and moist, symbolising with Blood; the

the second, hot and dry, with Choler; the third, cold and dry, with Melancholy; the fourth, cold and moist, with Phlegm; which being contrary to the primogenial humidity, leads to death. Now if it be true, as 'tis said, That Life is a Punishment, and a Summary of Miseries, Old-age, as neereſt the haven and end of Inſelicities, is the moſt deſirable. Moreover, being more perfect by experience, and alone fit to judg of the goodneſs of Ages, which it hath run through, we muſt refer our ſelves to the goodneſs of its judgment, as well in this as in all other Points.

The Second ſaid, Since to live is to act, the moſt perfect and agreeable of all Ages of Life is that in which we beſt exerciſe the functions of Body and Mind; namely, Youth (which alone ſeems fit to diſpute the Prize with Old-age) not only in regard of the health and vigour of the Body, wherein it ſurpaſſes that declining feeble Age; but alſo of the actions of the Mind, which is much more lively in young, inventive, and induſtrious Perſons, than in the aged, whoſe Spirit wears and grows worſe with the Body; which hath given place to that moſt true Proverb, *That Old-men are twice Children*. For 'tis to give Wiſedom a ſhameful Extraction, and to make it the iſſue of Infirmity, to call that ripe which is rotten, and to believe that good counſels proceed only from defect of natural heat; ſince, according to his judgment who hath beſt decypher'd Wiſdom, this Old-age traces more wrinkles in our Minds than Faces; and there are few Souls which by growing old become not ſowr and rancid, and acquire not many vices and ill habits; of which Coverouſneſs alone, inſeparable from Old-age, (and an Argument of weakneſs of Mind, in heaping up with ſo much ſolicitude what muſt ſoon be parted with) is not much leſs prejudicial to the State than all the diſorders of Youth. But if the Chief Good conſiſts in the Sciences, the Cauſe of Young-men is inſallible; for acuteness of Wit, ſtrength of Phancy, and goodneſs of Memory (which wholly abandons Old-men), and ability to undergo pains and watchings, muſt contribute to their acquisition. And if it conſiſt in the ſecret delight we take in exerciſing virtuous Actions, Young-men, who, according to Chancellour *Bacon*, excel in Morality, will carry it above Old; it being certain, That the beſt actions of our Lives are perform'd between twenty and thirty, or thereabouts, which was the Age at which *Adam* was created in Paradife; as our Saviour accompliſh'd the Myſtery of our Redemption at the Age of thirty three years, which ſhall be likewiſe the Age at which the Bleſſed ſhall riſe to Glory, in which every one ſhall enjoy ſuch a perfect Youth as we aſcribe to Angels; and put off Old-age, which, not much differing from Death, may, like it, be term'd the Wages of Sin; ſince, had our firſt Parent perſiſted in Innocence, we ſhould have poſſeſs'd a perpetual Youth. Moreover, 'tis at this Age that the greateſt Men have appear'd: Few Old Conquerours have been ſeen; if
any,

any, he hath this of *Alexander*, That he aspires to the Conquest of another World, not having long to live in this. Wherefore instead of pretending any advantage over other Ages, Old-men ought to be contented that we use them not as those of *Cæa* and the *Massagetes* did, who drown'd them; or the *Romans*, who cast them from a Bridg into *Tyber*, thinking it a pious act to free them from life, whose length displeas'd the Patriarchs, the Scripture saying, *That they died full of (or, satiated with) days.*

The Third said, That the Innocence of Children should make us desire their Age; considering that our Lord requires us to be like them, that we may enter into his Kingdom. Moreover, Nature, unable to perpetuate Infancy, hath found no sweeter Anodyne for the miseries and melancholy of Old-people than the sight of Children, and the memory of things done or learnt in their minority, which partakes the more of its source, the Deity, the less 'tis remov'd from it.

The Fourth said, Youth hath too many extravagances to be accounted happy; and 'twould be against the order of Nature if (the Extrems) Infancy and Old-age contain'd more perfection than that which holds the Middle, wherein she hath establish'd the Virtue of all things. The weakness of the first shews that it hath not wherewith to content it self, but needs support from others, and is therefore an object of Compassion, which never arises but from Misery. Its Innocence, proceeding only from impotence and imperfection of the Soul's operations, hath nothing commendable; and 'tis as much unable to will as do good: But true Innocence consists in the acting of difficult good. If Child-hood fear not the Future, it receives a present Evil with more pain, and is as sensible of the least discontents, as incapable of consolation, or prudence to avoid them; nor can it by hope anticipate or prolong the enjoyment of a future good. In short, He cannot be happy who is not conscious of his happiness, as Children cannot be. Then for Old-age, 'tis a second Childhood, and more to be pitied, in that it always grows worse, partakes all the defects of Nonage, and hath this worse, that its desires, awaken'd by the memory of past contentments, upbraid its impotence; and the thirst of getting is at perpetual jar with the fear of leaving: Aches, the forerunners of Death, dayly attaque its patience; and there remains no cure of its Evils, but the extremity of all Evils, *To be no more.* Infancy is therefore like the Spring, which hath only Flowers, and expects Fruits hereafter; so that 'tis an Age of Hope without Enjoyment. Youth hath only Summer-fruits, of little lasting. Old-age is a Winter, without either Flowers or Fruits, possessing only Evils present, and oblig'd to fear all and lose all. But Man-hood, betwixt these two, resembles *Autumn*, denoted by the Horn of Plenty, possesses the felicity of Life, enjoys the Goods acquired, and by hope anticipates those to come; it hath a Soul commonly accordant with the Body, the Faculties of that making a sweet harmony

mony with the Actions of this. On the contrary, the Soul in Child-hood seems not to be well in tune with the Body; in Adolescence 'tis always at discord with the Appetites of Sense; and in Old-age it jars with it self, and by a speedy separation endeavours wholly to break the Consort, and have its part by it self.

CONFERENCE CX.

I. Of Mineral Waters. II. Whether it be better to give than to receive?

AS the goodness of Common Waters is judg'd by their having neither colour, nor smell, nor taste, and the least weight that may be, wanting all other virtues besides to cool and moisten; so, that of Mineral or Medicinal Waters depends upon the qualities of the Minerals wherewith they are impregnated, and by means whereof they purge and alter the Body; Humidity being easily susceptible of extraneous qualities, and preserving the same best in a dense and gross subject, as Water is. These Waters are either cold or hot; the former are drunk, and the latter serve for Bathing; as that of *Aix* in *Germany*; of *Plombieres*, in *Lorraine*; of *Bourbon*, in *Bourbonnois*; of *Bagnieres* and *Barege*, in *Gascogne*; of *Balleruc* and *Barbotan*, in *Languedoc*; of *Acqs* and *Tersis*, near *Bayonne*; and abundance of other hot Baths caus'd by Subterraneous Fires. Of cold Waters, some are acid and pungent to the taste, as the *Vitriolate*, such as those of *Spa* in the Country of *Liege*, and of *Ponges* in *Nivernois*: Others are sharp and rough; as those Springs of *Forges* and *Montdor* near *Rheims*, not long since found by *Sieur de la Framboisiere*; those of *Chasteau Thierry*, of *la Herse* near *Bélesme*; whose acidity likewise argues something of *Vitriol*; and divers others, discover'd daily by experience. Some are found heavy, stinking, fat, and impure; other leight, pure, clear, and sweet. Some are salt or brackish; of colour reddish, green, black, and otherwise different, according as these Waters are variously mix'd; wherein Minerals are contain'd either in substance and their grosser parts, or else only their Spirits and subtiler parts, so well blended as that there appears no extraneous Body at all; which mixtion depends on the Nature of Minerals, some whereof are never perfectly mix'd with Water, by reason of their hardness; others, though soft and liquid, mix only confusedly, as oily Bodies: Others mix easily; as Spirits, in regard of their tenuity; and Salts, which melt in the Water.

The Second said, That in this matter Experience is rather to be consulted than Reason, which falls short in the examen of many

many Waters, of which Histories are full; as of those of Nile in *Egypt*, which make Women fruitful; of a Fountain in *Arcadia*, which prevents Abortion; of the River *Styx* in the same place, and of *Leontini* in *Sicily*, which presently kill such as drink thereof; of *Cydus* in *Cilicia*, which cures the Gowt. Such also is Fountain of *de Jouvence* in the Isle *Bonica*, which makes old men young again; that of *Ise-land*, which hinders gray hairs; the two of *Beotia*, whereof one strengthens, the others abolishes the Memory; two others of the Fortunate Islands, one of which causes *Sardonian* and mortal Laughter, unless the other be presently drunk of; and those of *Theffaly* and *Macedon*, one whereof makes the Sheep that drink of it to have black Wooll, which the other makes white, and both mix'd together make it of several colours; that of the Isle of *Andros*; and another a league distant from *Coblentz*, which inebriate, having the taste of Wine, which the first retained but for seven days, and quitted when carried out of sight of a Temple of that Island dedicated to *Bacchus*; the oylie Fountains of *Zant*; the red Spring of *Ethiopia*, which causes loss of Judgment; as the Mad Lake in *Prester John's* Country also doth, which thrice a day, and as often in the night, becomes blackish and sharp, and returns as often to its own sweetness; the Sabbatical River mention'd by *Josephus*, which dries up every Sabbath-day (render'd credible by that of *Varins* neer *Saumur*, which hath its flux and reflux, as the Sea); the Water of the *Babylonian* Lake, which continues red eleven days in Summer; the Fountain of *Dodona*, so famous among the Poets, at which they lighted extinct Torches; like to another neer *Grenoble*, which at the same stream sends forth Waters and Flames; and many others, which convert Wood and immers'd Bodies into Stone; the true causes whereof are altogether unknown.

The Third said, That Mineral Waters, though humid to the touch, are desiccative; as appears partly from their composition of Mineral, deterfive, and desiccative Spirits; and partly from their effects, which are to heal Ulcers, dry up Scabs and Pustules, and correct the moist *intemperies* of the Stomach, and other lower Parts. Some argue them all hot, from their acrimony, virtues of penetrating, inciding, opening, attenuating, provoking Urine and Sweat, cleansing the Reins and Bladder; all effects of heat. Others account them cold, because being drunk they cause shivering at Midsummer, correct the heat of the Liver and Reins, cure hot Diseases, prejudice cold, and generally hurt the Nervous Parts, to which, according to the Aphorism, Heat is friendly, and Cold hurtful: But though actually cold, yet they have some have some heat in power; and being compos'd of several unlike parts, produce different and sometimes contrary effects: So Aloes and Rhubarb both loosen and bind: All which effects may nevertheless be referr'd to three principal; namely, Refrigerating, Deoppilating or opening, and Strengthening. They refrigerate by their actual coldness and the acidity of Vi-

triol,

triol, which also by vellicating the stomach, causes the great appetite we have during the the use of these Waters. They de-oppilate, not so much by their quantity (which hath made some erroneously say, that the same proportion of common Water would work the same effect as these Medicinal Waters) as by their tenuity, which they have from the metalline Spirits, which make them penetrate and pass speedily over the whole Body. Lastly, they strengthen by their astringency, (for all Astringents corroborate) which the Chymists attribute to their volatil Spirits, which, as they say, joyn themselves to the fix'd Spirits of our Bodies.

The Fourth said, That the three conditions of a good Medicament are, To Cure *Speedily, Safely, and Pleasantly*; as Mineral Waters do. They are familiar to us, by their nature of Water; Medicaments, by their composition, which is discover'd either by letting them settle, or by evaporating, or by distilling them; as also by the smell, taste, and colour, which becoming black by the infusion of Galls, shews that there is Vitriol in them. And whereas the longest and most difficult Maladies proceed from obstruction and cold, the hot or acute being speedily terminated, these Waters are the most effectual Remedy of both; for they penetrate, and, like a torrent, open not the great passages only, but also the small veins of the Mesentery; and heat by their Spirits and Sulphur, which hath a heat very benign and friendly to the principal parts, especially to the Lungs, whereunto it is a Balsom and Specificall. Above all, they are admirable in curing Gravel, not only vacuating the gross and viscous humours, which are the matter of the Stone, but sometimes breaking and dissolving the Stone in the Kidneys and Bladder; which, amongst others, those of *Spa* perform, by reason of their abounding in Vitriol, whose acidity and acrimony produces the same effect upon Stones in the Body, as that of Vinegar doth upon Egg-shells, Pearls, and Corals.

The Fifth said, That the use of Natural Baths, whether hot or cold, may be easily practis'd in sundry Diseases; but 'tis important to discern the occasions of taking them by the mouth, and their differences. For, besides that their great quantity (the *Italians* prescribing above 200 ounces a day, others 25 pound) sometimes overcomes the strength, and extinguishes the natural heat; some have malignant Qualities, and Enemies to the principles of Life, not so much by reason of their Metalline Spirits, disproportionate to our Bodies, as of the mixture of Mercury, Plaster, and other Earths entring into their Composition; whence many die by taking the Waters, or come back from them more infirm, by accidents following upon them, as Gowts, weakness of Stomach, Imbecillity, Lassitude, Livid Complexion, Dropsie, and other more dangerous Evils than that for which they were recurr'd to.

The sixth said, To the end the use of these waters may prove
H healthful,

healthful, regard is to be had to the Persons, the Diseases, and the Nature of the waters. As for the first; Children, old Men, breeding Women, and fat People, must not take them without great necessity: For the second; Most waters are unprofitable, and sometimes contrary to the disease; as, to the infirmities of the Breast, Fluxions, Ulcers of the Lungs, Epilepsie, Apoplexie, Convulsions, cold Maladies, and all others of the Brain and nervous Parts. If there happen a complication of Diseases, some of which require, others reject the use of the Waters, regard must be had to the most urgent and dangerous. They have not always the same effect; either because they are corrupted by Rain, or vehement Heat consumes their subtlest Spirits, in which their chief virtue resides; which likewise depend on the Quality, Quantity, Time, Place, and Manner wherein they are to be us'd: For they must be taken in the Morning, fasting, in a hot and dry Season, as well because they are then purest and lightest, as because the Body better supports that quantity of cold Water, which relieves its natural Faculties languishing in great heat; and, if it may be, they must be taken at the Spring, the Spirits being easily dissipated by transportation. The Quantity, and Time of taking them, are not to be measur'd by the number of Glasses or Days, but proportionated to the Disease and its Causes, the diseas'd Parts, the Age, Temper, Custom, and other Signs, from which Physitians take their Indications: Which Conditions being well observ'd, it may be said, God hath not given Men any thing more profitable than these Medicinal Waters, temper'd by Nature her self, who makes us a free present of them; their disproportion with our Bodies being the cause of their action upon them, (otherwise we should turn them into our substance, as we do Plants and Animals); the bad successes which happen by them being much more rare than those of any other Medicaments, although the most rebellious Diseases are commonly remitted to them.

II.
Whether it
be better to
Give than to
Receive?

Upon the Second Point it was said, That the straight connexion between all the parts of the Universe makes this Question hard to be judg'd; since they give nothing but what they receiv'd before. For our common Mother, the Earth, receives her fruitfulness from the impressions of the Air; the Air, from the influence of the Stars; these their light and power from the Sun; and he his from his Maker: Which the *Platonists* represent to us by the mutual embraces of *Porus* and *Penia*; the one the God of Plenty, which is the original of Gifts; the other the Goddess of Necessity, which is the cause of Receiving; to shew, that they necessarily follow one the other. And as in Nature the attenuated and rarifi'd Parts strongly attract the next for hindring vacuity, and the full reject what is superfluous; so in Morality we may say, That Giving and Receiving are equally good and natural, not differing but in certain terms and respects; otherwise

otherwise a Man might be said more or less excellent or happy than himself; there being no Person but hath need to Receive and power to Give at the same time, out of the Plenty or Necessity which he hath of something; For should he be stor'd with whatever he could wish, Might not we ask him, as *S. Paul* doth, *What hast thou that thou hast not receiv'd?* So then, 'tis Reception that hath put him into this happy state; and if there be any excellence in Giving, it proceeds only from having Receiv'd before. Moreover, the three points which make a thing esteem'd in the World, Profit, Pleasure, and Honour, are all on the Receiver's side: For he must have renounc'd all the interests of Self-love that can believe there is more Profit and Pleasure in Giving than in Receiving. And as for Honour, although it seem more openly to favour the party of those that Give, nevertheless since Giving and Receiving are Correlatives, the reason of either must be alike; and there cannot be Honour and Virtue in the one, but there must be so in the other; nor, on the contrary, Blame and Ignominy in the Receiver, but it reflects back upon the Giver. And as he who loves, is less excellent than he who is lov'd, because he hath some perfection in himself which renders him lovely, which is ordinarily wanting in him who loves; so, between the Giver and the Receiver, the latter being as 'twere the Person lov'd, may be said more noble than he who Gives, who is the Lover; for there is no less Liberality in the one Person to be willingly oblig'd, then in the other to oblige him; and besides, Virtue being a habit of the Will, he who Receives with Gratitude, and desires to Repay with Usury, may be said as virtuous and as liberal in the act of his goodwill, as if he gave effectively. But this Virtue, commonly appropriated to the Giver, is oftentimes rather Ostentation and Vanity, than true Virtue. For either the Man gives such things as himself needs, and then 'tis rather Folly than Virtue; or such as are superfluous, in which case 'tis no Virtue for a Man to deprive himself of a useless thing. Yea, sometimes tis more ignominious and dishonest to Give than to Receive; for every thing restrain'd by the Laws is not only unjust, but vicious and dishonest: Now the most part of Donations is restrain'd, not only by that rule of Givers, who say, That the Title *De Donationibus* is the Title of Fools, because to Give is to Lose; but the Emperours had an express Officer call'd *Comes Sacrarum Largitionum*, who was to retrench the superfluity of their Gifts, and put in execution that *Formula* of our Chambers of Accompts, *Trop donné soit repeté; Too large a Grant is to be recall'd.* Yea, the Donations of private Persons were retrench'd by the same Laws; even those between Husband and Wife; Legacies, by the Law *Falcidia*; Feoffments, by the *Trebellian*; Liberties, by the *Caninian* Law. But there can be no shame in receiving; since not only Kings, but God himself Receives from Men; and the Grandeur of the Messiah is not describ'd by the Prophet, saving

by the Presents he was to receive of the Kings of *Arabia* and *Saba*; Gifts being a testimony of their excellence to whom they are conferr'd: Whence the Lawyers hold, That a Testamentary Legacy is a mark of Honour to the Legatee; as also they call the Fee which Advocates receive, *Honorarium*: And the Wise-man commands us to Reward the Phyfitian by the word of Honouring him. In fine, The præminence of Receiving above Giving sufficiently appears, in that our Lord invites us to Give, only by the promise and hope of Receiving an hundred fold.

The Second said, Although to Give and to Receive be so difficult, that *Seneca* justly complains, That we know not how to do either; yet the former is far more excellent, according to *S. Paul's* testimony, who in the 20th of the *Acts* exhorts the Christians to remember the Word of our Lord, *That it is more blessed to Give than to Receive*. For since, according to the Maxim, A man cannot give what he hath not, nor receive what he hath already; Giving is a sign of Plenty and Perfection, as Receiving is of Want and Imperfection: Whence 'tis nobler to be lov'd than to love, because Love is the desire of a Good which we want, and is found in the Person lov'd. Moreover, since an Action is the more excellent, by how much 'tis more virtuous and honest; Giving, which is more virtuous because more difficult than receiving (as being contrary to our natural inclination of Getting) is also more excellent. Wherefore Philophers reckon not amongst Virtues the habit of Receiving, as being wholly mercenary; but account Liberality and Magnificence a Royal and Divine Virtue: For, if to Receive were an act of virtue, as *Aristotle* holds, who places Liberality as well in Receiving as in Giving, it had not been a Virtue in *Curius* to refuse the Treasures of the *Sannites*. But the action of Giving hath been honour'd, not only with the Name, but the Tokens and Ornaments of Virtue, Praise, and Honour; as Ignominy oftentimes adheres to those that Receive. Now an Action is the more virtuous, the more 'tis honour'd and commended; and since many who Receive are ashamed of it, and unwilling to have witnesses of this action, whereas all that Give derive glory for so doing; there can be no virtue in Receiving, because we are not ashamed of Virtue, but only of Vice.

CONFERENCE

CONFERENCE CXI.

I. Of Antidotes. II. Which is most communicative,
Good or Evil.

AS every thing hath its Contrary, so to Poisons there are
Counter-poysons, call'd Antidotes, *Alexipharmaca*, or *Of Anti-*
Alexiteria, of a middle nature between Medicaments and Poi-
sons, with which they must have some similitude, that they may
joyn with and encounter them in the Body. Such is Vipers
Flesh, which enters into the composition of Treacle, against
that Animal's bitings; in which Antidote divers other Poisons are
blended, which nevertheless being corrected one by another,
they remain not only innocent, but serve to elude Poisons which
attaque men by trechery, seeming Friends to them, that they
may destroy them, more certainly than the good Wife mention'd
by *Ausonius* did, who having given her Husband Sublimate
enough to kill him, and fearing 'twould fail of its effect, caus'd
him to swallow down Quick-silver, which comming to be joyn'd
to the Sublimate, quell'd the strength of it, and by this means
sav'd the Man. Diseases arising from manifest qualities require
contrary Remedies; as Plenitude, evacuation; a hot Distem-
per, cold Correctives: But when the imperceptible puncture or
biting of a Scorpion makes the whole Body swell, or excites such
other symptoms, then Remedies acting by first and second qua-
lities being found unprofitable, we must have recourse to Speci-
ficks, which act by an inexplicable Property of Substance; of
which rank are our Antidotes.

The Second said, That Poisons and Antidotes, Medicaments
and Aliments, are not call'd so absolutely, but as compar'd to
the Natural Heat: For when subdu'd and turn'd into the Ani-
mals Substance, they are call'd Aliments; when Nature is alter'd
by them, Medicaments; when destroy'd, Poisons; when pre-
serv'd from their malignity, Antidotes. Hence, according to
the diversity of this heat, one same thing is food to one and
poison to others: As Hemlock is eaten by Goats and Quails,
Henbane and Mandrakes by Swine, Cantharides by Swallows,
Flies and Spiders by Poultry and Birds, although the same be
poison to Men; some of whom do receive no hurt by poisons, as
'tis reported of *Mithridates*, whose body was so prepar'd by his
Antidote compos'd of Rue, Nuts, and Figs, that he could not
kill himself by poison; of the Wench presented to *Alexander*
who was fed with *Napellus* or Monks-hood; of the old Woman
in *Sextus Empiricus* who swallow'd 30 drachms of Hemlock
without harm; of *Athenagoras* the Argian who was not hurt by
Scorpions, wherewith the *Æthiopians* dwelling neer the River
Hydaspes

Hydaspes are fed as well as with Snakes, which *Avicenna* saith, another man kill'd by being bitten with them, possibly having his body full of a humour like fasting spittle, which *Galen* saith kills Serpents and other Insects. These Poisons and Antidotes are either Natural or Artificial; those more frequent in Southern then in Northern Countries, are communicated by Potions, Powders, Juices, Vapours, Touches, and other detestable means. The Natural differ either in Matter, or in Quantity, or in Quality, or in Operation. The Matter of Poysons, which is found almost every where, is either within us, as the Seed and the Blood, which by corruption oftentimes acquire a venomous quality; such as also is that of the matter of the Epilepsie and Suffocation of the Womb: Or else without us, in the Air, Water, and Earth; Fire alone being contrary to Poyson and putrefaction, which easily happens to the Air and Water through their great humidity: But the Earth by its excrements and impurities supplies most Matter to Poysons, which are drawn either from Minerals, from Plants, or from Animals. Arsenic, Orpiment, Vitriol, Plastre, Lime, Sublimate, Borax, Verdegrease, Quicksilver, Cinabar, Ceruse, and Red-lead, are of the first order. To the second belong Aconite or Woolf-bane, Chamalea or Widow-wayle, Yew, Spurge-lawrel, Thapsia or scorching Fennel, Tithymals, Hellebores, Vomiting Nut, Opium, Nightshade, and many other Plants; some of which have only venomous Flowers, as certain white Violets; others only their Fruits, as the Apples of Mandrake; or only the juice, as Lettice and Poppies; or the Seeds, as Henbane and Spurge; or the Roots, as Aconite and Hellebore. To the third belong *Lepus Marinus*, the Salamander, the Flie call'd *Euprestis*, the Scorpion, Viper, Asp, Adder, Toad, Tarantula, Shrew-mouse, and divers others; which are venomous either in all their parts, as Cantharides and Spiders; or only in some, as Vipers in the Tail and Head, the Hart and Fork-fish in the extremities of their Tails, the Wivern in one of its Claws: Or in their Excrements; as the Gall of the Leopard, the Urine of a Mouse, the Foam of a Mad-dog, the Sweat of an enraged Horse, and the Blood of a Bull. As for the Quantity; although all Poysons act in a little volume, yet some require less Matter; as Opium acts in less quantity than Hemlock; this, than the juice of Leeks; and this, than the juice of Lettice. According to Quality; some are hot, and either inflame, as *Euphorbium*; or corrode, as the *Lepus Marinus*, which particularly invades the Lungs; the Asp, the Liver; Nightshade and Henbane, the Brain; Cantharides, the Bladder. Others are cold, fixing the Spirits and natural heat, or hindring their free motion; as Opium, and the Salt of Lead. Others are dry; as Lime, Vitriol, and Arsenic, which consume the Radical Humidity: For Humidity being a quality purely passive, and of it self incapable of causing pain, there are no Poysons simply humid. They differ also in their manner of acting; the

the cold kill by conspiring or stifling the Heat; Hellebore by vehement attraction of the Humours: Some corrode the Substance; others alter, resolve, or putrifie it. And because all Poisons chiefly attaque the natural Heat, and the Heart; as the Swoonings, Palpitations, and Weaknesses accompanying them witness: The Antidotes must be Cardiacal or friends to the Heart, strengthening it, and joyning forces with it to expel or subdue the malignity of the Poyson:

The Third said, Physick opposes Poyson, either by Preservatives before 'tis taken, or Remedies afterwards. Preservation dependson the administration of the six Not-natural things; as the avoiding of Air and Places infected, perfuming them by burning of Wild-Thyme, Mountain-Majoran, Southernwood, Kings Spear, or Cedar; anointing the Body with Rose-oyl, which is an Enemy to Serpents and venomous Creatures; and eating in Vessels of Porcellane, and the like, which discover Poisons. Simple Preservatives are either appli'd outwardly, as the Topaz, Emerald, and other Amulets, worn next the skin; or inwardly, as Bezoar-stone, Bole-Armenick, Lemnian or Seal'd Earth, Vincetoxicum, Turnep, Dittany, Garlick, Rue, Citron, Pomegranate, &c. Of Compounds the most famous is *Theriaca* or Treacle, made of above a hundred Ingredients. When Poyson is already introduc'd into the Body, whether by biting, stinging, breathing, foam; or by the sight, as that of the Basilisk; or by the touch, as that of the Torpedo; or by the mouth; regard must be had to three things. 1. To strengthen the Natural Heat, that it yield not, but may resist the Poyson; and to corroborate the Entrails, for fear they receive any malignant impressiō. 2. To destroy the force of the Poyson. 3. To evacuate it speedily, either by attraction (as by Sucking or Cupping) or by Incision and Ustion, if the Poyson was receiv'd extrinsically; but if 'twas taken by the mouth, it must be evacuated by Sweat, Urine, Siege, and Vomit, which is the speediest and safest, provided it be provok'd by familiar Medicaments, as Butter, Oyl, Milk, or the like unctuous things. These Antidotes are either general, resisting all sorts of Poysons, strengthening the Heart and Spirits; or else peculiar to some certain Poyson. General, are Blessed Thistle, Angelica, Valerian, Dittany, Scabious, Devils-bit, Pimpernel, Tormentil, Rue, Scordium, Wood-forrel, Wormwood, Plantane, Marigold, Fluellin, Gentian, Juniper-berries, Bezoar, Treacle, Armenian and Lemnian Earths, the Horns of Hart and Rhinoceros, and Ivory. Of Particular, Mummy is good against Tithymals; the Weasel and Man's Ordure, against envenom'd Wounds; the Root of Dog-rose, against the biting of a Mad-dog; the Flower of Water-Lilly, against Hellebore; Cucumbers, against *Pharao's* Figs; Wormwood, Garlick, and Mustard, against Toad-stools; Long Birth-wort, against Aconites; Vipers Flesh, and all Precious Stones, against Menstrual Blood; Baulm and Endive, against Spiders;

Spiders; *S. Katherine's Flower*, and Dancing, against the Tarentula; Sea-Crab, against Night-shade; Citron-pill, against Vomiting Nut; *Origanum*, or Wild-Majoran, against Mezareon; the Seeds of Winter-Cherry, against Cantharides, and the Salamander's foam; a roasted Fox, and Oysters, against the Sea-Hare; Pigeons-dung, and Parsley-seed, against Mercury; Treacle, against the Viper; Oyl of Scorpions and Wasps, against their Stings, by sympathy drawing out the venomous Spirits, and rejoyning them to their first Body. Of all which effects 'tis more expedient to admire, than unprofitably search the Cause, which hath been hitherto unknown to the greatest Wits, and depends upon that of Sympathies and Antipathies.

The Fourth said, There are two sorts of Mitions in Nature; one, of Qualities; the other, of Substantial Forms. In the first, the Qualities being rebated by their mutual encounter, an agreeable harmony or temper results, in which the prevailing Quality bears sway, and makes a Temperament hot, cold, dry, or moist. In the second, these Qualities being alter'd, the Elementary Forms, which were contrary only by their adversary Qualities, unite and conspire into one particular Form, the Principle of Occult Properties, Sympathies, and Antipathies, according as their Forms are found Friends or Enemies. Thus in all Medicaments there is a temperament of Qualities, which is the cause that Pepper is hot, Lettuce cold, &c. and a temperament of Forms, which makes Agaric purge Phlegm; Sena, Melancholy; Rhubarb, Choler: some Drugs, Cardiacal; others, Cephalical, or Splenical. From the mixture of these Forms arises the action of Antidotes and Poyson; and not from that of the Elementary Qualities, although they accompany their Forms, being their Servants and Vicegerents: Otherwise, did Poysons kill by excess of heat or cold, Pepper and Cucumber would be Poyson, as well as Opium and Arsenick; and a Glass of Cold Water would be the counter-poyson of Sublimate: And nevertheless there are many *Alexipharmaca* which agree in first qualities with the Poysons they encounter.

11.
Which is
most commun-
icative Good
or Evil?

Upon the Second Point it was said, *Homer* had reason to set two Vessels near *Jupiter's* Throne; one full of Bitterness, the other of Sweetness; wherewith he compounded all the Affairs of the World: Since by these contrarieties of Good and Evil, Man's Life, and Nature it self, is divided. For if the Principle of Good consist in Entity, according to *Aristotle*; and Evil, in Non-Entity; Privation, which is the Principle of Non-entity, and consequently of Evil, is as well rank'd amongst Natural Principles, as Matter and Form, which are the Foundations of Entity and Good. And we see, Corruptions are as common as Generations, and Darkness as Light. But if we consider Evil in the vitiosity of Entity, then, according to the Platonists, who call what is material and corruptible, Evil; what is spiritual and

and incorruptible, Good: Man, consisting both of a material and spiritual Substance, will be the Center where all Goods and Evils will terminate: In which respect he will be like the Tree of Knowledge of Good and Evil, plac'd by himself in Paradise; or like that, to which *David* compares him, *planted by the brink of Waters*, which are Afflictions. For his Branches and upper Parts being deck'd with Flowers, Leaves, and Fruits, which are the three sorts of Goods which attend him; his Flowers (whose whiteness denotes the Innocence of his first Age) are the Goods of the Body, which pass away with his Spring: His Leaves (whose Verdure is the Symbol of Hope, which never leaves him till death, being fading, and subject to be dispers'd by storms) are the Goods of Fortune: And his Fruits are the Goods of the Mind, Knowledge and Virtue, which are more savory and nutritive than the rest. But if we behold the Roots of this Tree, wherewith 'tis fasten'd to the Earth, and which are the original of his Evils; some sticking to that Stock of *Adam*, the source of his Original Sin, which sends forth a thousand Suckers of all sorts of Vices and Passions; others, to that Clay from whence he was extracted, and which is the Principle of all bodily Infirmities; we shall find that his good things are external, and communicated from elsewhere; but his evil things are internal, and natural, and consequently more communicative: For as to Vices, the Evils of the Soul, bad Examples corrupt more than virtuous edifice: And for those of the Body, Diseases are more easily gotten than cur'd; and Health is not communicable to others; but Epidemical Diseases are: A bad Eye, a tainted Grape, and a rotten Apple infects its neighbour, but by parity of Reason might as well be preserv'd by it. The Evils of others not on'y do us ill by Compassion, which is a sort of Grief; but also their happiness causes in us Jealousie and Envy, the cruellest of all Evils. Besides, Good is rare, and consequently not communicative; and Possession fills, but satisfies not. Nor is Metaphysical Good communicable, being an abstracted not a real Quality: And if Evil arise from the least defect of a thing, and Good only from its absolute perfection; then since nothing is absolutely perfect, Good is not communicated to any one thing here below; but, on the contrary, Evil is found in all.

The Second said, That which hath no Being cannot be communicated: But Evil is not any thing real, and hath not any Efficient Cause, as was held by the Manichees and Priscillianists, condemn'd for establishing two Principles, one of Good, the other of Evil, independent one on the other. For since Good consists in the integrity and perfection of Parts, and of whatever is requisite to the Nature of a Thing, Evil is nothing but a Privation, a defect and want of what is requisite to its perfection. And, being a thing is communicated according as it hath more or less of essence, Good, which is convertible with Being, must be more communicative than Evil, which is only a Being imperfect.

God, who possesses Being and Goodness primarily, communicates himself infinitely; as doth also Light, the most perfect of all created Substances. Moreover, the Nature of Good consisting in Suitableness and Appetibility, by reason of Contraries; that of Evil consists in Unfitness and Aversion; and if Evil be communicated, 'tis always under the mask and appearance of some Good, which alone is communicative by nature.

The Third said, Good is more difficult than Evil, which is commonly attended with Profit and Delight, and consequently more communicative. For Nature having implanted in us a love of our selves, doth also instigate us to seek after all means that may tend as well to the preservation of our Nature, as to our Contentment; namely, Riches, Honour, Beauty, and all other Goods, either real or imaginary; which not being in our power, but almost all in others hands, cannot be much desir'd without sin, nor possess'd without injustice, much less acquir'd by lawful ways, much rarer and longer than the unlawful and bad, which are many, and easie, and consequently more frequent.

CONFERENCE CXII.

I. *Why Animals cry when they feel Pain?*

II. *Whether it be expedient to have Enemies?*

I.
*Why Animals cry
when they
feel Pain?*

AS Speech was given Man to express the thoughts and conceptions of his Mind, so was Voice to all Animals, to signify the motions and inclinations of their Nature towards good and evil: But with this difference, That Voice is a Natural Sign, having affinity with the thing it signifies; which Speech hath not, being an Artificial Sign, depending on the will and institution of its Author. Hence it comes that there is great variety of Languages and Dialects among Men; but one sole fashion of forming the same Voice amongst Animals; who being more sensible of Pain than of Pleasure (the former destroying Nature, the latter giving only a surplussage of Goodness) when the Evil is so great and pressing that they cannot avoid it, impotence and weakness makes them send forth Cries, to implore the help and assistance of their Fellows. For Nature having imprinted in all Creatures a Knowledge of Good and Evil, and consequently an inclination to the one, and an aversion to the other; she hath also given them means of attaining thereunto, to wit, Local Motion, to go thither of themselves; and a Voice to seek of others that Good they want, and deliverance from the Evil which presses them.

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The Second said, That only such perfect Animals as have Lungs have the gift of Voice; others, destitute either of Lungs, as Fishes; or of Blood, as most Insects, (having little heat, of which Blood is the foundation) have no need of Air, which is inspir'd only to cool and temper the excess of Natural Heat; and so for want of Air, which is the matter of Voice, are almost all mute, except the Dolphin, whose Voice is like that of Man. Grass-hoppers, Flies, Bees, and other Insects, make a noise and sound indeed, by the collision of the Air and their Wings, but have no Voice, which is defin'd, A significative sound made by the mouth of an Animal; and by *Aristotle*, The stroak of the Air (attracted by respiration, and emitted by the Lungs) against the Larynx, to express something. So that the Efficient Cause of Voice is the Soul; the Matter, Air; the Form, Sound, or the collision of two solid Bodies; the End, to signify something: And so Animals cry, to signify the grief they resent: But why they testify this grief by so different tones and accents, is as difficult to understand, as the last differences in which Philosophers have plac'd that diversity; as Howling, Barking, Bellowing, Braying, Roaring, Neighing, and such other accents of Beasts; the cause whereof is hitherto unknown.

The Third said, Such Animals cry soonest and longest who have the strongest Imagination, the most exquisite touch, the least ability to suffer, and the least conscience, because most susceptible of apprehension and pain; and their Spirits being diffus'd in a less bulk, are aptest to be mov'd and gather'd together about the Heart; which by this means being unusually oppress'd, communicate the sense thereof to the Lungs, which suffering by sympathy, and being instruments for the hearts ventilation, perform their functions then with more speed and violence, by an irregular motion, forc'd by the present Necessity, and the pain which presses them; and so the Air which was contain'd in their spongy substance, issues forth impetuously, and by collision with the Epiglottis and other opposing parts, forms loud and resounding clamours: Whence we may judge, That the secret intention of Nature, who disposes these Organs in such sort that the Cry is a kind of interpreter of the Grief, was to give some refreshment or ventilation to the Spirits thronged about the Heart, and also intelligible tokens of the Evil suffer'd by the Animal, either to move the injurer to compassion, or else to invoke the help of its own *Species*, or (by unknown instinct) that of the Author of Nature: For we see that Animals, by the motives of natural instinct, run to the cries of those of their own kind. And since the Holy Scripture tells us, That not only Birds, and all other Animals, but also insensible things praise God; 'tis credible that in their anguishes they are lead by the same Principle to cry to him to help and preserve the Work of his own Hand: Which is so true, that the wicked'st Persons are forc'd by the interior motions of a hidden power to lift up their hands to Heaven in their

Afflictions, and implore Succour and Assistance from on High.

The Fourth said, That the Sense of Touch is both more universal and natural to Animals than any other; being the first they have, and the last they lose: The dolour thereof is express'd with Cries; to which Man, having the most exquisite Touch, and consequently being most sensible of pain, is also more subject than other Creatures. And if that Ancient said true, That Tears are mute execrations of the Sorrows of Life, which we begin and end with them, Cries may be said the more manifest and earnest, since they pierce the clouds, and see into ascend to the Throne of God, to demand succour of him, when none is found upon Earth. 'Tis an impetuous sound utter'd by an Animal, unable to resist present or imminent Grief: For 'tis proportional to the violence of the Passion. Love, which is the gentlest, renders it smooth and soft: Choler, the violentest, makes it more vehement: And Grief, the most pressing of all, and tending to the destruction of Being (which is equally abhor'd by all Creatures) ariseth it to the highest tone of which 'tis capable: Whence even Speech, which being artificially divided into syllables and cadences is peculiar to man; yet in the precipitateness of Grief, keeps not its measures, but breaks into an inarticulate sound, like that of Animals. For explication whereof it must be known, that the Cuticle, the chief seat of the Touch, and consequently of Pain, is the expansion of the Nerves, the conduits of the Animal Spirits, which in Pain either shrink inwards, and so cause stupefaction; or being irritated and sent by Nature to the aid of the hurt part, by Sympathy move the *Diaphragma*, and other nervous and membranous Parts: For, as of two Lute-strings set at the same pitch, the one sounds upon the touching of the other; so in the Harmony of the whole Body, there may be the same sympathy between the Spirits and the Parts; an evidence whereof is seen in Tickling and Laughter, which is caus'd by the contraction of the *Diaphragm*; which is the reason that the aspect of such as Laugh and Weep is much alike. And because in Grief the coarcted Spirits hinder respiration, and free motion of the Heart; therefore Nature, to ease her self, drives them outwards with violence, and with them moist vapours which partly transpire by the pores, and are partly condens'd in the Brain, whence they flow through the eyes in streams of Tears, which by this means greatly alleviate Grief, as the want of Them and Cries argues its vehemence: Besides that, they may serve Animals to terrifie their Enemies, or else to implore the assistance of their Fellows; as we read of Elephants, that falling into a Ditch they call other Elephants to their aid.

11.
Whether it
be expedient
to have Enemies?

Upon the Second Point 'twas said, That 'tis proper to a wise man, by God's Example, to draw Good out of Evil, and benefit from the most pernicious things. So Physitians turn the strongest Poysons into wholesom Remedies: Men use the spoils of

of the fiercest Beasts for nourishment, cloathing, and other purposes of Life: And many great Personages have taken occasion from bodily Diseases, Shipwracks, Losses, Banishments, and other such unkindnesses of Fortune, to give up themselves wholly to Virtue, and the Knowledge of Things. Since then Enmity is the greatest of all Evils, as Unity is the most excellent of all Goods, and the noblest of all Virtues, as having no Vicious Extremity, but being perfect by being boundless; 'tis a Point of great Wisdom to be able to draw some benefit from ones Enemies; whereof the principal is, that they oblige us to stand upon our guard, to order our demeanour well, and so to frame our Lives, that they may have no hold against us: For, as Friendship is the Parent of Confidence and Liberty; this, of Negligence: So Enmity begets Diffidence, and this Circumspection, with a great desire of Virtue, and shame of Vice, whose turpitude makes us blush more in the presence of an Enemy than of a Friend, who being our other Self, complies with our humours and inclinations. And as Natural Agents are more vigorous in presence of their Contraries (whence Fire scorches more in Winter than in Summer) so the presence of Enemies redoubles our strength and courage; their neighbourhood obliges us to have always our Arms in our hands, and keep good Guard; which made *Cato* declaim against those who raz'd the Cities of *Carthage* and *Numantia*, both Enemies to *Rome*.

The Second said, That if a Man be vicious, 'tis more expedient that he have Enemies than Friends; these too easily adhering to his debauches; but those withdrawing him from them, either by reproaches, or by the example of a contrary life. If he be virtuous, his Enemies make his Virtue shine forth, whilst it serves him for a defence and apology, against all their accusations and calumnies; and he finds it his interest to continue his virtuous Practices, that he may still refute them; whereas the flatteries and compliances of his Friends insensibly corrupt him. Besides, seeing a virtuous Man cannot be said absolutely perfect, but only to have fewer defects than another, his dissembling or flattering Friends sometimes know them not; but an Enemy takes notice of them, and blazing them abroad, gives him warning to correct them. Yea, it seems a sign of a virtuous Man to have Enemies: For, besides that Virtue hath been always envy'd and hated, and the higher a Man is in merit and dignity above others, he hath the more Enemies; resemblance of Manners begets Friendship, and disparity Enmity; and more without comparison are vicious than virtuous: But the vicious being unable to love any but those like themselves, hate all who follow not their example, as the virtuous do not, and so have the greatest part of the World against them.

The Third said, That Enmities can produce no good, since either Vice, or Malice, or Ignorance is the cause; it not being possible but either he that is hated must be vicious, or else they
that

that hate him malicious or ignorant. For, as Friendship is founded upon, and cannot subsist without Virtue; so neither can Enmity, without the Vice and Malice of him that hates, or his that is hated, or both together. And as the Effects of Amity are Union, Concord, Security, and Peace; so those of Enmity are Division, Discord, Diffidence, Suspicion, Treachery, Hatred, and other such Effects, noxious not only to a private Person, who cannot draw any benefit from what tends only to his ruine (as all Hatred doth); but also prejudicial to the Publick, which is totally destroy'd by Enmity, which breaks the bonds of Civil Society. On the other side, If all were Friends, one man would be a God to another (as that Ancient said); and all men concurring together by mutual help, to the accomplishment of one anothers designs, there would be no more difficulty in Affairs, because no opposition; and the World would be nothing but a harmony of favourable Successes. Contrarily, 'tis Enmity makes one man a Woolf to another, a Stone of offence, and the Dæmon of his bad fortune: For, the benefit of understanding our own Vices by our Enemies reproaches, is not to be compar'd to that which we receive from the good counsels of Friends, who are better qualifi'd for redressing our imperfections, because converse affords the means to know them; whereas the rude censures and affronts of an Enemy, being never taken in good part, cannot any wise contribute to the correction of our Manners. A wise and virtuous Man, who voluntarily endeavours to practise Virtue in all occurrences, finds ways enough to do it, without waiting to be constrain'd thereunto by the injuries and censures of Enemies: But the vicious will draw nothing from them but fuel to his rancour and revenge, without being instructed concerning his faults by the mouth of those whom he utterly disbelieves. However, we must draw as much profit as we can from our Enemies; and 'tis the only comfort can be had against Hatred, to make use of it as an Antidote against its own Poyson. But then, as 'twould be more expedient to have no Grievances or Poysons, than to be at the trouble of finding Anodynes and Counter-poysons; so we may be allow'd to derive some remedy from Enmities against their Mischiefs, and make as much profit of Vice as 'tis possible; but 'twould be expedient to have neither Enemies nor Vices.

The Fourth said, That Nature subsists only by Contrariety. That, of the First Qualities is the cause of all the Generations of Mixts in the great World. Man's Life lasts only so long as the Natural Heat acts upon the Radical Moisture; when their combat is ended, he must necessarily die. His Understanding hath no better means to obtain Truth, than by contrariety of Opinions; whereof Identity is as disagreeable to the Mind as 'tis to Nature: But his Will hath no more powerful Means to attain to Virtue than Resistance, which sharpens the Courage, and enkindles Resolution. Therefore God has given Man a domestick Enemy,

my, the Sensitive Appetite; that it being continually at war with the Will, might serve to exercise it, and render its Victories more glorious; the Will, as well as the Understanding, growing rusty when they want exercising, which whets and strengthens them both. Hence *S. Paul* was not heard when he pray'd thrice to be delivered from the importunity of his Enemy; God judging it not expedient for his good; and having also permitted Heresies in the Church, which the same Apostle saith are necessary, to the end to prove the Faith of its Members.

CONFERENCE CXIII.

I. *Of the Iris, or Rain-bow.* II. *Whether the Reading of Books is a fitter way for Learning than Vocal Instructions?*

TWas not without reason that the Poets feign'd *Iris* to be the Daughter of *Thaumas*, or *Thaumasia*; that is to say, ^{1.} *Of the Rain-bow.* of *Admiration*: thereby intimating our not knowing its cause: For Wonder is the Off-spring of Ignorance. Amongst many other things, Three we find to admire in it; its Matter, Form, and Colours. Its Matter is not a moist Cloud, as most imagine; for (besides that then we should see Rain-bows more frequently than we do) a Cloud cannot reflect the Sun-beams with that variety or medley which we observe therein: For there would be but one colour, if the Cloud were diaphanous; and otherwise, it will be black and dark. 'Tis not therefore in a Cloud that the Rain-bow is form'd, but in the falling drops of Rain; as we see some Fountains form one in the Air, by the ejaculation of the Water struck with the Sun-beams; as also by the spouting of Water out of the mouth, opposite to the Sun: For an *Iris* is not visible, unless we be plac'd between the dropping Cloud and the Sun. If the Cloud be between our eye and the Sun, it will receive the Rays only on that side which is next the Sun, and not on that side which is towards us. Nor will any *Iris* appear, in case the Sun be between the Eye and the Cloud: For, according to the common opinion, it cannot be seen higher than three miles; but in this opposition of the Sun, the *Iris* will be remote from us above 18 degrees, which make above 1100 miles, allowing 60 miles to a degree, according to *Ptolomie*. Hence the Rain-bow which appears before Noon, is always towards the West; as that which appears about or after Noon, is always towards the North, or the East; at which times we are between the Rain-bow, and the Sun. Hence such as are in the fifth Climate can never see one in the South. Now the surfaces of these drops

drops of Water (which fall confusedly and disorderly) being irregular, and struck obliquely by the Sun-beams, they make a refraction of his Light, like that which is made by Diamonds cut into Facets, but more permanent; because the drops of Water fall so swiftly and successively that they seem continuous. A Rain-bow then is nothing else but the Light of the Sun, receiv'd in this falling Rain, and remitted to our eye by an Angle of refraction, different from that of its incidence; for if it were equal, the Image of the Sun would appear therein too, as we see it doth in *Parhelia's*. Indeed we may say, That the Rain-bow is an imperfect and begun *Parhelion*; the Light of the one being reflected regularly, and that of the other in confusion, and disorderly: And, That its Arch and circular Figure proceeds from the obliquity of the Sun-beams: Or else, That he being a Spherical Body, casts his Rays circularly: Or, lastly, from the Spherical or Parabolical form of the Cloud: Which is also true in the *Iris* which is form'd in the night by the Moon-beams, receiv'd in a Cloud dissolving into Rain; saving that her Rays, being not so strong and luminous as those of the Sun, illuminate only the surface of the Water, and therein paint a faint whitish colour, and not such an enamel of colours as is seen by day in the Solar *Iris*; which colours are nothing else but an imperfect Light, which cannot be directly reflected to the eye, by reason of the inequality of the Angles, and therefore at least forms these Colours; of which the three principal are, Yellow, or Citrinous, which is the highest; Blue, or Green, which is the middlemost; and Red, which is the lowest: Amongst which there are found divers others which partake of their extremities; the diversity whereof proceeds from the divers reception of the Rays in the Parts of the Cloud, differing in opacity; which not being great in the outmost part, the Sun-beams paint there a Yellowish colour; but greater in the middle, a Blew or Watchet; and greatest in the inmost or lowest part, a Red: as Experience shews us in the like subjects, wherein Light diversly modifi'd, represents very neer the same variety of Colours; which although not real (as those which arise from the various mixture of the four Elementary Qualities) yet are not absolutely imaginary (as those are which are seen by weak eyes about the flame of a Candle), but are true Colours, inasmuch as they strike the Sight, which a sensitive and corporeal Power, and are alike perceiv'd by all; nevertheless, they are less material than Elementary Colours, and are neerer akin to Light, not differing from the same, saving inasmuch as it is here received diversly in the eye, according to the rarity or density, situation, figure, and other qualities of the Object and Medium.

The Second said, The Rain-bow (the fairest not only of all Meteors, but of all Nature's Works; being, according to the Cabbalists, the Throne of God, who, in the *Apocalypse*, is represented Crown'd therewith) doth not less dazle the Mind than
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ravish the Eye; it being observ'd, That the clearer things are to the Sense the obscurer they are to the Understanding; and so on the contrary: For it cannot proceed from the different rarity and density of the Cloud, which being never alike, but infinitely various, should rather represent a thousand different Figures and Colours; whereas the Rain-bow hath always a circular Figure, and the same Colours. And as there may be found more Clouds in several places, equally rare or dense, and equally distant from the Sun (who enlightens Bodies equally distant after the same manner) so there should be more Rain-bows at the same time in several places; which is contrary to experience: For we never see two uniform Rain-bows at once; the other Bow, sometimes included in the first, being not directly form'd by the Sun-beams, but by reflection of the Rays of the first Bow upon a neighbouring Cloud; whence the Colours of such secondary-Bow are not so lively as those of the first, but are revers'd, the yellow being lowest, the Green always middlemost, and the Red uppermost: For so by the reason of Catoptricks, we see that the *Species* reflected have a different situation from the Body which produces them (things on the right hand appearing on the left, and contrarily); and the shadows of Bodies which pass along the street entering by a small hole into a dark Chamber, revers'd.

The Third said, Experience teaches us, That when Light passes out of a thinner *Medium* into a thicker (as out of Air into Water) if it fall obliquely upon that thicker *Medium*, it is broken or refracted: But if it pass quite through such denser *Medium*, so that 'tis broken as well at its going out as at its entrance (especially if the refraction in these two places be great enough) then this Light is turn'd into Colours. This Natural Effect is a Principle of the Opticks, and is observ'd not only in the Rain-bow, but also in triangular Crystals, and Glasses fill'd with clear Water, and expos'd to the Sun; provided the Glass be of a conical Figure revers'd; that is, narrower at the bottome, and wider towards the top. This being premis'd, the Production of the Rain-bow seems to be thus: When a Cloud, already wholly turn'd into Water, and actually falling down in drops of Rain (which reach from the top of the Cloud to the Earth) is shin'd upon by the opposite Sun, and the Spectator is plac'd between the Sun and the Rain, then the Sun-beams passing through those drops, are reflected, as by a Mirror, back again, by those which are more remote; and passing by the sides of those which are nearest (because from one and the same part but one perpendicular Ray can fall upon a round Figure, as that of drops of Water is, all the other Rays being oblique) they must of necessity be twice broken: First, as they are reflected by the remoter drops, and pass out of the Air comprehended between those remoter, into the other drops nearer us: And secondly, as they issue out of these nearer drops, into the Air which is between them and us: And thus from this different fraction caus'd by the

various rarity and density of the Air and Water, the diversity of Colours in the Rain-bow ariseth. For, Water being not altogether diaphanous, but somewhat of a middle nature, between perfectly Transparent and Opaque, reflects part of the Rays which fall upon its surface, and lets the other part pass through; as 'tis observ'd in Rivers and Ponds, upon which we see the Sun's Image by reflection, but Divers and Fish behold it by refraction. So 'tis with drops of Water; those neereft us reflect part of the Sun-beams towards the Sun himself, without forming an *Iris*, because these reflected Rays meet not other drops to refract them; but when part of those Rays, which pass'd through the small intervals of the first drops, are reflected by the other remoter from us, then these reflected Rays lighting by the way upon the first drops between which they had pass'd, they are broken thereby both at their going in and coming out, where they represent the *Iris*, which consequently is form'd by Reflection and Refraction; reflection, by all the drops which receive Light, remitting the same towards the Sun; and refraction of the same Light so reflected, when by the way as it returns it meets those other drops of Water, which refract it twice, and give it the diversity of Colours, which ariseth from the divers reception of the Light into those parts of Water, more or less dense and rare. But now to give account of the circular Figure of this Meteor, which is not only in appearance circular (as square Towers seem round at a distance) but is so really; 'tis requisite to take a certain position of the Sun; and by one example 'twill be easie to judg of others. Let us suppose then that the Sun is at the Horizon, and consequently that all the Rays he sends directly upon the drops of Rain, as well the highest as the lowest, are parallel between themselves, and to the Horizon, (for the elevation of a Cloud, how great soever, being inconsiderable in respect of the Sun's distance from the Earth, hinders not but that all his Rays are always parallel between themselves) which being reflected, as hath been said, the reflection of them will be also parallel to the Horizon, or very neer so; for here we consider only that which is made by the middle of the drop, which is the strongest by reason of its round figure; and this reflection being receiv'd by the superior part of some other drop which it finds in its way, and there twice broken, to wit, at its going in and coming forth; the two Refractions joyn'd together distort the Ray about 45 degrees; that is to say, the Ray thus twice broken will make with the lines parallel to the Horizon an Angle of 45. degrees, a from on high downwards, and falling upon the Earth. And because all the drops make such a Refraction as we have mention'd, therefore all such Persons as shall be between the Sun and the drops of Rain, shall see the *Iris* of the same heighth, namely, of 45 degrees (although from several stations); some in the lower drops, namely, such Persons as are neereft the Cloud; others, to wit, such as are more remote,

in the higher drops; because they all see it by Rays parallel between themselves, and consequently by equal Angles. Now the drops make refraction not only by their superior parts, but also by their sides and lower parts; whence those on either side of the Spectator, distant by an Angle of 45 degrees, will make him see their refraction, and consequently the *Iris* on either side under equal Angles; which being made on all sides about a right line drawn from the Sun to the Spectator's eye, which may be call'd the *Axis* of the *Iris*, it necessarily follows, That the *Iris* must appear perfectly round about this *Axis*: So that the drops elevated above this *Axis* 45 degrees, will make the upper part of the *Iris* by the refraction of their superior parts. Those on either side, distant likewise 45 degrees, will make the sides of the *Iris* by refraction of their parts which are at the remoter sides; and so of all the drops which shall be about the *Axis*, under equal Angles of 45 degrees. As for other drops neerer or further from the *Axis* and the Spectator, they will represent an *Iris* to others who are not in the same *Axis*, but neerer or remoter from the Cloud, and situate in such place that those drops appear distant from the *Axis* by Angles of 45 degrees. So that as many Spectators as there are between the Sun and the Cloud, and not in the same *Axis*; so many *Axes* must be imagin'd, about which there are different Arches and Rainbows. Now in this Horizontal Position the Bow appears a perfect Semi-circle, whose Center is in the Horizon, at the Point where the *Axis* terminates. But when the Sun is in another Position, as elevated some degrees yet fewer than 45, then the *Axis* of the *Iris* coming from the Sun through the Spectator's eye, penetrates the Earth; and so the Center (which is always at the end of the *Axis*) is below the Horizon; and the portion of the *Iris* which we behold is less than a Semi-circle, greater than which it never appears, as *Aristotle* hath well observ'd. For since the Bow is always less than a Semi-circle whilst the Sun is elevated above the Horizon, it must be a Semi-circle when he is in the Horizon, and none at all when he is below the Horizon, because he doth not then illuminate the Cloud: Hence 'tis seldome produc'd in Winter, because when it rains in that Season the whole Heaven is cloudy, and covers the Sun-beams; as neither in the Summer and Spring at noon, when the Sun is higher than 45 degrees, but only at Morning and Evening.

The Fourth said, That if *Aristotle's* definition of the Rainbow be true, who defines it, An Arch consisting of divers colours, which the reflection of the Sun-beams represents upon a hollow Cloud ready to dissolve into Rain, we need not seek much for Material, Formal, and Efficient Causes (for he assigns no Final of it; but the Scripture doth, namely, to be a moral sign of the Covenant between God and Men.) Of the first there is no doubt, unless amongst blind men, to whom only God can make a demonstration of it; but the rest are very obscure: To judg

of which we must observe, That the Angle of Reflection is equal to that of Incidence; so that a right perpendicular Line, erected at the common point of Incidence and Reflection, will equally bisect the Angle comprehended by the Ray of Incidence and that of Reflection; which is not true, unless when the Ray of Incidence is terminated by a very smooth and opake Body, as that of a Mirror: Whence 'tis infer'd, That a Cloud not having such evenness or smoothness will not reflect the Light or Ray at an equal Angle, but will dissipate and remit it elsewhere: So that if one part of a Cloud, which is directly opposite to the Sun and smooth, reflect the Ray directly; and another obliquely opposite to him, ~~disseminate~~ and reflect it elsewhere (as 'tis much more probable, than always to imagine Clouds exactly smooth, polish'd, and even) it appears, That there will not be form'd a Figure of an Arch uniformly colour'd, but rather a confus'd medley of colours. Besides, if Reflection represent any thing, 'tis the same thing that is opposite, not another: But 'tis not the Sun that we behold in the Cloud, but a mixture of Colours, no wise like, nor so much as an imperfect representation of him, as some have pleased to affirm: For Reflection would shew us either the Sun, or an imperfect representation of him; not in the Cloud, but as far beyond it as the Object (the Sun) is from it. So that we shall explicate *Aristotle* better if we say, That those Colours appear by irradiation; and, that the Light diversly receiv'd, and not reflected, makes the variety of this goodly Spectacle: For they who say 'tis Refraction, are mistaken; for Refraction only alters the place of the Object represented by the *Species*, which is broken by the occurse of a *Medium* of unequal opacity; but doth not produce divers colours, such as those of the *Iris*, which I conceive we may more safely admire, with many other of God's Works (indisputable testimonies of his Power and our Weakness) than vainly seek their Causes.

The Fifth said, He conceiv'd no demonstration more manifest to prove the manner of the Rain-bows production than the experiment of a Phial of Water, which, expos'd to the Sun upon some solid Body, represents the same Colours with those of the Rain-bow: So that the same thing is done in the Sky when the Sun-beams pass cross an aqueous and diaphanous Cloud, and are reflected to the other side by another Cloud, whose thickness hath some resemblance of solidity; and so 'tis not sufficient that such aqueous Cloud be interpos'd between the Sun and the Eye, but there must be also another opposite Cloud, dense enough to reflect those Rays of the Sun, who being hollow according to the figure of the Sky, imprints that lucid circular Figure, and gives it the name of a Bow.

The Sixth said, That a Rain-bow may be foretold some time before it happens, when the Wind comes from that Quarter where the Sun is, and a Cloud coming from the same Quarter pass over our heads, and shed Rain as it passes: For if the Sun appears

appears at the same time, you will see an *Iris* as soon as the Cloud becomes opposite to him; which *Iris* will be the more lively and colour'd, according as the falling Rain was greater, and the Sun happens to be clear; as also so much more elevated as the Sun is depress'd. But if the Sun be 45 degrees high, you will see no *Iris*, the Refraction not being then proper to produce it. If it happens after Rain, it signifies fair weather, and the Sky clears up, in that Quarter whence the Wind blows. But if the Wind blow from the Quarter opposite to the Sun, and drive a Cloud and Rain before it; and if the Sun also appear at the same time, then you will see the *Iris* before the Rain, which we may foretel will fall upon the place whence the *Iris* is beheld, provided the Cloud can subsist any while, and be not too speedily resolv'd all into Rain at the place where it is seen; for where ever an *Iris* is seen, there it rains.

Upon the Second Point it was said, That the Eye and the Ear being the Senses whereby the Mind receives the *Species* of things which it knows; the former is proper for Invention; and the latter, call'd the Sense of Discipline, chiefly for Learning. For the Voice, as the Proverb saith, is more powerful than dumb Masters; because being animated with the gesture and motion of the Eyes, Mouth, Hands, and whole Body, it makes more impression upon the Mind than the dead style of Books; which besides, being Instructors whom we cannot interrogate concerning our doubts, as we may the living, they leave more scruples in the Readers mind than they resolve: For our cognition depending on the *Species* and Animal Spirits, these follow the drift and motion of the Voice, whose accents consequently being joyful, sad, amorous, warlike, or furious, according to the variety of the subject, imprint like affections in the Soul; and this through the near communication there is between the Air and those Spirits of the Body, which are also aërious, and of great mobility. And since Writing is only the sign of Speech, as this is of the Minds conception, it less perfectly expresses its Author's thought than the Voice, the perfect Image of his Conception, which is call'd the Internal Speech, as the voice is the External; and being the Original from which Writing is drawn, represents our Conceptions better than the Copy; as all Exemplars degenerate proportionably to their remoteness from their Prototype.

The Second said, That written Discourses are better digested, and sustain themselves better by their own weight, than words disguis'd by the maner of expression, or cadence, gestures, and other sleights, which corrupt the simplicity of things; whence the Comedian that comforted *Demosthenes*, and reviv'd his lost desire of haranguing, made him confess, That one and the same verse of *Homer* was another thing when well and when ill pronounc'd: And bad Poets fear nothing so much as that others should read their Works; the Name which themselves give them

II.

Whether the
Reading of
Books is a fir-
mer way for
Learning
than Vocal
Instruction?

causing

causing others to judge them different from what they are; and the suddenness of pronuntiati^on not allowing the mind sufficient time to reflect upon them. Moreover, Books flatter much less, and have more universal Precepts than Speech, which commonly affects complaisance, and the gaining of the hearers good will: Particularly in morality, Great Persons are better instructed and more plainly reprehended for their faults by Books than by Discourses, which seldom tell them the truth freely, every one fearing the effects of hatred ensuing it, which Books care not for. Besides, No discipline is harder than Politicks; which being the Mistress of all others, may justly give Law to them. And were the way of learning the Sciences by Books longer than that by the Voice, yet 'tis the safer, yea, almost that alone by which we reap benefit; all those that are Learned, having learn'd more by the Reading and Meditation of Books, than by having heard the Voice of their Masters in Schools, where oftentimes the noise is greater than the fruit. For, our Memories being treacherous, we never repeat things so well as we write them; and in case of mistakes or omissions, we are ashamed to acknowledge our faults, but defend them with obstinacy; whereas we scruple not to correct a Writing, to view and review it, and, according to *Horace's* counsel, keep it nine years before publishing. But Words are utter'd as soon as thought; and hence when we see those fine Discourses in Writing, which ravish'd all the World in the Chair and at the Bar, we are oftentimes ashamed of having admir'd them: Which perhaps as much or more kept *Cicero* from letting his Orations be read in his youth, as his pretended excuse of reserving to himself the liberty of contradicting himself. Wherefore there being more to be learn'd in a well-digested and exact Piece, Writing (which is ordinarily such) must also be more proper for Instruction: Which is so true in the Mathematicks, to which alone the name of Discipline belongs, that none ever presum'd either to teach or learn them by Speech alone.

The Third said, That a good Comparison must be of things alike; and so if we compare Speech and Writing, it must be in respect of two things equally perfect in their kind; as an exact Discourse, and an exact Writing. You must also bring two capacities of the same pitch, and they must have equal time to learn the same thing; in which case, the circumstances being the same, there's no doubt but Speech is more advantageous thereunto than Writing, which is not absolutely necessary, as the Voice is, without which the latter is unserviceable; he who reads being unable to understand any thing, unless he hath already heard it spoken of. Hence one naturally deaf is incapable not only of the Sciences, but also of the use of Reason, yea, of Speech too: Whereas, on the contrary, some born blind, and who consequently never read, have nevertheless prov'd very learned. And this præ-eminence of Speech above Writing, appears especially

cially in that the latter cannot be expressed without the former. Whence some justly doubt whether dead Languages, even such as are most familiar to us, as Greek and Latine, are not lost as to their best part, their pronunciation: So that the Greeks and Latines of *Demosthenes* and *Cicero's* time, would possibly no more understand us speaking Greek and Latine, than those of the present Age: Whence 'twould not be knowing of things, to know them only by Books, by which also none ever learn'd Languages, but only by Speech.

The Fourth said, That this Question admits not of an absolute determination, in regard of the different capacities of Teachers and Learners, as also of the Arts or Disciplines which are learn'd: For nimble Heads, and impatient of Labour, such as the Choleric and Sanguine commonly are, suit better with Vocal Instructions than with Reading; which, on the contrary is more pleasing and profitable to the Melancholy and Phlegmatick, who take more time for reflection and meditation upon what they read. Again, Such Disciplines as consist chiefly in Contemplation, as Divinity, Natural Philosophy, the pure Mathematicks, together with those which require great Memory, as History and Law, have more need of Reading. But those that consist in Action are better learn'd by Speech, which hath more affinity with action, and sets it out better; Such is Oratory, the practical part of Physick and Law, Mechanick Arts, and Handicrafts, which 'tis impossible to learn by Books, although one may be render'd more perfect therein by them.

CONFERENCE CXIII.

I. *Of the Milky-Way.* II. *Which is most powerful, Gold or Iron?*

THIS Tract of the Sky is call'd the Milky-way from its whiteness; and having breadth, is rather a Superficies I. *Of the Milky-way.* than a Circle, although commonly so term'd. It passeth quite round the Heaven, and so (like the great Circles) is divisible into 360 degrees; but differs from them, in that it passeth not precisely through the Center of the World, but deviates something from it. It cuts the Heaven into two Hemispheres, to wit, at this time, making one of the Sections at the last degrees of *Taurus* and beginning of *Gemini*; and the other opposite to it, at the end of *Scorpio* and beginning of *Sagittary*; at which place 'tis narrower by about two degrees than at *Gemini*, where it hath ten degrees of breadth; wherein it differs in several places, making such windings as Rivers have, and contracting or enlarging,

larging, and dividing it self in some places; as particularly neer *Cygnus*, beyond the Tropick of *Cancer*, where it makes two Branches, one of which ends neer the *Æquator*, by the side of *Serpentarius*; the other passing between *Sagittary* and *Scorpio*, by the feet of the Centaure, cross the Ship *Argo* (where 'tis broadest) goes by the Unicorn, over the head of *Leo*, to the feet of *Gemini*; from whence crossing *Bootes*, *Persens*, and *Cassiopea*, it returns to *Cygnus*. To speak nothing of the Poets Fables, who say, That when *Juno* suckled *Hercules*, and discover'd who 'twas, she spilt her Milk here; or, That 'tis the space of Heaven which the Sun's Chariot burnt by the ill driving of *Phaeton*; That 'tis the place where *Apollo* fought with the Giants, or by which he return'd towards the East, to avoid seeing the crime of *Thyestes*; or else, the Road of the Gods, leading to *Jupiter's* Palace; the Residence of Heroes; the Mansion of the Virtues; the High-way of Souls; and such other Fables: Such as have thought it the Light of the Stars, whose Splendour the Sun cannot Eclipse, by reason of the Earths interposition in the night-time, were greatly mistaken; For there are no Stars but what are enlightned by the Sun, who being 166 times bigger than the Earth, 'tis demonstrated by the Opticks, That when an opaque Body is plac'd before a luminous Body greater than it, the Rays of the luminous Body are united beyond the shadow which was made by the opaque Body; as the Sun's Rays meet again beyond the Earth's shadow, which reacheth no further than the sphere of *Mercury*, much less to the Starry Heaven, to hinder the Sun's Light from passing thither; this Sphere being distant 2081 Semidiameters, each of which makes 860 German Leagues. Those who say, 'Tis the place where the Element of Fire transpires and purges its fuliginosities; or else, a sort of Fire denser than the Elementary; are as little credible as those others who think the Sun sometimes made his course in this Milky-way, as he doth now in the Zodiack, in which nevertheless he leaves no print of combustion or light: Much less *Theophrastus*, who said, 'Twas the conglutination and loader of the two Hemispheres; and that at the place where they are united and loader'd together, this brightness appears different from the rest of Heaven. But I conceive it to be nothing else but a part of Heaven, more dense, and consequently more luminous than the others. For Heaven having a radical Light, the denser and closer its parts are, they are the more luminous; as appears by the Stars, which are the denser parts of their Orb; not visible in regard of its rarity; and by Water, part of which condens'd by cold, reflects the Light, and appears white, the remainder of liquid Water abiding transparent.

The Second said, He judg'd no Opinion more ridiculous than *Aristotle's*, who held this Milky-way to be a Meteor shining not in Heaven, but in the Air, where 'tis fed by Exhalations plentifully supply'd from the Earth, whence they are attracted, and fired

fired by the Stars in this place. For if this Milky-way were of the nature of Comets or other lucid Meteors, it could not always subsist, but only while its matter lasted; which, besides, would be more copious in some seasons than in others, (as in Spring and Autumn, then in the droughts of Summer or frosts of Winter, which closes the pores of the earth); and so it would not have the same permanent position and figure, no more then density, rarity, latitude and equality of its parts, so constant that on the side of *Cassiopea* it always appears alike winding, and likewise in other places: though we should grant the earth capable to supply fines enough for feeding this so spacious circle; which yet the disproportion of this point of the World, compar'd to the vast extent of that circumference, palpably prov'd to be in the Firmament, allows not. For (besides that the diversity of Parallaxes would represent it under several Stars to the Inhabitants of several places, if it were in the air; as it happens to Comets and other aerious impressions; and yet 'tis always seen in the same place and equally distant from the fix'd Stars) its proper motion from West to East, whereby it moves one degree in a hundred years demonstrates that 'tis in the eighth Sphere, whose particular motion is the same. And *Galileo's* Glasses, which have discover'd abundance of Stars in this part, convincingly manifest that 'tis nothing but an assembly of almost innumerable small Stars, which not being great enough to transmit their light to us distinctly, the same is confounded and united together (as 'tis proper to all qualities, and so of Light, to associate it self to other light) and thus produces that whiteness which is a weak and imperfect light. For 'tis not enough that an object be luminous; it must be great and large, or else near the eye, to be visible: the Stars, as well as all other natural agents, having a sphere of activity, beyond which their action is not sensible: hence the Planets, and of them the Moon, as nearest us, seem greater than the fix'd Stars; whose rayes being weakned by their distance, cannot come directly to us, as those of the Planets do, but twinkle and sparkle.

Now though Astrologers make but six sorts of fix'd Stars, according to their six different magnitudes; (those of the first being 170 times greater then the Earth; and those of the last and sixth, 18 times) yet *Tycho Brahe*, *Americus Vesputius*, and divers others, have discover'd some much less, and less luminous, then these last. Nor are they to be credited who have limited their number to 1022, which the Scripture saith is infinite and known to God alone, to whom the Prophet attributes it as a prerogative, to number them and call them by their names.

The Third said, There are two sorts of Milky-ways; one in the Air, and the other in the Heaven. The first, of which alone *Aristotle* spoke, is a light produc'd by exhalations either fired or irradiated, as in Comets: from which this milky way differs only upon account of its great extent caus'd by the plenty

of Exhalations attracted by a great number of Stars which are neer *Cassiopea* and the Poles, where also this Way is brighter then in other places. The other Milky Way is part of the Heaven or Firmament, equally dividing the same in two, as other Circles do; although 'tis rather a Zone or Space then a Circle, as well as the Zodiack, with whom it agrees in that it hath breadth as that hath, and is oblique to the *Æquinoctial*, having other Poles than those of the World: but differs in that 'tis not so broad, the Zodiack having sixteen degrees, and this commonly between eight and ten; for 'tis neither equally broad, nor luminous in all its parts; and its obliquity is much greater than that of the Zodiack, the middle of which recedes not from the *Æquinoctial* above 23 degrees and a half; but this about 56 degrees and a half towards the North, and neer 63 degrees towards the South. It differs also from all the great Circles, in that it changes position according to the motion of the Firmament; so that 'tis mov'd with two Motions, namely, that of the First Mover, from East to West, upon the Poles of the World, making an intire revolution in one day; and another proper to it self, from West to East, upon the Poles of the *Ecliptick*, in the same time with the Firmament; which motion the other Circles have not, being either not mov'd at all, as the Horizon and Meridian; or only by the motion of the First Mover, as the *Æquinoctial*, *Ecliptick*, Tropicks, and Colures.

Which is
most power-
ful, Gold or
Iron?

Upon the Second Point it was said, That the Earth produces Metals to be employed for several uses, in order to humane Commerce and Society; which being founded upon Hope and Fear, Reward and Punishment, Gold and Iron, the two most powerful Metals, are highly instrumental to the establishing of the same. Gold, which an Ancient call'd the Sun of the Earth, being the Star which gives light to our hope, and the sweet influences of Reward: And Iron, by its obscure and livid colour being the dark Star of our fear and of death, whereof 'tis the most usual Instrument: But as Fear is without comparison stronger than Hope (for the one tends to the preservation of Being, the other only to Well-being) so Iron, the Instrument of Terror, must likewise have more powerful effects than Gold, which is only the object of Hope. Moreover, the Law relieves such as the Just Fear of Iron may have constrain'd to any thing, as being the greatest violence in the World; but not those whom the desire of Gold or hope of Gain hath engaged to any Affair. And indeed, all Earthly Powers are measured only by the point of the Sword: Arms and Iron seem to be the share of Kings and all the Nobility, as Gold that of Merchants and the Vulgar, from whom all Sovereigns know how to get it when they think fit. Besides, since Gold hath need of Iron, not only for the digging of it out of the entrails of the Earth, but also for defending and preserving it (an evidence of its weakness) it may be said the prey of him who knows how to manage Iron best. And *Solon* had reason to condemn the vanity

nity of *Cæsus*, who made a shew of his riches as of his greatest power; foretelling him that it would become the booty of him that should have a sharper sword. And *Philip* of *Macedon* never conquer'd so many places by trucket with Mules laden with Gold, as his Son did whole Kingdoms by the Sword. But what power can we give to Gold, which weakens and enervates its possessors; as appears by the *Lacedemonians*, who were masters of *Greece* whilst Iron alone was in use with them, and were corrupted by the Gold which *Lysander* brought thither. The Captain in *Tacitus* had reason to believe the Gauls of his time weak in war because they were rich. For what is commonly said, That Gold is the sinew of War, is true as to the power of levying and maintaining of men, but not as to the performing of great exploits and enterprises, Mercenary Souldiers and Venal Souls being ordinarily base and of ill qualities; if they do any thing, 'tis forc'd and of little duration, nor do they continue longer then the Gold lasts. Iron, on the contrary, is maintain'd by it self and its own power. Every one fears to offend such as have only Iron by their side, as those by whom nothing is to be gotten, but much may be lost. For to use Gold for repelling enemies and diverting them elsewhere, constant experience manifests it a very dangerous remedy; since besides the ignominy of becoming, as it were, tributaries, they are never driven so far but they soon return, more irritated with the thirst of this Gold then they were before with the honour of Victory. In fine, since men yield sooner to violence then to gentleness, Iron which constrains and forces is much more powerful then Gold which persuades, but chiefly in War, where the bravest and most generous exploits are perform'd by open force and not by surprises and treacheries; he not being properly overcome who was willing to be so, and suffer'd him self to be corrupted: but a Victory gotten by pure Valour, ordinarily takes from the enemies the desire of returning.

The Second said, That Victory being the end of War, it matters not by what means that end is obtain'd, the easiest and least bloody of which are stratagems and surprises; which, besides being the effects of Wit and Prudence, seem more proper to man then down-right force, wherein beasts surpass us, and which is oftentimes accompani'd with injustice. Wherefore Gold, whereby all secret intelligences are contriv'd, seems to have the advantage of Iron; as slights in War are more efficacious then open force. As also it makes less noise and hath more fruit; whereas Iron oftentimes equally subdues and weakens both parties. And Victory, the thing aimed at by War, cannot be call'd such, unless it be intire. Iron indeed subdues bodies, not hearts; but Gold wins both together.

The Third said, That Gold and Iron may be consider'd either simply as Metals, or else as Instruments of civil life. In the former consideration Gold being of a more perfect nature, hath

also more power then Iron the most imperfect and terrene of all ; besides, its ductility makes it more capable of extension then any other ; which is an evidence of its perfection. If they be consider'd as means and instruments destinat'd to the use of life, which is the noblest end whereunto they can be employ'd ; Gold will still have the advantage over Iron ; since, if we credit the Chymists, potable Gold is profitably employ'd for health and the prorogation of life ; and the same Metal is also the bond of humane society, which cannot subsist without commerce, nor this without money, for which Gold is the most proper, as containing in small bulk the value of all other Metals of lower alloy. Hence we see the people commonly raise the price of it beyond what the Prince sets upon it ; and 'tis as much desir'd by all the world, as Iron is abhorr'd ; all Professions and Trades aiming at the enjoyment of gold, which seems to be the ultimate end of all humane actions in this life, whatever disguises men assume under the pretexts of honour and vertue, whose lustre is also set off by that of Gold, employ'd for this purpose to crown the heads of Monarchs, and to render divine worship more magnificent.

The Fourth said, That as Iron makes Hammers and Anvils which serve to give Gold what form we please ; so 'tis every where the master of gold, and consequently more powerful in Peace and War, affording Grates, Locks and Keys for securing Gold in the former, and Swords for defending it in the latter. For Gold serves only to make the possessor envid, and inflame the desires of such as want it. 'Twas with Iron that the Romans became masters of the Gold of other Nations, and the Portugals conquer'd that of *Pern*, and the Swisses overcame the Duke of *Burgundy* ; the History observing that all their wealth was not worth the Gold wherewith the Burgundians had enrich'd their horses bridles.

The Fifth said, That the end being not only more noble but also more powerful then the means, Iron, which is commonly employ'd for the getting of Gold must be also inferior to it. And 'tis universally acknowledg'd that Gold is the sinew of War ; it levies and keeps men together, it makes the Cannon move and all its train. 'Tis with Gold that we corrupt Spies, without whose informations all Iron and strength would be oftentimes unprofitable. Wherefore since Iron borrows its power from Gold ; by the Philosophical Maxim, it hath less power then it.

CON-

CONFERENCE CXV.

- I. *Of the cause of Vapours.* II. *Which is less culpable, Rashness or Cowardice?*

THE First said, The material cause of Vapours is aqueous humidity; the efficient, external heat; the formal, rarefaction; the final, is various, according to nature's different intentions: but commonly, the elevation of an aqueous body, which remaining in its first consistence would weigh more than air, and consequently could not be carried to those higher places where 'tis needful for the generation of Mixts, which cannot be done without transmutation of the Elements into the places, yea, and natures also, one of another. So Roses in an Alembick would evaporate nothing, if they were depriv'd of all humidity, as appears in their dry'd Cakes; nor what humidity may be in them, without heat; which humidity is rarifi'd and carri'd upwards before it descends, being again condens'd into the water which resid'd in the Cake before its separation by heat; which consequently is the most evident cause of Vapours.

The Second said, There are some vapours that are hot and dry, as appears not only by the smoak exhaling from boiling Pitch and other unctuous bodies; but also by the vapours that issue out of the earth, which would never be inflam'd some in the surface of the earth, others in the middle of the air, and others beyond the highest region, and even in the heavens, if they were only of the nature of water which quencheth instead of conceiving fire: as, on the other side, Rain, Hail, Snow, Dew, and other aqueous and incombustible Meteors argue that all Vapours (of which they must be produc'd) are not hot and dry. Whence I conclude that as the matter of vapours is various, so their other causes are all different, especially the efficient. For the degree of heat that evaporates water will not make Oyl exhale; as we see a great glass will be sooner evaporated than a spoonful of the latter; and the Chymists make use of a small fire or even of the Sun to distill their waters, but augment their fire, to extract Oyls. Moreover (as to the material causes) the vapours of hot and dry bodies are more gross and earthy; those of pure water more subtle; and (as to the final) aqueous vapours serve to irrigate, unctuous to impinguate the earth.

The Third said, 'Tis not credible that heat is the efficient cause of vapours, since they abound more in Winter than Summer, and in less hot Climats than in such where heat predominates, which have none at all; as *Egypt* and other places, where it never

ver rains. If you say that there are no vapours there, because the Suns heat dissipates as fast as it raises them, you imply heat contrary to vapours since it dissolves them and suffers them not to gather into one body.

The Fourth said, Copiousness of vapours in cold Seasons and Regions makes not against their production by heat; since the heat which mounts them upwards is not that of the Suns rays, but from within the earth, which every one acknowledges so much hotter during Winter in its centre as its surface is colder; where the matter of vapours coming to be repercuss'd by the coldness of the air, is thereby condens'd and receives its form. On the contrary, in Summer the earth being cold within exhales nothing; and if ought issue forth, it is not compacted but dissipated by the heat of the outward air.

The Fifth said, That the thorough inquisition of the cause of vapours raises no fewer clouds and obscurities in the wits of men, then their true cause produces in the air: For if we attribute them to the Sun, whose heat penetrating the earth or outwardly calcifying it, attracts the thinner parts of the earth and water; this is contradicted by experience which shews us more Rain, Storms and violent Winds in the Winter when the Suns heat is weakest, then in the Summer when his rays are more perpendicular, and as such ought to penetrate deeper into the earth, and from its centre or surface attract greater plenty of vapours: the contrary whereof falls out. It follows therefore that the Sun hath no such attractive faculty. Nor is the coldness and dryness of the earth any way proper for the production of such humid substances as Vapours and Exhalations; the latter whereof being more subtle, and consequently more moveable (as appears by Earth-quakes, Winds and Tempests, which are made with greater violence then Rain, Showers, or Dew) cannot be engendered of earth, much grosser then water, which is held the material cause of vapour; otherwise, an exhalation being earthy should be more gross then a vapour extracted out of water; which it is not. It remains then that the cause of vapours is the internal heat of the earth which being encreas'd from without by the cold of the ambient air, or exhaling all its pores open'd by the heat of the Sun, produces the diversity of Meteors. And this internal heat of the earth appears in Winter by the reaking of Springs, and the warmth of Caves and subterraneous places; yea the Sea it self, said to supply the principle matter to these vapours, is affirm'd hotter at the bottom, whither therefore the Fishes retire; and indeed it is so in its substance, as appears by its salt, bitterness and motion, whence 'tis call'd by the Latines *Æstus*. And as in the bodies of Animals, vapours issuing by the pores open'd by heat cause sweat, and when those passages are stop'd by the coldness of the outward air, their subtler parts are resolv'd into flatuosities, and the more gross and humid are carried up to the Brain, by whose coldness being

being condens'd they fall down upon other parts, and produce defluxions : so in the world, which, like us, consists of solid parts (earth and stones) of fluid (the waters) and of rapid (which are the most subtle and tenuous parts of the Mass) when these last happen to be associated with others more gross they carry them up on high with themselves, where they meet with other natural causes of Cold and Heat which rarefies or condenses, and redouble their impetuosity by the occurrence of some obstacle in their way : these Spirits being incapable of confinement, because 'tis proper to them to wander freely through the World. Elementary qualities are indeed found joyn'd with these vapours and exhalations ; but are no more the causes of them than of our animal vital or natural spirits, which are likewise imbu'd with the same.

The Sixth said, That the general cause of vapours is Heaven ; which by its motion, light, and influences, heating and penetrating the Elements, subtilises them and extracts their purest parts : as appears by the Sea whose saltness proceeds from the Suns having drawn away the lighter and fresher parts, and left the grosser and bitter in the surface, cold and heat condense and rarefie other, and by this Reciprocation the harmonious proportion of the four Elements is continu'd ; sometimes tempering the Earths excessive dryness by gentle Dews or fruitful Rains, and sometimes correcting the too great humidity and impurity of the air by winds and igneous impressions, some of which serve also to adorn the World and instruct Men. And as these vapours are for the common good of the Universe, in which they maintain Generations, and for preservation of the Elements, who by this means purge their impurities ; so they all contribute to the matter of them. Fire forms most igneous and luminous impressions ; Air raref'd supplies matter for winds, as is seen in the *Æolipila* ; and condens'd is turn'd into rain. But especially water and earth (the grossest Elements, and consequently, most subject to the impressions of outward agents) continually emit fumes or steams out of their bosom, which are always observ'd in the surface of the Terraqueous Globe, even in the clearest days of the year, and form the diversity of parallaxes. These fumes are either dry or moist ; the dry arise out of the earth, and are call'd Exhalations ; the moist are Vapours and issue from the water : yet both are endu'd with an adventitious heat either from subterranean fires or the heat of Heaven, or the mixture of fire. A Vapour is less hot than an Exhalation, because its aqueous humidity abates its heat ; whereas that of the latter is promoted by its dryness ; which yet must be a little season'd with humidity, the sole aliment and mansion of heat, which hath no operation upon bodies totally dry ; whence ashes remain incorruptible in the midst of flames and evaporate nothing. But whatever be the cause of these vapours, they are not only more tenuous under that form, but also after the re-assumption

assumption of their own. So Dew is a more potent dissolver and penetrates more then common water ; which some attribute to the Nitre wherewith the earth abounds.

11. Upon the Second Point it was said, Valour is a Virtue so high *which is less* above the pitch of others, and so admir'd by all men, that 'twas *culpable,* it alone that deifi'd the Heroes of Antiquity : For Nature having *Rashness or* given Man a desire of Self-preservation, the Virtue which makes *Cowardice ?* him despise the apprehension of such dangers as may destroy him, is undoubtedly the most eminent of all other moral virtues, which serve only as ornaments to his Being. But as every virtue consists in a mediocrity, and so hath two vicious extremities, Excess and Defect ; so this is plac'd between two vices which may be said equally blamable, since between the two extremities and the middle the distance is equal (otherwise it were not the middle, that is, not a virtue) and a point in which this virtue consists hath no latitude. And, though rashness, which oftimes borrows the mask of generosity and valour, seems to approach neerer it then Cowardice ; since being only an excess of Valour, it may be more easily reduc'd to mediocrity then the other which partakes not thereof at all ; as diseases arising from repletion are easier to be cur'd then those which proceed from inanition. Nevertheless to speak absolutely, Cowardice is not so vicious as Temerity ; for if the one hath a false appearance of Valour, the other hath a semblance of prudence and wisdom which is the rule and measure of all virtues. And indeed, we see most wise men are a little cowardly ; either their knowledge of things rendering them circumspect, or experience of Fortune's blindness and inconstancy making them more distrustful of her dealing, which they know is commonly unkindest to persons of merit ; or else the value they put upon Being encreasing their fear of Annihilation ; although this fear is common to all Animals, and hath its foundation in Nature, and so is more excusable then the madness of Temerity, the usual vice of fools and lunatics, directly repugnant to our natural sentiments. In a political consideration though both are punishable, yet Cowardice least of the two, and is most commonly excus'd, as in *Demosthenes* ; yea sometimes recompens'd, as in that Roman Consul to whom the Senate gave publick thanks for having fled at the defeat of *Canna* : Where the temerity of young *Manlius*, though successful, cost him his head by the sentence of his own Father.

The Second said, That Cowardice and Temerity must not be compar'd together if we would judge which is worse ; for on the one side the rash person compar'd to the poltron seems courageous, and on the other the poltron appears prudent and well advis'd. But they must be compar'd with Valour, of which that of the two which partakes least is the most vicious. Now, Valour consists in two points, to attempt and endure. The rash person is bold in the onset, but gives ground at the brunt. The poltron

poltron do's neither. He dares neither attempt nor bear up, and so is further from true fortitude then the Rash; and though they seem totally opposite, yet the rash is oftentimes timorous, and Necessity or Despair sometimes renders the veryest coward bold.

The Third said, If the Stoicks say true, that Nature is the surest guide we can follow in all our actions, and that to live well and virtuously is to live conformably to Nature; then Temerity which subverts the sentiments of Nature, by whom nothing is sought so much as self-preservation, seems much more vicious then Cowardice, whose fault is only too much indulgence and inclining to natural sentiments, in preference of self-preservation above all honours invented by men as incitements to contempt of death, and the means leading thereunto.

The Fourth said, As right Reason is the square of Prudence, Equity of Justice, and Moderation of Temperance; so firmness and constancy of mind in attempting and enduring, is the sign of Fortitude and Courage, which is a virtue residing in the Irascible appetite, moderating fear and rashness, and consisting chiefly in not fearing dangers more then is fit, especially those of War or which happen unexpectedly. For two kinds of things cause fear: some are above us and inevitable; as Tempests, Thunders, Earth-quakes which a man may and ought to fear sometimes, unless we be insensible or senseless; others are ordinary, vincible, and not to be fear'd by the courageous. To whom three sorts of people are contrary; namely, the furious, who fear nothing at all; the rash who venture at all, casting themselves inconsiderately into all dangers; and the poltrons who never venture upon any. These tremble before and in the danger; those seem at first to have a good heart, but when the danger appears begin to tremble and bleed at the nose: whereas he who is truly courageous attempts no danger inconsiderately, but avoids it as much as he can handsomely; but once engag'd, loses his life therein if he cannot come out of it with his honour. And though this virtue be generally esteem'd by all men, because most serviceable for defence of States, and hath more splendor and shew then any other; yet 'tis less known and the rarest of all; not many possessing it free from the interest of gain or vanity, anger, fear of infamy, constraint and other considerations besides that of honesty, which alone gives name and value to all virtuous actions. Rashness passes among the vulgar for true Valour, though 'tis further from it then Cowardice; which being the daughter of knowledg and prudence, (as rashness is of ignorance and brutality, and oftentimes of vanity) seems to come neerer that virtue then Temerity, which otherwise is incompatible with all other virtues, as being destitute of Prudence, which alone makes them what they are.

The Fifth said, 'Tis impossible to determine of these two Vices; which are equally opposite to their middle virtue,

whatever false appearance Temerity may have of the contrary. But the praise and blame of men proceeding commonly, though unjustly, from Success; 'tis that also which makes our actions approv'd and discommended. So that the same action will be accounted courageous, and as such applauded in a young stout Captain who gets the better of his enemies, (prosperous Rashness being rarely punish'd); and again term'd temerarious in the same person, if he happens to be worsted. Yea men esteem and admire that most which they least expected, as most remote from reason without which the Vertuous acts nothing. Which teaches him to be contented with himself, and not to make much account of blame and praise, which are not integral parts of virtue, but only serve to its ornament, as our Hair and Nails do to our persons.

CONFERENCE CXVI.

Which Climate is most proper for Long-life?

(The second Question is remitted to the next Conference; and 'tis Resolved for divers Reasons, that hereafter but one be handled at a time.)

BEcause amongst all *Phænomena* or Apparences caus'd by the Celestial Bodies, the diversity of artificial Days is most sensible and known to the most ignorant; therefore Astronomers make use thereof to distinguish the several habitations of Mankind. This diversity of Days depends upon two Causes; the obliquity of the Ecliptick to the Equator, and the inclination of the Horizon or the Sphere to the same Equator. For the obliquity of the Ecliptick makes the diurnal Parallels, which are Circles parallel to the Equinoctial, describ'd by the Sun as he is carri'd about the Earth by the motion of the First Mover; the number of which is equal to that of the Days comprehended in half a year. And the obliquity of the Horizon is the cause that these parallels are cut by it unequally. Otherwise if these parallels were not different from the Equator, or (although different) if they were cut equally by the Horizon (as it happens in a Right Sphere) the Horizon which is a great Circle passing by the Poles of these parallels, (which are the same with those of the World) both the Days and Nights would be equal: so that where the Sphere is not inclin'd, as in the Right and Parallel Spheres, there is no inequality of Days, nor consequently of Climate (so call'd from its Inclination) but only in the oblique Sphere. 'Tis defin'd, a Region of Earth comprehended between two circles parallel to the Equator; in which there is the difference of half

an hour in the longest days of the year. It encompasses the Terrestrial Globe from East to West, as a Zone doth, which differs from it only as the Zone is broader; whence there are many Climats in the same Zone. The Ancients having regard only to so much of the Earth as they believ'd inhabited, made but seven Climats, which they extended not beyond the places where the longest days are 16 hours, and denominated from the most remarkable places by which they made them pass; as, the first Northern Climat was call'd *Dia Meroes*, by *Meroe*, which they began at 12 deg. 43 min. from the *Æquinoctial*, where the longest day hath 12 hours three quarters, and which at present is the end of our first Climat and beginning of the second. This first Climat passes by *Malaca* a City of the East-Indies, and begins at 4 deg. 18 min. Its middle, from which all Climats are reckon'd, hath 8 deg. 34 min. and its end, 12 deg. 43 min. The other six Climats of the Ancients pass'd by *Siene*, *Alexandria*, *Rhodes*, *Rome*, *Pontus Euxinus*, and the River *Boristhenes*. *Ptolemy* reckons twenty one, as far as the Island *Thule* which lies in 63 deg. of Northern Latitude. Our modern Astronomers make twenty four, from the *Æquinoctial* to the Polar Circles; in each of which Climats the longest day of Summer encreases half an hour above twelve, according as they approach nearer those Circles: beyond which to the Poles of the World they place six more, not distinguish'd by the variation of half an hour but of 30 days. So that there is in all, sixty Climats, 30 Northern and as many Southern, each comprehended by two Parallels; which Climats are easily found by doubling the excess whereby the longest day surpasses twelve hours; the Product being the Climat of the place. As if you know the longest Summer day at *Paris* to be 16 hours; double 4, the excess above 12, and you will have 8, which is the Climat of *Paris*; and so of others. And though there be the same reason of Seasons and other variations in the Southern and Northern Climats, yet since experience shews us that those of the South are not inhabited beyond the 8th, which is about the *Cape of Good Hope*, at the farthest point of *Africa*, (beyond which no Inhabitants are as yet discover'd, it may seem that the diversity of Climats is not alone sufficient for long or short life, but there are other causes concurring thereunto.

The Second said, That since a thing is preserv'd by that which produces it, the Sun and Stars, which concur to the generation of all living Creatures, must also contribute to their preservation and continuance in life; which being maintain'd by use of the same things (variety and change, though delightful, yet being the most manifest cause of brevity of life) that Climat which is most constant and least variable will be the properest for longevity, and so much the more if it suits with our nature; such is the first Climat next the *Æquinoctial*, where things being almost always alike, bodies accusom'd thereunto receive less in-

convenience thereby then under others, whose inequalities and irregularities produce most diseases. The natural purity of the Air, promoted by the breath of a gentle East Wind there reigning continually; and the want of vapours and humidities, which commonly infect our Air, conduce greatly to the health of the Inhabitants; also when the dryness and coldness of their temper makes longer-liv'd, as appears by Ravens and Elephants, the most melancholy of all Animals, which are common in these parts where they live above 300 years. Moreover, *Homer* testifies that *Memnon* King of *Æthiopia* liv'd 500 years; which (by the report of *Xenophon*) was the common age of most men of the same Country, where *Francis Alvarez* affirms in our time that he saw lusty men at 150 years of age; and that in *Ægypt* which lies near it, there are more old men then in any place of the World; and that women are so fruitful there that they bring forth three or four children at a time, rather through the goodness of the Climat then any nitrous vertue that is in the waters of *Nilus*. Hence possibly most Doctors place the Terrestrial Paradise under the *Æquinoctial*, and the cause of our first Fathers *longevity*, who having been created under this Climat seem to have lost of its duration proportionably as they remov'd from the same Northwards (whence all evil comes) and towards the Zones wrongfully call'd Temperate, since more subject to alteration then that call'd Torrid by the Ancients, who thought it uninhabitable by reason of extream heat; although the continual Flowers and Fruits wherewith the always verdant Trees are laden testify the contrary.

The Third said, Since Heaven is immutable and always like to it self, the Earth and Elements alone subject to change; the length and shortness of Life seems not to depend on Heaven but on Earth and the several dispositions of our Bodies: and the whole World being Man's Country, there is no place in it but is equally proper for his habitation, provided he be born there; because the Air he breathes and the Food he eats from his Nativity, altering his Body, at length make his temper suitable to that of the place of his Education; which therefore he loves above any other.

The Fourth said, That Heaven remaining it self immutable, is nevertheless the cause of motions and mutations here below; its light producing different effects in the Earth according as it is receiv'd, the most sensible whereof are heat, dryness, and other qualities which diversifie the Seasons and Zones; of which the two temperate, especially the Northern seems most habitable and proper for *longevity*. 'Tis also the most populous, and its Natives are not only the most healthy and lusty, but also the most refin'd and civiliz'd of all others. Now of the Climats of this Zone, the eighth, wherein *Paris* lyes, seems to me the healthiest of all, as well for pureness of Air as all other Causes.

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The Fifth said, That the goodness of Climats depends not so much upon Heaven as the situation of each place in reference to the Winds, of which the Southern being the most unhealthy, therefore Towns defended by Mountains on the South are very healthy, especially if they lye towards the East, the Winds whereof are most healthy. And this is the cause of the diversity observ'd in Countries lying in the same Climat, which experience not the same changes: as the Isle of *France* is very temperate, and yet lyes in the same Climat with *Podolia* (a part of *Poland*) where the cold is extremely rigorous: and in the Islands *Bornaio* and *Sumatra* men live commonly 130 years and are not black, as the Africans, whose life is very short, and yet they lye in the same Climat, namely, under the *Æquinoctial Line*.

The Sixth said, That Life being the continuance of the radical heat in Humidity, that Climat must be properest for *Longevity* which will longest preserve that conjunction. The violent heat of the Climats near the Equator consumes the radical moisture and makes the natural heat languish; although under the Line the coolness of the nights twelve hours long, renders it more supportable: whereas in our longest Summer-days when the Sun is in *Cancer*, he is no more then 18 degrees from the Horizon and so diffuses his rays upon the vapours hovering about the Earth, which reflecting the same after a refraction make the nights almost always light, and consequently hot; there being no light without heat. On the contrary, the Northern parts towards the Pole, receiving the Suns rays only obliquely are very cold and unfit for long-life, combating the heat and deficcating the radical moisture. But the temperately hot are the most healthy, especially if the air (of greatest necessity to Life) be pure and not corrupted by vapours.

CONFERENCE CXVII.

Which is most necessary to a State, and most noble, Physick or Law?

THESE two Professions are not absolutely necessary to the subsistence of a State, but only suppose some evil which they undertake to amend; Physick the disorder of the humours in Mans body; and Law, that of Manners in the body of the State. So that if all people were healthy and good, both would be useless. But the misery of our Nature having made us slaves to our Appetite, and tributaries to Death and Diseases which lead thereto; this adventitious necessity hath given rise to two powerful remedies against those two evils; Physick to oppose the diseases of the Body, and Law to repress the disorders of
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our Passions: which being the sources of all mischiefs, Law which restrains their course, seems to have as much pre-eminence above Physick, as the Body, which the latter governs, is inferior to the Mind, which the former regulates. Moreover Health, the end of Physick, is common both to Men and Beasts, who have a better share thereof, and have taught us the best secrets of Physick: but to live according to right reason, (which is the aim of Law) is peculiar to man; although oftentimes neither the one nor the other obtain its end.

The Second said, These Disciplines are to be consider'd either according to their right use, or as they are practis'd. Physick, consider'd in its right administration, is the art of curing Diseases and preserving Health, without which there is no pleasure in the World. Law, taken also according to its institution is that Tree of the Garden of *Eden*, which bears the knowledge of Good and Evil, Right and Wrong, as Physick is the Tree of Life. Now if we compare them together, the latter which maintains the precious treasure of Health, is as the foundation upon which Law builds its excellent Ordinances; for without Health, not only the administrations of Justice but all employments of Arts and Exercises cease. And though Laws and Justice serve for the ornament of a State, yet they are not absolutely necessary to its conservation, there being society among Robbers; and many States having begun and subsisted by Rapines, Violences and other injustices, but none without Health, which is the foundation of all goods, preserving the absolute Being of every thing, and by that means maintaining all the faculties of Body and Mind. Wherefore Physick is profitable not only to the Body but also to the Soul, whose nature, faculties, and actions it contemplates. But if these Arts be consider'd as they are practis'd now a days, 'tis certain that if there are Mountebanks, Ignorants, and Cheats who practise Physick amongst a good number of good Physicians; there are also, Champertors, Forgers, and other such black souls, who live by fraud, which they exercise under the mask of justice. We must likewise distinguish the bad judgments of certain Nations from the truth. For if the Romans sometimes banish'd their Physicians and Chirurgians; this might be done out of ignorance, as when they saw the Gangren'd Leg of one of their Citizens cut off. And though they were for some time without Physicians, yet they were never without Physick, at least natural.

The Third said, Law hath the pre-eminence above Physick upon account of the great benefits it brings to a State, by delivering the same from greater, more troublesome, and more incurable evils. And good (according to the Moral axiom) being the more divine by how much 'tis more common and diffus'd, it follows that Law is more divine than Physick. For by checking our passions and obstructing the career of illegal Ambitions and Usurpations, it does good not only to private persons, as Phy-

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sick doth, but also to the whole Publick, which is engag'd by particular passions, whence Law-sutes, Seditions, Wars, and other evils arise; which being publick are of more importance than those to which Physick is design'd, whose whole business is about the four humours, either to keep them in a just temper, or reduce them to their natural state, from which Diseases debauch them. - Besides, Physick only cures the Body, whereas Law represses the mind's disorders, and even the intentions. Lastly, the evils Physick defends us from, are of easie cure, having all sensible indications; but Law remedies such as depend upon the thoughts and counsels of men, impenetrable by sense. Moreover, Physick regards only particular persons; but Law maintains a moral union and good intelligence between all the parts of a Commonwealth, namely, men of several conditions, and keeps every one within the bounds of his own quality and station; and so is like a Universal Spirit or Intelligence presiding over all our motions, hindring ruptures and dissensions (the bane of a State) as that doth vacuity, which tends to the destruction of the World.

The Fourth said, That as the multitude of Physitians in a City is a sign of a multitude of diseases reigning therein; so the multitude of Laws and Judges argues corruption of manners. Wherefore both these Professions may seem equally useles to a State free from wicked and miserable persons. And indeed we see many Nations have wanted both: at *Rome* Physitians were unknown for divers ages, and are so still in some Countries: and most States of the World dispense very well with the want of Lawyers, whose contrary opinions are as destructive to the State, and particular persons, as the number of Physitians is to the Sick. And as they are most healthful who use these least; so the most flourishing States have fewest Lawyers; Wrangling, which is the daughter of Law, being the most apparent cause of the diminution of the strength of Christendom, where for some Ages it hath reign'd; either by diverting the greatest number of its Ministers from the exercise of War, the principal means of amplifying a State, or by unprofitably taking up the people in Sutes. And therefore the Spaniards found no safer course to preserve the new World to themselves, then by debarring all Lawyers entrance into it.

The Fifth said, That this made for the Physitians. For the Spaniards sent many of them to the new World, to discover the simples there and bring them into *Europe*. Moreover, as 'tis more necessary to live and to live in health, then to live in society or riches (which are the things Law takes care of) so much doth Law yield to Physick in this point, which Gods Word, who commands to honour the Physitian, saith was created for necessity. Which as plainly decides the Question as that Resolution was worthy of the Fool of *Francesco Sforza* Duke of *Milan*, which he gave in the like Dispute of preference between the
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Physitians and Advocates; That at Executions the Thief marches before the Hang-man. Moreover Kings, who are above Laws, subject themselves to those of Physitians, whom *Julius Caesar* honour'd with the right of Incorporation into the City. Whereunto add the certainty of this Art (which is the true note of the excellence of a Discipline) being founded upon natural Agents, whose effects are infallible; whereas Law hath no other foundation but the will and phansie of Men, which changes with Times, Places, and Persons.

CONFERENCE CXVIII.

Of Sea-sickness.

Nature hath furnish'd Things with two ways of preserving the Being she hath given them, namely, to seek their good and flee their evil. Both which, Animals do by attracting what is proper to their nature by right fibers, and rejecting what is otherwise by transverse fibers, of which the Expulsive Faculty makes use. So when the Stomack is furcharg'd with too great a quantity of matter, or goaded by its acrimony, the expulsive Faculty of this part being irritated by what is contrary to it, casts it forth by yexing, belching, and vomiting. Yexing is a deprav'd motion of the upper Orifice of the Stomack which dilates and opens it self to expell some thing adhering to its Tunicles or orbicular Muscles; which being commonly a sharp and pungent vapour, we see this Hickcock is remov'd by a cup of cold water, or else by holding the breath; for the coldness of the water represses the acrimony of the vapour'd, and the restrain'd Spirits by heat cause it to resolve and evaporate. Vomiting is also a deprav'd motion of the Stomack, which contracts it self at the bottom to drive out some troublesome matter; which, if it adhere too fast, or Nature be not strong enough, causeth Nauseousness or a vain desire to vomit. Belching is caus'd when the said matter is flatuous and meets no obstacle. These motions are either through the proper vice of the Stomack, or through sympathy with some other part. The former proceeds sometimes from a cold and moist intemperies. Whence man, the moistest of all Animals, is alone subject to Vomiting, except Dogs and Cats; but he only has the Hickcock; and Children, as being very humid vomit frequently. Sometimes 'tis from a faulty conformation of the Stomack, as when 'tis too straight, or from some troublesome matter, either internal or external. The internal is a pungent humour, and sometimes Worms. In short, every thing that any way irritates the Expulsive and weakens the Retentive Faculty: So, oily, fat, and sweet things
floating

floating upon the Stomack, provoke to vomit by relaxing the fibres which serve for retention. External causes are all such, as either irritate or relax the Stomack; as, stinking Smells, and the sole imagination of displeasing things, violent winds; exercise, especially such wherein the Body is mov'd by something else, and contributes not it self to the motion, as going in a Coach or a Ship; for here the Body rests and also the parts are relax'd, only the Spirits agitated by this motion act more strongly upon the humours, and these are here more easily evacuated by reason of the relaxation of the fibres than in other exercises, wherein the Body stirs it self; as riding-post, or a trot, in which the Nerves are bent, and consequently, all the parts more vigorous, and hence vomiting is not so easie. 'Tis also the equality of the motion which makes persons, unus'd to go in a Coach, vomit sooner when the Coach goes in a smooth and even field than upon rough ways. The same hapning upon the Sea, 'tis no wonder if people be so apt to vomit there.

The Second said, That neither the agitation of the Air, nor the motion of the Body can be the sole cause of Vomiting, and other Sea-maladies; since the like and more violent at Land, as Swings, Charets, and Posts, produce not the same effects. For we consider the agitation of the Stomack as the cause of vomiting, that of the Feet and Legs being but accidental; and experience testifies, that 'tis not the lifting up but the falling down of the Ship that causes the rising of the Stomack. Wherefore I should rather pitch upon the salt-air of the Sea, abounding with sharp and mordicant Vapours: which being attracted by respiration trouble the Stomack, especially its superior orifice, the seat of the sensitive Appetite by reason of the Nerves of the sixth Conjugation: thus the door being open, the matter contain'd in the Stomack, which is also infected with the malignity of these vapours, is voided by the ordinary ways: as happens sometimes to such who only come near the Sea. Indeed the bitterness and saltness of the humour in the Mouth, which is the forerunner of Vomiting, together with the quivering of the nether Lip, proceeding from the continuity of the inward membrane of the Stomack with that of the Gullet and Mouth, manifests the vapours which excite it to be salt and nitrous. Whence also plain water drunk with a little salt, causes Vomit. Now if this malady happens sooner in a Tempest, 'tis because those nitrous spirits are more stirr'd in the tossing of the Sea than in a Calm: as they say, 'tis more frequent in the Torrid Zone, because there is a greater attraction of the said Spirits by the heat of the Climate, which on the other is an enemy to the Stomack, extreemly weakning it, as cold much helps its functions. Such as go into deep Mines, are seiz'd with the like disturbance to this of the Sea, by respiration of the nitrous Spirits which issue out of the entrails of the Earth and are the cause of its fecundity.

The Third said, That *Cato* (who repented of three things, (1.) Of having told a Secret to his Wife, (2.) Of having spent a day without doing something, And (3.) of having gone by Sea when he might have gone by Land) had no doubt experienc'd the michiefs of that unfaithful Element: the cruellest whereof is the Scurvy, a Disease complicated with several others, and whose chief symptoms, are the ulceration and swelling of the Gums and Legs, with pains over all the Body, caus'd by the impurity and malignity of the Air. But the most frequent is vomiting, caus'd by the sole agitation and violence of the Air. For our aerious Spirits not only receive the qualities of the air we breathe, but also follow its temper and motion, as is seen by the Head-ach, seising those that are beaten by winds in the Country; and by the seeming turning of their heads who attentively behold the circumgyration of a Wheel or some other Body. So the Air at Sea being much agitated puts in motion the Spirits which are of the same nature, and these being stirr'd set the humours on work, which incommoding the parts are by them driven out by vomits and other ejections, according to every one's temper and propensity. For the cholerick and broad-breasted, vomit more easily and successfully then the phlegmatick and narrow-breasted, whose Organs of respiration are not sufficiently free. Whereunto also the season of the year contributes; for Summer provokes vomit more then Winter, when the humours being more heavy, rather tend downwards. But especially Custom is considerable herein, which renders those that go frequently to Sea not obnoxious to its inconveniences.

The Fourth said, That the Earth consists of three substances; one Unctuous, which is the inflammable moisture, call'd by the Chymists Sulphur; another Cinereous, which they call the *Fæces* or *Caput mortuum*; the third humid and incombustible, which they divide into Mercury and Salt; this latter again into Salt-nitre and Vitriol, of which the Sea being full, the same is communicated to the first Region of the Air contiguous to the Waters; and, insinuating it self into our Bodies by inspiration, produces the same effects therein, that it doth taken in substance; four Grains of which is a sufficient Vomit. Whereunto also helps the gentle agitation of the waves, which makes it penetrate; the examples of others vomiting, and especially the fear commonly incident to such as were never upon the Sea before, who are most obnoxious to this trouble. For that Passion so constringes the whole Body, especially the inward parts, that it weakens and relaxes the Nerves, especially the Fibres which keep the parts in a just tenor; and so the oblique Fibres and orbicular Muscles (which serve to retain them) being languid, suffer the juices and humours to pass out. The same fear which causes relaxation of the *Sphincter Ani & Vesicae*, relaxing the Muscles which serve to open and close the upper Orifice of the Ventricle:

tricle: Hence fear is commonly accompani'd with the pain of this part; whose sense being very exquisite is the cause that the Vulgar call it, The pain of the Heart; which also for the same reason happens to such as look down upon low places.

CONFERENCE CXIX.

Of Love by Inclination, or Sympathy.

TIs not only amongst the Poets that Love is blind, the obscurity of this causes evidencing him no less so amongst the Philosophers, who assign two sorts of it; one of Knowledge, which tends to a good known; the other of Inclination, whereby we love without knowing why. Indeed there is no love without ground, and some sort of knowledge; but yet, when the cause obliging us to love is manifest, it makes the former kind of love; when obscure, the latter: whereof we have many examples in nature, not only in the Symbolical qualities of the Elements, Electrical and Magnetical attractions of Stones, particular alliances of Metals, and all the amities of Plants and Trees, as of the female Palm which is said to lean towards the male, and those which are found amongst Animals; but especially in the particular inclinations of some Persons to others unknown and void of all recommendations to qualify them for the same, and the emotions some have felt both in Soul and Body at the first sight of their unknown Parents: as also of a contrary effect, when a dead body bleeds upon the presence of its Murderer; which is a testimony of an antipathetical hatred contrary to the abovesaid Love, which we find in our selves almost upon all occurrences; as when two equally strangers play at Tennis, we wish that one may win and the other lose. For the first motions of Love, as well as of all other Passions, are not in our power, and afford not the Mind time to deliberate and make reflexion upon them. Hence oftentimes, Anger, Sadness, Panick fright, and such other Passions seize upon us without cause; and Love doth the like frequently, without any apparent reason. Yea, we may say, there is no Love of Knowledge but what took its first rise from that of Inclination, which presently makes us enamor'd of the proportions of a Face, which displeases another that understands the same as well as we, but without being any way affected therewith, because he finds not in it that correspondence and sympathetic resemblance that produces a Love of Inclination, which may also arise without any knowledge, as in that blind man who lov'd a Lass whom he had never seen; as also in *Petrarch* who made so many Verses upon his *Lavra*, whom he could never behold; The cause

whereof I should attribute to the power of the Imagination, which fancies something of loveliness where there is none; or else to the sole action of the Will, which not able to remain neuter between love and hatred (since its action is to will, and to will is to love) when it meets no cause of hatred in an object, loves it; and hates it, when it finds nothing amiable therein. For if you assign the reason of this love to the transpiration of Spirits issuing out of the lov'd person's body, their substance is too volatile to act so far off; and their issuing being never alike, (because the pores of the skin are more stopt at one time than at another) this love would be remarkably alter'd every moment. Besides, we many times love by an inclination an absent person for his merit; and many have been enamour'd of Beauties at the first sight of their Pictures; but love was never produc'd between two blind persons, notwithstanding any emission of sympathetical Spirits. Moreover, 'tis the Species and not the Spirits that are receiv'd by our Senses; and so none should ever love those they had not seen, but by a Prospective-glass.

The Second said, That it imports not much to the causing of love, whether the object be really or only imaginarily good; and indeed our minds seem to interest themselves more in the pursuit and preservation of the latter than the former, which maintains it self by its proper worth. Wherefore if Love of Inclination presuppose goodness in the object, the same must be apprehended either by the Imagination or by some other Faculty, to which it must therefore be approximated either immediately by it self, or by it self. So the sweetness of Honey makes it self perceptible to the Tongue by it self: but the proportion of a fair countenance cannot make it self known but by its species, which is the picture and representation of it. This way, is produc'd the Love of Inclination as well as that of Knowledge; only with this difference, that the Species which produce the former, act imperceptibly, and more suddenly than those that produce the latter, which is more deliberate and rational.

The Third said, There are but two sorts of Love; one, improper and Metaphorical; the other, proper and formal. That precedes Knowledge, and is an Instinct inclining natural things to their proper good: This follows Knowledge as its guide, and is the first Expansion of the Heart, pleasing it self with the good it likes. And as that is diffus'd over all Creatures, so this is restrain'd only to the sensible and rational. The Appetite, whence the former proceeds, is immers'd and incorporated in the nature of every thing, and not distinguish'd from the faculties and powers they have to act. But the latter, ariseth from the Appetite properly so call'd, whose functions or motions are the eleven Passions, to which as many acts correspond in the Rational Appetite. The Question cannot be concerning that improper

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Appetite; for then Stones should have Love, as well as Instinct, towards their Centre; but of the true and proper Love subsequent to Knowledge, which gives Amability to good, as Light doth Visibility to colours. Wherefore they who talk of certain Spirits issuing out of the lov'd person's body into the eyes of the Lover, and seising upon the heart, without falling under knowledge, seem ignorant of the nature of Love. For should such spirits arrive at the heart without being observ'd; yet they must come out thence again to be known before they can cause Love; as we cannot know any thing that is in the soul, unless it come first out thence and become sensible; since nothing is in the Understanding but what pass'd through the Sense. So a man cannot know his own face but by reflection from a Looking-glass without him. For the Soul at our Nativity is like a smooth table or white-sheet of Paper, and thence its primitive notions during this present state is by Phantasms supplied to us by our Senses. Now the essential reason of this dependance which keeps Love subject to Knowledge, is, that the Appetite, which is the Principle of Love, is only a Passion or Propriety of the thing wherein it is; but the Principle of Knowledge is an essential degree of Nature. Hence, Souls are distinguish'd by Cognition, not by Appetite: we call the Sensitive Soul so, from the knowledge of Sense, which constitutes its essential difference; and the Rational Soul so, because Reason, the principle of Knowledge is a degree of Nature: but Appetite is a propriety which follows it. And being there is the same reason of Actions and their Principles; as the Appetite supposes a principle of Knowledge, so Love, which is the action of the Appetite, supposes actual and clear Knowledge. Hence, there is no love without knowledge. For that we have more phantasie to the one of two persons playing then to the other, 'tis because we discern something in his face, gestures, or motion that pleases us better. Sympathy (pretended the cause of this love) may indeed be the foundation of it; inasmuch as we naturally love those like our selves; but it can never make us love till we have found in the thing some *Je-ne-sçay-quoy* of lovely. It cannot be the sole cause of our love, since 'tis of it self imperceptible to our knowledge, and consequently cannot produce love till the effects of such sympathy, to wit, such an Air, such a Motion, and such a Deportment have pleas'd us. And whereas 'tis said that from eyes which behold us attentively we perceive something come forth that animates us; I answer, that oftentimes quick fix'd and sweet intuitions are tokens of love, from which 'tis no wonder if ours take life and growth, as from its proper cause; since Love begets Love.

CONFERENCE CXX.

How the Understanding moves the Will.

TIs proper to the Understanding not only to conjoyn things wholly different, but oftentimes to abstract and separate such as are perfectly united in one and the same substance, and differ only in accidents, which it severs from their subjects. Hence reflecting upon it self, it distinguishes in its operation two Faculties, to wit, its Cognition and the Reasonable Appetite or Will, although they are one and the same thing, not only in the Soul, whose essence is simple, but also in the Intellect; nor are their objects different, Truth, the object of the Understanding, being convertible and all one with Good, the object of the Will. Hence Civilians acknowledg no Will in those that want Understanding, as Ideots and Children. And as the same Sun-beam that produces light, causes heat too by the continuation of its action, or by its re-union in a Burning-glass: so an object long consider'd or strongly apprehended by the Understanding as good, immediately incites and inflames the same to seek and desire it. So that the cognition of a thing in the Understanding is only Theory, which the Will, applying it self thereunto by desire, reduces into Practice. As the Theoretical habit of an Art differs not from the Practical, and the conclusion of a Syllogism is only a dependance upon its two Premisses. Wherefore the Will, which is the practice of the Understandings speculation, and a result of its ratiocination, is not distinguish'd from the Understanding; and to know good, to desire and seek means to possess it, are operations continu'd by one sole motion. Besides, to separate the actions of the Souls faculties, and make them independent one of another, would infer a kind of divisibility in the Soul: but the Will being only a desire, every desire a species of motion, and motion an accident; it is separable from its subject, the Understanding, whereof 'tis only an affection and propriety. So that the Intellect and the Will being the same thing, when the former is carried towards an apprehended good, we say it moves the Will, as it doth the other powers which it employs in quest of that good, when the same is external and it cannot attain to it by it self.

The Second said, That to know, to will, and to be able, although of the same extent in things purely natural (as in a Stone, whose knowledge, desire, and power to tend to its centre are the same thing) yet are different actions in rational agents. For oftentimes we know without willing, and will what we cannot do; and sometimes we know not that which we would: Oftentimes we will things not only without, but even against Reason; witness the irregular Appetite of breeding Women
and

and Green-sickness Maids. Wherefore these actions being different, the Faculties from which they proceed, the Intellect, Will and Motive Faculty, must be wholly distinct; seeing their two adequate Objects, which specific Faculties, are consider'd under divers formal Reasons, which are the sole Causes of the distinction of Faculties. For Entity immaterial and spiritual, is, as true and intelligible, the object of the Understanding; but, as good and desirable, 'tis the object of the Will: which are two wholly different formal Reasons. Now though the Intellect and the Will are two different Faculties, yet there is such a dependance between them that the one can do nothing without the other, and they communicate mutual assistance: the Understanding supplies Reasons and Counsels, which the Will causes the Powers under its dominion to execute: for 'tis a blind Queen, having no knowledge of her own but only what light she receives from the Intellect. But how can it see the same, if blind, as 'tis fancied? We answer, that as all things have a bent and natural inclination to their proper good, though they know it not (as even the Intellect assents to a truth known by ratiocination, but knows not why it assents to a first Principle, as, That the whole is greater then its part, and that 2 and 1 make 3; these being connate Notions) so the Will is carried to the Good propos'd to it by the Understanding, because the goodness and suitability thereof engage it to endeavours of enjoying it, wherein its supream Felicity lyes.

The Third said, Since the Will is a desire, every desire a motion, and every motion from some other (nothing moving it self); the Will cannot desire unless mov'd by some superior power and knowledge: For as there is no desire without knowledge, so, to the end this may not be idle and unprofitable, Nature hath joyn'd an Appetite to it; to wit, a Sensitive Appetite to the knowledge of a Sensible Good apprehended such by the Imagination, which is common to Men and Brutes; and a Rational Appetite (the Will) to the knowledge of an honest Good apprehended such by the Understanding. And whereas immaterial things cannot be known by themselves but by such as are sensible and corporeal, we cannot better judge of the manner whereby the Intellect moves the Will, then by that whereby the Imagination moves the Sensitive Appetite; which is the sweetness of the Object, whose Species being receiv'd by some one of the outward Senses, and carried from the Common sense to the Phansie which relishes the same to the full, is then propos'd to the Sensitive Appetite, which presently flies to it, oftentimes so impetuously as that it hurries the Reason and the Will along with it self, and constrains them to yield to the violence of those Passions which it excites to joyn with it in pursuit of that good, and which it redoubles upon the occurrence of any obstacle to its designs. In like sort the Will is carried of it self to a virtuous action, when the Understanding represents the honesty
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of the same to it; provided it be not otherwise prepossess'd, and the said action be not accompani'd with difficulties and thorns, as commonly happens; for then that Sensitive Appetite oftentimes gets the better of Reason; the Flesh, of the Spirit. There is this difference between the motions of the Will and the Appetite, that the latter necessarily follows the duct of the Imagination, by which 'tis inclin'd inspite of it self towards a Delectable Good; but the Will (common to us with Angels) is so mov'd by the Intellect, that nevertheless it always remains mistress of its own actions, and can do either good or evil by vertue of its liberty, which alone discriminates Man from Beast, and gives him right of empire and command, (which the Civilians define, a power of making use of any thing at one's pleasure;) and without which not only Judgments, Vertues, Vices, Rewards, and Punishments, Praises and Dispraises, Consultations and Deliberations would be useless; but also all Laws would be to no purpose, Man would be in worse condition then Brutes, over whom he hath no other advantage but that of Reason; which would serve for nothing, if he acted things necessarily, as other Agents do, and not freely and voluntarily.

The Fourth said, He had always accounted it a vain enquiry, how the Understanding moves the Will, and the Senses, the Sensitive Appetite towards their Objects; because the Cognitive Faculty, and these Appetites being really distinct and having nothing common, there cannot intervene any commerce between them. They are Officers that have sever'd charges, without having any thing to share or dispatch together. Nevertheless it being true that we love nothing but what is first apprehended and judg'd amiable, we must seek this dependance somewhat higher. Now all actions are of the whole Compositum; and consequently Man, who is the whole, is he who by his knowledge either of Sense or of the Intellect, judges what both the one and the other Appetite ought to embrace or reject. Then after he hath pass'd his judgment by his Cognitive Faculty, he determines himself to follow by his Appetite what he hath judg'd fit to be done; in consequence whereof he applies his Motive Faculty to the execution of his Resolution. So that 'tis Man that moves himself by his Will towards Good or Evil, to pursue or avoid, after he hath consider'd what he ought to will, how, and in what sort to comport himself. By this means we obviate a world of difficulties arising from this Question, and resolve many; as, amongst others, How the Understanding comes to illuminate corporeal phantasms, without establishing an *Intellectus Agens* for that purpose, whose office is pretended to sublime those phantasies by denudating them of their singularity and materiality, that so they may become actually intelligible and proportionate to the Intellect. For, besides that 'tis impossible to conceive how any spiritual light can fall from the Intellect upon a corporeal phantasm; (that which is corporeal being

being incapable of receiving any thing spiritual, and the Intellect of producing any thing out of it self, since all its actions are immanent: we are deliver'd from all this trouble by saying, that in the state of this present life Man by his outward and inward Senses takes in as much knowledg of things as they can give him, and afterwards by his Understanding deduces and infers things which the phantasms alone could not acquaint him with. Thus when a phantasm represents to him a thing which his eye beholds afar off, he by his Understanding judges the same a Substance, because the phantasm shews him that it subsists of it self; if he see it walk, he judges it alive; So that 'tis sufficient to the drawing of all his Consequences that he infer from the phantasms what they are capable to represent to him, without need of spiritualizing them, or of commerce between them and the Intellect. In like manner, 'tis not needful that the Intellect shew the Will its Object; but the man's seeing it, is sufficient to cause him to move himself by his Will towards the Good which he apprehends. For as a King hath his Scouts to discover the state of his Enemies, upon whose report he holds a Council of War, wherein he resolves what is to be done. So Man by his Senses discovers the nature of Objects, as by so many Spies, which make their report to the Imagination; after which the Understanding judges of the same; and lastly, the Man resolves and determines by his Will. Thus 'tis the Man that makes all this progress, employing all his Faculties diversly for that purpose. And as 'twere impertinent to ask how the Scouts and Council of War acted and mov'd the Troops which execute the General's resolution to make them fight; but it suffices to say, That 'tis his Order: So 'tis absurd to inquire how the Senses or Understanding move the Appetite or the Will; 'tis sufficient to say, That a Man resolves to will after cognisance of the matter.

The Fifth said, That that which moves the Will, is something divine and more excellent then Reason; namely, that part of the Intellect, which is the knowledg of First Principles, and is to the Soul what she is to the Body which she informs. This appears in all the Will's actions; whereof those that tend to the End are, to Will, to Desire, to Enjoy, when the said End is a Good, and is either absent or present; not to Will, to Flee, to be Sad, when the said End is an Evil, and that consider'd too either as absent or present: those which respect the means leading to such End are, To Chuse, to Consent, and to Employ some rather then others. All which actions it cannot exert of it self, but being mov'd by that divine power of the Intellect which represents to it the goodness of the End, and the suitability of the Means for attaining the same: in like manner as the End moves the efficient Cause, attracting it to its prosecution by an improper and metaphorical Motion.

The Sixth said, As the Will is mov'd by the Intellect, so is the Intellect mov'd reciprocally by the Will, which commands

it to divide, define, abstract and perform its operations in such and such manner. Yea, there is no Faculty but is subject to its empire. It commands the Imagination to frame Idea's and Species; the Memory, to recall and represent them; the Motive Faculty, to speak, walk, and the like other actions; the Sensitive Appetite, to love, hate, be angry, to raise and appease its passions; though many times these are deaf to its dictats.

The Seventh said, Since the Rational Soul is a simple Form, and every Form a perfection of the subject wherein it resides; that of Man being to know Truth, to love Good, and to be united to both by Fruition: the same Soul when it knows, is call'd the Intellect; when it desires or loves the thing known, the Will. So that there is no need for the one to be mov'd by the other; for 'tis the Soul that moves it self; which therefore *Aristotle* calls *Entelechia*, and the Principle of motion; the Pythagoreans, a Self-moving number.

The Eighth said, That the Will depends not any way on the Intellect, and consequently is not mov'd by it. Which is prov'd, first, because the Will is mutable and oftentimes contrary, upon the same ratiocination; as it would not be, if it were mov'd by the Understanding. For if the Will were, according to *Aristotle's* definition, a desire of good with reason, the one ought always to follow the other. But it not doing so, 'tis an argument, that the Will hath another principle then the ratiocination. In the second place, as it was lately argu'd, there are amities of Inclination, properly so call'd, because not grounded upon any Reason; and therefore the Will, which never exercises its dominion more freely then in Love, follows not the Intellect in that kind of amities, and consequently is not mov'd by it. Thirdly, whatever the Civilians say, Fools and Children have their Wills, as well as the Wiser and Elder; yea both the former Will, as resolutely as the latter: and Women, who we say have less judgment then Men, are yet more self-will'd and obstinate then they. On the contrary, the most judicious are commonly the least resolute, and find most difficulties in willing. An Emperick and ignorant Physician will be bolder and resolve things more pertinaciously then an old experienc'd Methodist. A young and giddy Captain will sooner tell his opinion, which is the issue of his Will, then an old beaten Soldier who doubts of every thing, and labours much to bring himself to a resolution. But the contrary would happen, if the Will follow'd the Dict of the Judgment. Wherefore I conceive rather that the Will moves the Understanding as well as all the other Faculties; since no body can reason inspite of himself, but he must will to set his Mind upon a thing before the Intellect can make its reviews.

The Ninth said, The best course was, rather to salve the Opinions of the School by some Expedient, then wholly to depart

depart from them, as a way too difficult to keep; and that he conceiv'd it better to untye the Gordian knot than to cut it; which belongs only to *Alexander*. 'Tis acknowledg'd that the Intellect and the Will are two Faculties of the Rational Soul; that we will nothing unless the judgment believe it good, whether it be really or only apparently such. But the difficulty is concerning the means that the Intellect employs to carry the Will to such good. Take it thus: The Will is carri'd of it self to good, as a Stone to the Centre; but as this Stone is sometimes hinder'd from arriving thereunto by obstacles which stay it; so Ignorance puts a bar to the Will. Hereupon the Understanding falls to work till it have remov'd that obstacle by its reasoning: Which done, as there is nothing between the end of a shadow, and the beginning of light; so there is nothing between the end of our ignorance, and the beginning of our volition: where the operation of the Understanding ends, there begins that of the Will, no more induc'd, mov'd, and as little forc'd as the weight that tends downwards, which cannot be said carri'd towards the Centre, unless improperly, by him that takes away the piece of wood or other obstacle that stop'd it in the Air. Moreover, it were no longer a Will, if mov'd by any other principle but it self. As is seen in those who having a will to do something, when the same is once commanded them, change their resolution, or do only with regret what before they desir'd with passion: as the same motion which was natural to the Stone, becomes violent to it when it is impell'd, instead of being suffer'd to descend downwards.

CONFERENCE CXXI.

Whence come the Marks or Spots wherewith Children are born?

AS the Degrees of Life have dominion over the First Qualities, so they have authority one over another, each in his order. The Vegetative life in Man makes use of the Elementary Qualities at pleasure, even to the prejudice of their own Nature. So, Heat congregates things of the same, and separates those of different Nature; but our Vegetative Soul makes it do the contrary, namely, Unite the Four Humours in the Veins though different in nature, instead of segregating them: for in this Case, Heat acts not with full authority but as the Soul's Officer, following her intentions. And the reason is, because these four Humours being ingredients into the Nativity of Man, they must necessarily pass into his nourishment; which they cannot do without being mingled together. But when the

Blood is out of the Veins; then the Heat, disengag'd from the Soul's jurisdiction, disgregates and separates all four, making the Choler float uppermost, the Phlegm next, then the Blood, and lowest of all, Melancholy, as the dregs. Amongst Souls there is the same order of Superiority. The Sensitive makes the Vegetative obey it; as appears by this, that if after meat the Imagination attend much to an object, the Concoction of the Food is retarded, because all the Faculties of the Soul being united in their Root and Essence of the Soul, when she sets her self much upon one object, she leaves the other inferior powers idle; they not being able to work but as the Soul, (their principle) employs them. Now this premis'd, I say, when a breeding Woman hath a longing for any thing, this desir'd thing is imprinted strongly in the Phancy; and this imprinting being made in the Brain, the Spirits which flow from thence, carry a copy thereof with them. For as an intire Looking-glass represents but one Image, but every piece of a broken one hath its whole Pourtrait: because the Intentional Species or Images of things, though divisible by reason of their subject, are yet in themselves formally indivisible, being Forms without Matter, and consequently indivisible; Division proceeding from Quantity, a concomitant of Matter: So those Spirits which stream from the Brain, though they leave there the image of the desir'd thing, yet withall they carry the same image with them, as bearing portions of the substance wherein it is engraven; and running to the place where the *Fetus* is form'd, by reason of the union of its Umbilical Vessels with those of the Mother, they arrive at the Infant and imprint the Characters, they bring, upon it: the Vegetative and Plastick or Formative Vertue suffering it self to be over-rul'd by the Sensitive, as this is by the Imaginative, and this again by the other superior powers. When the teeming Woman touching her self in any part, the Spirits run thither from the Brain, either by reason of the touch or the motion (both depending upon the Animal Spirits) but finding the Mother's flesh too hard and disproportionate to their effect, and missing their blow, they go to give it upon the tenderer flesh of the Child. And as in Generation, the Spirits of all the parts of the Body accure to the place where the Seed is receiv'd, there to engrave the Characters of the parts whence they flow, which afterwards serve for the Formative Vertue, every one having his task to make the part from which it issu'd: so the Mother's Spirits keep the same course and rule towards the *Embryo*, so that those which serv'd to the Mother's touch, go to find that same place in the Child's Body, there to mark the Image which they brought from the Brain; Nature finding ways for her Intention where none appear.

The Second said, The impotence of that Sex and their weakness of Mind, (evidenc'd by the violence of all their Passions, which know no mediocrity) is one of the principal causes of the

the impetuosity of their desires. Now the Species of the thing desir'd being in the Imagination, it excites the Appetite which desir'd it; this the motive Faculty, which employs the Animal Spirits to execute the commands of the Faculties by whom it is set on work. And as the Vertues and Images of things generated here below by the heat and influence of the Stars, are receiv'd in the Air which consigns them to the Earth; so those Spirits receive the Species and Images whereof the brain is full; and being directed by the Imagination to the Womb (which hath great communication with the Brain by means of the nerves of the sixth Pair, as appears by the effects of Odors upon that part) there they retrace and imprint upon the Child the Images wherewith they are laden. For, if it be true that the Imagination can act beyond its Subject, as Estriches and Tortoises are said to hatch their Eggs with their Eyes, and that Hens hatch Chickens of the colour of such cloths as are laid before them whilst they are sitting; much more may the Imagination of a Woman represent upon the tender Fruit in her womb the Images of things which she passionately desires: and this is no more strange than the common observation, of People falling sick, and recovering again, meerly by Fancy.

The Third said, That the images of things desired are, in the Spirits, just as those of sensible objects are in the Air, which is full of them. But as these, that they may be seen, must be terminated by a smooth and opake body; so, that those which are in the spirits may be express'd, they must be terminated by a soft, tender, and capable body, as a child's is in the first months of his conformation, during which alone he is susceptible of these impressions, which are only of things edible and potable; being the Child, then endu'd only with sensitive Life, cannot be affected but by things serving to the Animal Life, as aliments are, which (besides) are ordinarily and most ardently desir'd by breeding Women; those that long for chalk, coals, and other impurities being unhealthy and distemper'd. Now to give account why the Grapes, Mulberries, Strawberries, Goose-berries, and other Fruits delineated upon our bodies, ripen and change colour at the same time as the true fruits upon the earth do, I shall not recur to the Stars, or Talismanical Figures, but more probably to that Universal Spirit which causeth the same fermentation in the spirits of our bodies as in Wine and the Vine when it is in its sap and flower; and in Pork or Venison when Hogs and Deer are salt, mezled, or go to rut.

The fourth said, That some of these Marks adhere to particular Families. So the family of *Selencus* had an Anchor upon the thigh; in *Greece* some were distinguish'd by a Lance, a Crevissh, a Star, &c. which marks, as Warts and Moles, proceed from the Formative Vertue in the seed, which containing the Idea of all the parts, expresses them to the life in the child. Other sorts of Marks are not ordinary but fortuitous, and depend
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upon the Imagination alone, which employs the spirits which are common both to the Mother and Child by the Umbilical Vessels, and have the same motions: so that when the Woman scratches her self in any part of her body, the spirits having a like motion are carri'd towards that part, and at the same time towards that correspondent part in the child's body, whose tenderness is alone susceptible of the image wherewith they are impregnated, and which is never to be removed, as being from the first conformation.

The Fifth said, That not only the desire of eating and drinking, which is pacif'd by enjoyment, but any vehement passion, even a sudden fright against which there is no remedy, sometimes leads the variable Fancy of Women to interrupt the work of the Formative Vertue, otherwise always very regular. As a certain Woman having seen a Criminal broken upon the Wheel, brought forth a child that all the bones were broken. Hereunto also contribute the excess or defect of the Matter, its evil quality, and the deprav'd conformation of the Womb. But to attribute the communication requir'd for this effect between the Imaginative and Formative Faculties to the Umbilical Vessels, cannot hold; there being but one Vein, two Arteries, and the *Drachus*, without any nerves, by which alone the animal spirits are transmitted from the Brain. Nor can those Species without dissipation and confusion, separate themselves from the mass of Blood, and pass by the circuit of the Mother's Veins into the Umbilical Vein of the *Fetus*; wherefore 'tis more rational to ascribe this effect to the correspondence of the Faculties, whereof the Superior indeed move the Inferior, but by a simple and pure irradiation, without transmitting any thing to them: There needing no other communication then that of a *Luxinist's* finger, or a Dancing-master's foot with their Imagination, which yet follow one the other, although it transmits not to the ends of their hands and feet, the notes and cadences which they represent. Thus, for the imprinting of a Mark, the Formative Faculty being mov'd by the Imagination, hath no need to receive any Species, as the Cognoscitive Faculties have, of which number the Formative is not. Nor is it more strange, that the *Fetus*, indu'd with a particular soul, yet feels the effects of its Mothers Imagination, than that Fruits receive the changes and alterations of the Trees to which they adhere.

CONFERENCE CXXII.

Of the Original of Forms.

A Form is that which gives either Being or Motion. When it gives only Motion, 'tis call'd an Assistent Form, as that which moves the Heavens: When Being, an Informant Form, styl'd also an Act, Perfection, Essence, Vertue, Beauty. For what ever is excellent in a Subject, proceeds from the Form; which determining the Indifferency of the matter (of it self imperfect) makes it to be one, that is to say, not divided in it self, and divided from every thing else. Created Forms are either spiritual or material; and both these again either substantial or accidental. Spiritual accidental Forms are, Vertue, Science, and all Habits of the Soul. Substantial spiritual forms are Intelligences and Rational souls. Material accidental forms are either simple, as Heat and Whiteness; or compounded, as Beauty and Health. Under Material substantial Forms are comprehended Vegetative and sensitive Souls, which are the Forms of Plants and Brutes, and the Subject now in hand; although I will not grant them to be Substances, but only Accidents. All agree that there are Forms, because there are Actions; which presuppose Powers. These Powers are properties flowing from some active principle which sets them on work; which the Matter, because purely passive, cannot do; and therefore it must be the Form. But the doubt is, whether this Form be substantial or accidental; as, whether it be only a certain degree of Heat which makes Plants and Animals be nourish, grow, generate, and move, or else some Substance and Form more excellent that employs Heat as its Instrument for producing those Actions. And this is most probable. For otherwise, A Substance compounded of Matter and Form should, contrary to the Maxim, be made of that which is not Substance, if Forms were only accidental. They are introduc'd into a capable Subject by an Univocal Agent, which by generation communicates a soul of the same Nature with its own, which is material, and consequently divisible; yet so divisible as that it is not diminished in the traduction, no more than the Species of a Looking-glass which produces it self wholly and entirely in all bodies capable of it, or then the flame of a candle wherewith a thousand others may be lighted, without any diminution of its substance.

The second said, That Forms are primogenial Principles, no more generable than the Matter which they always accompany, and according to whose dispositions they only change appearance. For 'tis not credible that Forms, the principal pieces of the world (without which it would be depriv'd of that from which

which it bears its name, to wit, Ornament and Beauty) are subject to continual corruption; otherwise the world and the natures therein contain'd would have been chang'd in so long a time, and yet they remain still the same. Besides, if Forms perish, they must either be annihilated (but nothing is so in nature) or else resolv'd into that whereof they are compos'd, since they are suppos'd material; and nevertheless we see no remainder of them. 'Tis therefore always the same form but diversly dress'd, and said to be generated when it changes from an imperfect to a perfect state; and to be corrupted when it returns into a worse condition than what is had before; both, according to the several dispositions of its Subject.

The third said, That all natural Forms are nothing but Accidents, since they are in matter as in a subject, from which they are inseparable; and not as parts; for they are parts of the whole, but not of the Matter. The Forms of the Elements are the first Qualities. And as all Mixts are compounded of the four Elements, so they derive their form (as well as their matter) from them, which follows the nature of the Element predominant in the Compound. Thus Driness is the Form of a stone, which hath more of earth than of any other Element; Oyl is humid, because aerial; all Living Creatures are Hot, by reason of Heat, the noblest and most active quality, which, attaining to the proportion requisite for performing the offices of life, is call'd a Soul; and according as it is more or less refin'd, and meets with different subjects, 'tis call'd a Vegetative Soul in Plants, and a Sensitive soul in Brutes. I say further, that these Forms are nothing but Modes and Fashions of Being. For as Water turn'd into Air, and this into Fire by rarefaction, or into Water by condensation, are still the same, not differing but according as their parts are more or less close; so as well Forms purely natural as other living Forms, are nothing but Modes and Fashions of Being of the Elements, their Qualities, and the several Mixtures from which those Forms result.

The fourth said, according to *Anaxagoras's* opinion, That all things are in all, and consequently Forms in the Matter, out of whose bosom they are educ'd by Agents conjoyning things of the same Nature, and separating others. As Art (which imitates Nature) makes not Wine, but only presses out that vegetal juice which was before in the Grape; and out of Marble forms a Statue only by paring off what was superfluous: so out of the Earth, Nature forms Plants, which are turn'd into the substance of Animals, whose bodies are again reduc'd into Earth.

The fifth maintain'd the opinion of *Albert the Great*, who is for the Generation of things, which the preceding opinion overthrows, holding nothing to be new generated; He said, that Forms are indeed in the Matter, yet not entire and perfect, but only by halves and begun; according to their essence, not according to their existence, which they acquire by the Agents which educe things out of their causes. The

The Sixth said, If it were so, then there would be no substantial Generation, because Existence is nothing but a Manner of Being, adding nothing to Essence, nor really distinguish'd from it. Wherefore I embrace *Aristotle's* opinion, that Forms are in the Matter, but only *potentially*, and as the Matter is capable of them; just as Wax is *potentially* *Cesar's* Statue, because capable of receiving that form. This he calls, to be drawn and educ'd out of the power or bosom of the Matter: which is not to be receiv'd in it, or to depend of its dispositions, since this belongs also to the Rational soul, which is not receiv'd in the body till the previous dispositions, necessary for its reception, be introduc'd therein; but the Matter it self concurs, though in a passive way, not only to dispose it self, but also to produce the Form, and consequently to preserve it. Which is not applicable to the Rational soul, whose Being depends not anywise upon the Matter.

The Seventh said, Matter, being a Principle purely passive and incapable of all action, cannot produce any thing, much less Forms, the noblest Entities in the world. 'Tis the principle of impotence and imperfection, and consequently the ugliness, deformity, contrary to the Form whereof it should partake, if it contain'd the same in power, as Wine and Pepper do Heat, which becomes actual and sensible when reduc'd into act by our Natural Heat which loosens it from the parts which confin'd it. Wherefore Forms come from without, namely, from Heaven and its noblest part the Sun, the Father of Forms, which are nothing but Beams of light deriv'd from him as their Fountain, whose heat and influences give motion and life; which is the abode of Heat in Humidity: not Elementary Heat; for then Arsenic, Sulphur, and other Mixts, abounding with this Heat, should have life; but Serpents, Salamanders, Fishes, Hemlock, Poppies, and other excessively cold Plants and Animals, should not. Moreover in whatever manner the Elements and their Qualities be mix'd, they are still Elements, and can produce nothing above their own Nature, which is, to calefie, refrigerate, attenuate, rarefie, condense; but not the internal and external senses, the various motions and other actions of life, which can proceed only from a Celestial Heat, such as that is which preserves a Plant amidst the rigours of Winter; whose coldness would soon destroy the Plant's heat, if it were of the same nature. Hence Vegetative and Sensitive Souls having no Contraries, because Contraries are plac'd under the same Genus, (but the Celestial matter whereof these souls are constituted, and the Elements are not) therefore they are not corruptible after the manner of other Mixts; but like light, cease to exist upon the cessation of the dispositions which maintain'd them. For, such is the order of Nature, that when a Subject is possess'd of all the dispositions requisite for introduction of a Form, the Author of Nature, or (according to *Plato*) the Idea, or that

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Soul of the World (which *Avicenna* held to be an Intelligence destinated to the generation of substantial Forms) concurs to the production of the Form, as also this concurrence ceases when those dispositions are abolisht.

CONFERENCE CXXIII.

Whether Lean people are more healthy, and long-liv'd than Fat.

THe Immortality of our souls having an absolute disposition to length of Life, it depends only upon that of the Body, that we do not live Ages as our first Fathers did. For 'tis from some defect in these bodies that the differences of life even in Animals and Plants proceed; whence some less perfect souls, (as those of Oaks) are yet more long-liv'd than those of Beasts. The signs of long and short life, are either simply such, or also causes and effects. Such is the conformation of the parts of our body. A great number of Teeth is held a sign of longevity, as well because 'tis an effect of the strength of the Formative Faculty and Natural Heat, as that thereby the food is better masticated and prepar'd; and the other concoctions and functions more perfectly perform'd, whence comes health and long life. So also the Habit of the body is not simply a sign, but likewise an effect of health and cause of long life; namely when the same is moderate, that is, neither fat nor lean; which two, though comprisable within the latitude of health, which admits a great latitude, are yet so much less perfect as they decline from that laudable disposition which is the rule and square of all others. Now to make a just comparison, we must consider the Fat and the Lean in the same degree of excess or defect from this Mediocrity, and compare *Philetas* the Poet (who was so dry and lean that he was fain to fasten leaden soles to his shoes for fear the wind should carry him away) with *Dionysius* of *Heraclea* who was choakt with fat, unless his body were continually beset with Leeches. Or else we must observe in both an equality of Vigour in the Principles of Life, to wit, the Radical Heat and Moisture in the same proportion, the same age, under the same climate, regiment, and exercises; otherwise the comparison will be unequal: and lastly, we must distinguish the fleshy, great-limb'd, and musculous from the fat. This premis'd, I am of *Hippocrates's* Opinion, Aph. 44. Sect. 2. that such as are gross and fat naturally, die sooner than the lean and slender; because the Vessels of the latter, especially the Veins, are larger, and consequently fuller of Blood and Spirits, which are the Architects and principal Organs of Life: on the contrary, the Fat have smaller Vessels by reason of their coldness which constringes them;

them; as is seen in Women, Eunuchs, and Children, whose voices are therefore more shrill, and who have also less health and life.

The Second said, Nature hath furnisht Animals with Fat, to the end to preserve them from external injuries, and therefore the Lean, who are unprovided thereof, must be of shorter life: for not many, besides decrepit old people, die of a natural death, that is, proceeding from causes within, whereas most diseases arise from external causes; wherewith the Fat are less incommoded, especially with cold, the sworn enemy of life; the smallness of their pores, and the fat which environs them, excluding all qualities contrary to life, and withall hindring the dissipation of the Natural Heat, which becomes more vigorous by the confinement; just as the Bowels are hotter in Winter, because the cold air hinders the efflux of the heat and spirits, caus'd in Summer, and in lean bodies, whose pores being more open, cannot retain those volatile substances. So that, had the Fat less heat, as they have not (for plenty of fat argues plenty of blood, the purer and more airy part whereof distilling like dew through the coats of the Vessels, and passing through the Muscles, when it comes to the Membranes, is by them condens'd into that whitish substance rather by their density and natural property than by their coldness) yet this Heat being better dispens'd, and less alter'd in the Fat than in the Lean, must consequently cause fewer diseases, and last longer.

The Third said, Life is the continuance of Heat in Humidity, not aqueous and excrementitious as that of fat people is, but oleaginous and aerial; and the longer this Heat subsists therein, the longer doth life last. Now it continues longer in the Fat, whose more open pores let out the fuliginous excrements rais'd by Heat; which in fat bodies, whose passages are stoppt by the coldness or clamminess of pituitous humors, stagnate and choke the heat, like fire that wants free transpiration, so necessary to life that it cannot subsist a moment without this action, whereby the soul attracts air in at all parts of the body, especially the mouth, for refreshing and ventilating the heat, and recruiting the spirits, and by the same passages emits the fuliginosities necessarily following all consumption of humidity by Heat. Which causes of Death being internal and consequently necessary and inevitable, are much more considerable than the external, whereto lean people are subject, and which may be more easily avoided and remedied.

The fourth said, That Fat persons have a more moderate and less consuming heat, its activity being allay'd by the humidity of their Constitution; and therefore 'tis more durable than that of lean people, whose heat already violent of it self is render'd more active by siccidity, which is a spur to it. Hence they endure fasting with more trouble than the Fat, whose moist substance both moderates and feeds their heat, which appears to

the touch very gentle and temperate, as that of lean persons is sharp and pungent. Moreover, Diseases of Inanition, to which the lean are subject, are more difficult to cure, than those of Repletion incident to the Fat. And old age which continually dries us up, is the tendency to Death, which is siccidity itself.

The Fifth said, Health being a Disposition according to Nature, which renders a man capable of performing the offices of life aright, and this disposition consisting in a due proportion of the first qualities, which makes a harmony and laudable temper of the four humors; the principal evidence thereof is a good state and habit of the body call'd by the Physicians *Euxia*; and that Extreme which comes nearest this, is the most healthy and fittest for long life. The functions of life are Natural, Vital, and Animal; all which are better perform'd by the lean than the fat. First, the Natural, which are Nutrition, Growth, and Generation; because the hotter flesh of the lean attracts more than that of the fat, which may indeed imbibe the nutritive juices, but cannot perfectly concoct and assimilate the same for want of sufficient heat; whence they produce abundance of crude flegmatick excrements, which render them pale and bloated. For their more fatness proceeds from want of heat to consume superfluities. Secondly, growth being an effect of heat, the Fat grow less, because they are less hot than the Lean. For heat rarefies, subtilises, dilates, and make the parts mount upwards, as its defect makes the humors settle downwards; hence women are never so tall as men, and their lower parts are grosser; whereas the upper parts of men, as the head and breast, are more large. Thirdly, the lean are more apt for generation, because their spirits are more refin'd, and their seed more concoct and plentiful than that of the fat; the purest portion of whose blood is turn'd into fat instead of seed; whence all guelded Animals become fat; and, according to *Aristotle*, fat women are for the most part barren, bear seldom; who also, as well as men of the same habit, are more inclin'd to love; but we are commonly most led to that which we perform best. Then the Vital Functions too, are more perfectly perform'd in the lean; as appears by their large respiration, their strong and great pulse, the nimbleness in their motions and passions. Lastly, so also are the Animal, to wit, outward and inward sensation, by reason of the pureness and subtlety of their spirits, (which likewise causes goodness of wit) and of the disposition of their Organs, more purifi'd, and less burden'd with clouds and excrementitious humidities, which render the fat more heavy both of mind and body.

CONFERENCE CXXIV.

*Whether we may better trust one whom we have oblig'd,
or one that hath oblig'd us.*

CONFIDENCE being the fruit of Friendship, yea, the sweet bond wherewith this Virtue unites Hearts; it may seem we ought to have most in him that loves most perfectly, namely, he that hath oblig'd us. For as 'tis harder to give then to receive, because we cannot give without depriving our selves of what we enjoy, (which is contrary to our natural inclination) so it is a more virtuous action, and argues a greater kindness: the receiver of a benefit finding no difficulty in this action of receiving it. Moreover, we cannot doubt of his good will, who obliges us by his benefits; but we may of his, that receives. For it frequently happens to those that do good, as it did to the Sower in the Gospel, part of whose seed fell in stony places, part amongst thorns, part in the high-way, and was devoured by birds; and the least part upon good ground, and brings not forth fruit but in its own time. Yea, there are many that hate nothing so much as the remembrance of those that have done them good, as if their presence were an Universal Reproach, notwithstanding that a second benefit revives the first, and a third or fourth cannot but mind them of the preceeding. But when you have obtain'd of them to remember it, yet many regret nothing more then to pay a debt, because constrain'd thereto, either by Law or Duty; and Man being of his own Nature free, hates nothing so much as to do any thing by constraint. Hence, if he requites an Obligation, 'tis not with that freeness and cheerfulness which is requisite to good Offices, and becomes a Benefactor; in whom therefore we have more reason to confide then in another.

The Second said, The little fidelity now in the world, even amongst nearest Relatives, makes it reasonable to enquire, Who may be trusted. And if the fear of Ingratitude, (the most vulgar crime, though in shew much detested by all the world) is the cause why he who hath done good to another, yet dares not trust him; the receiver thereof hath oftentimes no less doubt of his Benefactor's intention. For though he hath receiv'd a seeming testimony of his kindness, yet the motives of benefits proceeding sometimes from an other cause besides true Friendship, suspicion may as well arise in the Receivers, as in the givers Mind. Many give onely that they may receive with Usury; others, out of vanity, and to make Creatures and Clients: which they regarding no longer but as their inferiors and dependents, 'tis as dangerous for these to confide in their Benefactors, as for a slave to use confidence towards his Master, or a Vassal towards his Lord; not often allow'd by the respect
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and timorousness of the less towards the great, as commonly those are that give: Whereas we ordinarily find in him whom we have oblig'd nothing but Subjection and Humility, Virtues much disposing the mind to Gratitude, which cannot but assure their Benefactors of their fidelity. Nor can they easily be ungrateful if they would, your confidence in them obliging them continually to fidelity, and, withall, giving them occasion to requite your kindnesses by their assiduity and services. Which was the recompence wherewith the poor amongst the *Jews* pay'd their Creditors, by serving them for some years. So that he is scarce less blameable who distrusts him whom he hath oblig'd, and by this diffidence deprives him of the means of requital, then he who having receiv'd a benefit betrays his Benefactor; the Injustice being almost alike in both. If the first complains of having been deceiv'd by him whom he finds ungrateful; the second, in whom his Benefactor puts not the confidence which he ought, will have no less cause of complaint than on the contrary he hath distrust'd him, and soil'd the lustre of the first Obligation by his diffidence and bad opinion of him; which is to tax himself of impudence for having done good to one unworthy of it.

The Third said, That if Men were perfect, Communicative Justice would require of them that the receiver of a benefit should repay the like, or at least some acknowledgment by his endeavours: Which the Poets intimated by the Graces, holding Hand in Hand. But the perversity of Man is such, that the more he is oblig'd to this Duty, the worse he acquits himself thereof, not doing any thing handsomely but what he does freely; and because being a vain-glorious Creature, he hates nothing so much as to be subject, and to pay homage to him that hath done him good; whose presence seems to upbraid him with his own meaness. If he loves his Benefactor, 'tis with an interest'd and mercenary affection; whereas that of the former is free from all self-respect, and proceeds meerly from a principle of Virtue, and consequently, is with more reason to be rely'd upon. Moreover, a Work-man loves his Production more than he is lov'd by it: as also God doth his Creatures; and Fathers, their Children. Now a Benefactor, who is a kind of Work-man and Artificer of our good Fortune, cherishes and loves us as his work and creatures, because he seems concern'd for our preservation; just as Causes are for that of their Effects, in which themselves revive, and seem to be re-produc'd.

The Fourth said, That our Natural Sentiments incline us more to rely upon those whom we have oblig'd, than upon those who have oblig'd us; not so much by way of challenging a requital, (for Obligations are not to be done in hope of recompence; which would be exchange rather than kindness) as because we are apt to trust those most, whom we love most. But we love those most, to whom we have

have given greatest Testimony of our Affections. A Man may be deceiv'd in reckoning his benefits as causes of Amity in the receiver; but, they are certain Effects and Signs of Affection in the bestower: So that in respect of us, 'tis manifestly better to trust him whom we have oblig'd, than him who hath oblig'd us. The same is prov'd also in respect of him that is oblig'd; even the wild beasts are tam'd, and, instead of hurting, obey those that feed them; and therefore 'twere injurious to humanity, not to judge It capable of acknowledging a benefit which it knows how to conferr without provocation. For upon examination, the Causes of Ingratitude will be found to arise from those who boast of the title of Benefactors; the imprudence whereof is so great in some, that they displease more than oblige, by Presents unseasonably given, of no value, and (contrary to *Seneca's* advice) of little duration, intermixt with ill Offices, instead of being fenc'd with new to keep out the rain of the disgusts and coldnesses which destroy Friendship; with regret, and not with a chearful Countenance; after denials and delays, so that the thing seemes rather snatch'd then receiv'd; diminish'd by burthensome conditions; and lastly, nullifi'd by reproaches, if not requited as soon as was expected. Whence such pretended benefits deserve rather the name of Out-rages: And nevertheless, being there are many that are grateful, even for such benefits, we may justly conclude that Courtesies done with their due circumstances, are far more capable to oblige the receivers to Gratitude, which cannot consist with Unfaithfulness.

The Fifth said, That the Decision of this, as of all other Moral Questions, depends upon persons, times, places, and other circumstances whereupon Prudence is founded, which teaches when, how, and whom we are to trust. Yet, supposing circumstances alike, and two persons equally virtuous, one of which hath done me good, and the other receiv'd good from me; the contrary Reason of the Law, which presumes him alwayes bad who hath been once bad, makes me judge, That he who hath once done me good, will sooner do me good again then another; and therefore that I ought rather to trust him.

CONFERENCE CXXV.

Of the Causes of Freezing and Thawing.

AS Heat and Cold are the Efficient Causes of all Meteors, so Driness and Moisture supply Matter for them, sublim'd and made volatil by extraneous Heat. Vapours which make Aqueous Meteors, are of two sorts; some ascend to the Middle Region of the Air, whose coldness condenses them into a Cloud, which

which afterwards turns into Rain, Snow, or Hail: Others, through the weaknefs of Heat, or tenuity of their Matter unable to afcend, turn into Mifts and Dew, and the Serene which preceedes it, and Frost. For the Matter both of Frost and Dew, is a subtil thin Vapour, which when spread equally and uniformly about the Earth, hinders not the Air's transparency, which therefore in time of Frost is alwayes clear and ferene. But their Efficient is diftinct; that of Dew is the moderate Coldnefs of the Night, whence 'tis moft frequent in temperate Seasons; that of a Frost is Vehement Cold, whereby being firft condens'd, it falls down in form of Crystal: Yet Cold alone fuffices not to produce Frost; for then Water, which is cold in an eminent degree, fhould be alwayes frozen. But fome terrene and grofs parts muft ferve for an uniting medium to compact the moift parts of the Water or Vapour, which being naturally fluid, cannot be link'd together but by means of fome dry parts fixing and reftaining their fluidity. Hence the impureft and moft compounded Liquors are foonest frozen; diffill'd Waters, difficultly, by reafon of their fimplicity; Vinegar (though cold) never, by reafon of the tenuity of its parts. But the furface of waters being full of earthy and grofs parts, which could not accompany the Vapours or Exhalations, drawn up by the Sun's heat, is therefore firft frozen; even that of running waters, though not fo eafily, by reafon of their motion makes a divulfion of their parts; as neither Oyle very eafily, (by reafon of its ærious and unctuous humidity) the Sea, and Hot Spirits; which yet Experience fhews are fometimes frozen by Vehement Cold; the Poet in his description of the fharpnefs of Winter, in his Georgicks, faying, that they cleav'd Wine with hatchets; and the Northern Navigations of the *Hollanders*, relating that they were detain'd three moneths under the feventy fourth Degree, where their Ships were frozen in the main fea.

The Second faid, That Heat and Cold are the immediate Caufes of Freezing and Thawing, but 'tis hard to know, Whence that Heat and Cold comes? Now becaufe Cold is onely the Privation of Heat, as Darknefs is of Light; we fhall fufficiently underftand the Caufes of Cold and of Freezing, if we know thofe of Heat which caufes Thawing. The truth is, the Sun, whose approach and remotenefs makes the diverfities of Seasons according to the different mutations which he caufes in the qualities of the Air, contribute thereunto, but the Earth helps too; he cannot do it alone; for we fee that the Snow on the Mountains which approach neareft Heaven, is laft melted. But the Sun's Rays piercing into the bofome of the Earth, draw out that Fire which is inclos'd in its entralls; and becaufe the Sun removes but a very little from the Æquinoctial Line, therefore that part of the Earth which answers to that of Heaven where the Sun continually refides, is alwayes Hot; and by a contrary Reafon, that under the Poles is alwayes extreamly cold: And even

even Country-people observe winds to be the Cause of these Effects; for those that blow from the North quarter, bring with them an extream cold Air, which is the cause of Freezing; and those from the South bring on us an Air extreamly heated by the continuall action of the Sun, and so are the cause of Thawing.

The Third said, That Winds being continual, because their matter never fails, it happens that the strongest gets the better of the weakest, and they chase one another; whence *Virgil* calls them Wrestlers. When the South Winds blow, (which are more frequent, and more gross then the Northern or Eastern, by reason of the Sun's strength in the South, which opens the Pores of the Earth more :) the copious Exhalations which issue out of it, are hotter than those which come out of the Pores of the Northern Earth, which are closed up by Cold, whence the Winds blowing from thence are colder and thinner; just as our breath is cold when we contract our Mouthes, and hot when we dilate them. In like manner, the Exhalations issuing out of the Earth's Pores, are hotter or colder, according as the passages out of which they proceed are more or less dilated, and consequently, cause Freezing or Thawing.

The Fourth said, That the Sun or other Stars are onely remote Causes of Freezing and Thawing; namely, by their Heat which serves to raise the Vapors, which are the next causes thereof, according as they partake more or less of that external Heat; or, (as the Chymists say) as they are full either of certain nitrous and dissolving Spirits which cause Thawing, or of coagulating ones which cause Freezing; such as those are, harden Plants into Stones, which so presently congeal drops of water in Caves and Water-droppings, and form the Crystals of the Rock. Moreover, just before it freezes, Sinks, and other stinking places smell more strong, by reason that the Spirits and Vapors of the Earth are complicated with those stinks as they issue forth.

The Fifth said, That the Cause of Thawing is to be attributed to the Heat of the Earth, which exhaling warm Vapors, first heats the bottome of the Water, (for which reason Fish retire thither) then they mollifie and moisten the surface of the Water, or the Earth hardened by Cold. Moreover, that Heat which is found in the deepest Mines, where the Labourers work naked, and most ordinarily in the Water without enduring any Cold; the veins of Sulphur, Bitumen, Vitriol, and Arsenick, which are found in the entralls of the Earth; the Hot Springs, and the *Volcanoes* in its surface, sufficiently argue, That if there be not a Central Fire, (as the *Pythagoreans* held) yet there is a great Heat there, like that of Living Bodies, which concocts Metals, and makes Plants grow. Hence the changes of Air are first discover'd in Mines by the Vapors arising from beneath, which hinder Respiration, and make the Lamps burn dim, or go quite out. Whereby 'tis evident that they are exhaled by the Heat

of the earth, and not attracted by that of the Sun and Stars, which penetrate but a very little way into the earth. Now as our bodies are inwardly hotter in Winter; so this heat of the earth being concentrated in it self, (as appears by Springs which smokes in that season, and by the heat of subterraneous places) raises greater plenty of warm Vapors, which in Winter render the Weather moist and rainy: but when rain or the coldness of the air stops those pores, then those Exhalations being shut up, the Air remains cold, and it freezes; which frost is again dissolv'd by their eruption. For the natural heat of the Earth, being constring'd and render'd stronger by the ambient Cold, drives out hotter and more copious exhalations, which consist either of the rain-water wherewith it is moistned, or of other humidities; and which arriving at the surface of the Earth which is frozen, soften it and fill the air with clouds, which always accompany a Thaw, as Serenity do's a Frost.

The Sixth said, That as Hail is nothing but Rain congeal'd, so Frost is nothing but Dew condens'd by the vehemence of Cold, and in the Water 'tis call'd Ice: which coldness condensing the Water, (which is a diaphanous body, and consequently hath an internal and radical light) is the cause of its whiteness, which is the beginning of light, as the Stars are the condens'd parts of their Orbs. Unless you had rather ascribe that whiteness to the Air included in the Ice, which also makes the same swim upon the water. An Evidence that Cold alone is not the cause of Freezing; (for Cold alone render bodies more ponderous by condensing their parts, whence Ice should be heavier then Water) but there is requir'd, besides, some hot and dry exhalation, which insinuating into the Water, gives it levity.

The Seventh said, That such bodies as are frozen, are so far from receiving augmentation of parts, that they lose the thinnest of their own; hence a bottle so close stopp'd that the air cannot get in to supply the place of the thinner parts which transpire and perish upon freezing, breaks in pieces for avoiding of vacuity. And Wine and Fruits lose their tast upon the loss of their spirits, when they are frozen: which spirits not being able to transpire in Cabbages and other Viscous Plants digest their crudities, and by that means render the same Plants more tender.

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CONFERENCE CXXVI.

Of the Causes of the Small Pox.

THe variety wherewith this Malady afflicts, or that which it causes in the body, hath given it the name of *Variolæ* (Variolles or Vairolles) as its resemblance to the blisters, and to the manner wherewith the Venereous Disease invades the *Indians* (to whom the same is Epidemical, being caused by the corruption of the air) causes it to be called the Small Pox. These are efflorescences or pustules appearing upon the body, especially those of Children by reason of the softness of their skin, with a Fever, pain, scabbiness, and purulent matter. This malady comprizes three sorts of Diseases; Namely, Intemperature, in its fever and inflammation; Bad conformation, in the little Eminencies; and solution of continuity, in the Ulcers. Its precedent signs are commonly, hoarseness of the voice, pain of the head, inflammation of the whole face, yawnings, distentions, trembling of the whole body, sneezings, and stiches. Its concomitant, essential, and pathognomonical signs are, Deliration, frightful Dreams, pains of the Breast and Throat, difficulty of Respiration, and a Continual Fever, which is sometimes putrid, sometimes not. All which signs proceed from the violent ebullition and agitation of the humours, the conjunct cause of this Malady an effect of the natural heat; which being irritated by their Malignity, drives them outwards to the surface where they raise those little Tumours; which, if red and less high, make the Meazles; and when more eminent, the Small Pox: the Pimples whereof at first appear very small, afterwards in time wax red, and grow bigger from day to day till they become white; then they suppurate and dry, and lastly, falling off commonly leave marks behind them, not to be got away, because they have consumed the skin which is never generated anew.

The second said, A common effect must have a common cause. Now the Small Pox and Meazles (which differ only, in that the former is produc'd of thinner, and the latter of thicker blood) are diseases not only common to many, but so few escape them that a general rule here scarce admits any exceptions. Two Causes there are, the Material, or the Efficient. The former is the impurity of the Menstrual blood which serves for nourishing the *fetus* in the womb; where at first it attracts the purest and sweetest blood, but when grown bigger the gross together with the thin. So that as Horses once in their lives cast the Strangles, so men must also once purge and void that menstrual impurity, which being equally dispers'd over all the body and in small quantity, hinders not its functions. The efficient Cause, common likewise to all men, is the Natural Heat, which drives these impurities outwards, and so they come to appear upon the

skin, (which is the Universal Emunctory of the whole body) but especially upon the face by reason of its tenderness, and because being the place where all the Organs of Sense terminate, 'tis fuller of spirits than any other, and consequently there is a greater attraction thither of those malignant Vapors. Now that it seizes some in their childhood, others in their youth, some very few in old age, and all after a different manner; this depends upon our particular Constitutions, either natural or acquisitious by custom, and a long use of the things not natural. For, according as the humours reign in the body, they give occasion to the eruption of that Venemous quality which before lay hid; as Madness and Leprosie sometimes appear not till after divers years. Our diet also contributes thereunto; for when it symboliseth with that malignant humour, it increaseth the quantity thereof; as on the contrary, it corrects the same, and retards its motion, if it be of a laudable temper, or exceed in contrary qualities.

The Third said, What Original Sin is to the state of the Soul, that the Small Pox seems to be to the state of the Body; for this Disease commonly invades children, who never committed any fault in their course of living, and whose nature should be so much healthier by how much 'tis more vigorous and nearer the principles of their Nativity; wherefore it seems rather to proceed from the vitiosity of the Parents. And as many hereditary diseases come from the bad disposition of the seed; so from the impurity of the blood (the material principle of our bodies) some may also arise; as Tettars, Kibes, Corns, and other deformities of the skin, which happen to children, very like this. Moreover, this disease usually breaks forth in the seventh and ninth, which are the first climacterical years; when Nature endeavours the perfection of her work by purging and cleansing it of all impurities. And as New Wine, when it comes to work, casts forth all the heterogeneous impurities in its body; so doth the natural heat attempt the like by causing an ebullition of the blood and spirits: whether this Fermentation happens by the universal spirit of the world, as those in other natural bodies; or whether (as 'tis most probable) it proceeds from the very strength of nature, whose motions, although regular and certain, are yet unknown to any other besides it self, which produces them according to the dispositions of the Subject wherein it resides.

The Fourth said, That being our bodies were always form'd of the maternal blood, and indu'd with one and the same natural heat, (which two are held the material and efficient causes of the Small Pox) this Disease should have been in all times and places; and yet it was unknown before the *Arabians*, in whose time it began to appear. For the little red round pustules, and those other like flea-bitings, mention'd by *Hippocrates*, *Aetius*, and some other Ancients, are nothing less than the Small Pox;

to which not only Women during their Suppressions, but even brute Beasts, which have also their purgations, (as among others, the Bitch, the Mare, and the Shee-As) ought to be subject. On the contrary, such as have burning Feavers should be free from it; if it be true, that the seed and leven of this malady is dissipated by the ebullition of the blood, which is vehement in a Fever. But 'tis impossible to conceive, how a venomous and pernicious matter, (as that impure part of the blood is said to be) can be preserv'd for many years in its Mass; for being the blood serves for continual aliment to all the parts, these ought to resent something of that malignity; yet those that are taken with this disease are usually the most healthy, and of a sanguine constitution, which is the most laudable. For this were to accuse Nature either of Imprudence or Weakness; but she is good, wise, powerful, and solicitous for nothing so much as to purify the body, which she doth not only while the child is in the Womb, where she wraps it up in two membranes, which receive the Urine, Sweat, and other Excrements of sanguification (as the Intestines do the grosser excrements) but as soon as it is born, she expells its immundities by blisters, scurfs, scabs, tumors of the head and other purgations, which *Hippocrates* saith, preserve from diseases, especially from the falling sickness. Nor can the Malignity of the Air be the Cause, as *Fernelius* holds, alledging that the difficulty of respiration, heaviness of the head, inflammation of the face, and such other concomitant symptoms, seem to be caus'd by the viciousness of the air, which infects the heart, and by that means hurts the other Functions. For then the Small Pox would be as Epidemical as the Pestilence, or any other contagious maladies, and seize upon all men indifferently, not excepting such as have once had them. Wherefore the matter of this disease is a serosity accompanied with the humours, which make the Pox appear of several colours, sometimes Red, Yellow, Black, or White, according as the Blood, Choler, Melancholy, or Flegm flow thither; Wind or Water only cause bladders or blisters. Nevertheless it must be confessed that this serosity acquires some particular malignity; as appears by the deformity caused by the pustules, which not only pit the skin and flesh, but sometimes even corrode and rot the bones.

The Fifth said, That the Small Pox is a new and hereditary disease, and that as all other new maladies of these last ages, have always had their causes, but only wanted fitting dispositions (without which nothing is produced) so the causes of the Small Pox have always been existent, but the particular dispositions of bodies not lighting upon the point requisite for its production, it hath not appeared till these late times; whether through the influence of Heaven, or through the Malignity of the Air, or the intemperance of men (the most apparent cause of most diseases formerly unknown) or else through contagion
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and contact, by which way the great Pox is communicated. For the Small is likewise contagious, and (which is remarkable) more amongst Kindred than Strangers; because they, being issued of the same blood, have greater affinity of dispositions than Strangers.

CONFERENCE CXXVII.

Whether we profit best by Precepts or Examples.

AS there is nothing so hard as to judg of the worth of things, so it is the highest point of prudence to understand the goodness of the means that may conduce to some end. Precepts and Examples are the two Means to attain Vertue; 'tis demanded which is the best and most proper. At first view, Example seems to have the same advantage over Precept that the Whole hath over the Part; for a Good Example, besides being of its own nature a vertuous action holds the place of a Moral Rule; but a Precept is only a General Maxim, not necessarily follow'd by a particular Action: whence it follows, that Precept regards only the Understanding, whereto it affords some light; but Example makes impression upon both Faculties together, the Understanding and the Will, by an order necessary in civil life, which is regulated by the example of others. Therefore Great Persons are oblig'd to good Example, which derives its dignity from that of the giver. Moreover, Moral Propositions are so reasonable and conformable to the instinct we have of good, that all the World assents to them as consider'd in the General. There is no body but acknowledges, that, what belongs to each man ought to be render'd to him; that, we ought not to do that to another which we would not have done to our selves: yet in the circumstances and particular cases we do not always apply those precepts; because then they appear clog'd with difficulties, to which our passion or interest give birth. Wherefore Example, beng Particular, is more considerable in Morality, wherein people are govern'd more by opinion then reason; but Precept is Universal, and affects the mind only at a distance, our actions being oftentimes contrary to the secret dictates of the Understanding. In Example we feel the force and application of a precept in a particular subject, and know not only that which ought to be done but how it ought to be done by seeing it practis'd. Experience it self shew us, that Doctrine alone is weak and little perswasive, unless it be animated by the examples of a good life, whose silence is more eloquent than all precepts. Moreover, we are like those with whom we live, and the maladies of the body are not so contagious as those of the mind: which notwithstanding may as well profit by bad examples; as good, the Under-

Understanding being able to turn bad food into good nourishment : And as a brave Action excites good Motions in us by its beauty, resulting from its conformity to Reason ; so a bad Action, by its deformity and contrariety to Reason, gives us aversion against it, and an inclination to its opposite. *Socrates* judg'd no Lesson so fit to moderate Anger, as for a Man to behold himself in a glass when he is agitated with that Passion. Which cannot be said of a bad Precept ; for this being a bad seed, can never produce any fruit but of the same Nature. On the other side, Men are such Lovers of Pleasures, that Virtue separated from Delight, stumbles them, and seems too severe : But Precept is a pure Rule of Duty, without any attractive ; whereas Example, which appears to our Eyes, and is an Action cloth'd with circumstances, persuades us more sweetly, because we are naturally prone to Imitation ; whence it comes to pass that Comedies are so charming : And Example is the subject of Imitation, but Precept cannot be so ; for it is general of it self, and all Moral Actions are singular.

The Second said, That if it be true, as the *Stoicks* say, that Virtue is nothing else but a Science, then Precepts must be the foundations, as of Science, so also of Virtute ; which indeed being a habit of a reasonable Faculty, must be more promoted by Precepts, (which are infallible verities, and supply light to that Power) than Examples which have no force to convince a strong Mind. They who follow Virtue by Example, and not by Reason, have more of the Ape than of the Man ; and all the power Example hath, is onely to move the Will to admire and desire Virtue, but not to teach the way of attaining it, as Precept doth ; which, besides being invariable, and always alike to its self, is more easie to be applyed than Example, which puts on a new face, according to the circumstances of times, places, and persons ; there being no Actions, how contrary soever, but have Examples to countenance their goodness. Moreover, they are either of the time past, and so move us not much ; or of the present, in which there are few of Virtue ; besides that, they are of less duration than Precepts, which are eternal. If vicious Examples attract more powerfully to Vice than vicious Precepts, the same cannot be said of the practice of Virtues ; since these have not all the External Senses of their party, as Vices have.

The Third said, That sensible and palpable things, as examples are, have more power upon us than bare words, which cannot so well persuade a Truth, but that they always leave some doubting in us ; whereas Examples being sensible, give us a more entire and perfect Knowledge : yea, they have influence even upon brute beasts, who learn not by Precepts but by Examples, which is an evidence of their certainty ; for a thing is the more certain, the more common it is to us with more. Hence *Plato* affirms, That Examples are necessary to persuade high and lofty matters. Precepts, indeed, dispose ; but Examples
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animate the Soul to Virtue; those admonish, these stimulate and guide, as in the resolution of doing well: Instructions shew the way, but Examples drive us with the point of Honour, and the force of Emulation. Nor do Precepts include Examples, but the contrary; and every Example comprehends a Document. When we see a Good Man square his Life out to his Duty, we find I know not what satisfaction and contentment in the admiration of his Virtue; and this pleasure makes us conceive, yea, strongly perswades us, that all Virtues are amiable. Even Vicious Examples sometimes make Vice appear to us so deform'd, that we detest instead of pursuing it. Hence the *Lacedemonians*, setting aside the Precepts of Temperance, were wont to make their Slaves drunk, that the ill-favour'd spectacle might make their Children abhor that Vice. Lastly, Our Saviour, whose Life was a continued Example of Virtue, did more Works to teach us, than he gave Words and Precepts, most of which are comprehended under Examples and Parables: Yea, the Devil, well knowing that *Adam's* mind was too strong to be prevail'd upon by Reasons, first gain'd that of his Wife, which was more weak, that he might allure him to sin by her Example.

The Fourth said, The end is not onely more noble, but also more effectual than the means; for 'tis to that alone that they aim and terminate. Now the end of all Examples, is to deduce Precepts from them; which Precepts, are general Notions grounded upon many Experiences or Examples, either of others, or our own; but these being wholly particular, can have no power upon the Understanding, which frames its conclusions onely upon things universally true, as Maxims and Precepts are, and that more than Examples; for these are never perfect, but full of a thousand defects, those sure and infallible. Moreover, Precepts move the Understanding, which is the noblest of all the Faculties; whereas Examples make impression onely upon the outward senses and dull wits.

The Fifth said, That as the Sight and the Hearing, know how to put a difference between Colours and Sounds, without Learning; and all the Faculties can naturally discern their own Objects: So the Understanding knows naturally the first Principles, and clearly beholds those first Verities: The Will hath also in it self the Principles and Seeds of Virtues, (as the Synteresis, and remorse of Conscience in the most wicked, sufficiently prove) and is of it self carryed to Virtuous Actions, without needing either Precepts or Examples, equally unprofitable to the bad, who amend not thereby; and to the good, who want them not.

The Sixth said, That the Question is to be decided by distinguishing of the Minds of Men. Those that excel in Judgement attribute more to Reason than to Examples, which being more sensible, affect the Imagination of duller heads, who are not capable

pable of Reasons. So that though Precepts and Arguments be without comparison more perfect than Examples; yet because very few are capable of them, (because the generality of the World is stupid and dull) therefore they are not generally so proper to teach as Examples; which nevertheless being of no power, but serving onely to clear an obscure Truth, ought not to have any ascendant over a Mind that is reasonable and furnish'd with Knowledge.

CONFERENCE CXXVIII.

*Of Incubi and Succubæ; and whether Devils
can generate.*

TWO sorts of people err in this matter; the superstitious, and ignorant vulgar, who attribute every thing to Miracles, and account the same done either by Saints or Devils; and the Atheists and Libertines, who believe neither the one nor the other. Physicians take the middle way, distinguishing what is fit to be attributed to Nature, and her ordinary motions, from what is supernatural; to which last Head, 'tis not reasonable to refer diseases and indispositions, as the *Incubus* is, call'd by the Greeks, *Ephialtes*, and by the vulgar, the *Night-mare*. 'Tis defin'd, An impediment of Respiration, Speech, and Motion, with oppression of the Body, whereby we feel in our sleep as 'twere some weight upon the Stomack. The Cause of it is a gross Vapor, obstructing principally the hinder part of the Brain, and hindring the egress of the Animal Spirits destinated to the motion of the parts; which Vapor is more easily dissipable than the humor which causeth the Lethargy, Apoplexy, and other Symptoms, which are therefore of longer duration than this, which ceases as soon as the said Vapor is dissipated. Now whereas the Passions of the Mind and Body commonly supply the matter of Dreams; (as those that are hungry or amorous, will think they eat or see what they love; those that have pain in some part, dream that some body hurts the same) hence when Respiration, (the most necessary of all the animal functions) is impeded, we presently imagine we have a load lying on our Breasts, and hindring the dilatation of the same. And because the Brain is employ'd in the *Incubus*, therefore all the animal functions are hurt; the Imagination deprav'd, the Sensation obtunded, Motion impeded. Hence those whom this evil seizes, endeavor to awake, but can neither move nor speak, till after a good while. And though the Cause of this disorder be within our selves, nevertheless the distemper'd person believes that some body is going about to strangle him by outward violence, which the deprav'd Imagination rather thinks upon than Internal Causes;

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that being more sensible and common. This has given occasion to the error of the Vulgar, who charge these Effects upon Evil Spirits, instead of imputing them to the Malignity of a Vapor, or some phlegmatick and gross humor oppressing the Stomack; the coldness and weakness whereof, arising from want of Spirits and Heat, which keeps all the parts in due order, are the most manifest Causes. Much unlikely it is to be caused by Generation, which being an Effect of the Natural Faculty, as this of the Vegetative Soul, cannot belong to the Devil, who is a pure Spirit.

The Second said, As 'tis too gross to recurr to supernatural Causes, when natural are evident; so 'tis too sensual to seek the Reason of every thing in Nature, and to ascribe to meer Phlegm and the distempered Phant'ie, the Coitions of Dæmons with Men; which we cannot deny without giving the lye to infinite of persons of all Ages, Sexes, and Conditions, to whom the same have happened; nor without accusing the Sentences of Judicial Courts which have condemned them. For to omit the Births of *Hercules*, *Aeneas*, *Alexander*, *Servius Tullus*, and many other Heroes begotten by the false gods of Antiquity, who were no other than Devils, as were also the Fauni, Satyrs, and the chief of them *Pan*, the prime of the *Incubi*, called by the Hebrews *Haza*, as the chief of the *Succubæ* was termed *Libith*: And to say nothing of the Giants mentioned in *Genesis*, who according to some Fathers were begotten by Angels; *England* hath had its *Merlin* a great Magician, begotten by an *Incubus*; *Porton*, Counts begotten of a *Succuba*, half Woman and half Serpent, called *Mellusine*; *Poland*, Princes of the Race of the *Jagelloes*, issued from another in form of a Bear; *Hungary*, intire Nations called *Huns*, born of the *Arlunes*, Gothick Witches, and *Fauni*. Even at this day, in the Island *Hispaniola*, by the Relation of *Chieza*, in his History of *Peru*, a Dæmon, call'd by the Inhabitants *Corocota*, hath to do with the Women, and the Children proceeding from such Conjunction have horns; as also among the *Turks*, those people whom they call *Nephesolians*, are believed to be generated by the operation of Dæmons; whether they borrow some humane seed which they transport almost in an instant, and so preserve its Spirits from evaporation; or whether it be by their proper Virtue; since whatever is naturally producible, as seed is, may be produced by Devils. For in the order of things natural, the superior and more noble contain eminently, and in a more perfect degree, the powers of the inferior and less perfect. Yea, though they were not able to make true seed, it follows not that they cannot produce a perfect Creature; for Nature, of which the Devils have compleat Knowledge, may have divers ways to compass the same end. But as the Devil performs the natural actions of Animals by means supernatural; as he sees without Eyes, moves Bodies without Contact, transports himself from one place to another, without commensuration of the intermediate

intermediate space, because he hath no quantity; so he may make a perfect Animal without observing the conditions of ordinary Agents. Moreover, Nature her self shews us strange transformations, as of a Womans hair buried in a dung-hill into Serpents; and of leavs falling into the water, into Ducks; wherefore there is no doubt, but he who hath perfect Knowledge of all these secrets, can by Application of Agents to Patients produce perfect Animals.

The Third said, That the Devil being a Spirit of uncleanness delights not only to combat the Purity of Mankind by his illusions, but will have a hand in the sin too. When he hath to do with a Woman, he is called *Incubus*; when with a Man, *Succuba*. As for this latter, 'tis certain it cannot generate in its self, for want of place fit to receive the Seed and to reduce it from power into act, as also of Blood wherewith to nourish the *Fœtus* during nine moneths. 'Tis harder to resolve, whether an *Incubus* can generate in another. All agree that the Devil by Gods permission (without which he can do nothing) hath power to move all Bodies from one place to another; and can by that means form a Body of Air, or some other gross matter; or for want thereof, take a Body lately dead, animate it with an adventitious heat, and give such motions as he pleases to all its parts. But because Generation requires three things; Distinction of Sex, Copulation of Male and Female, and emission of some prolifick matter containing in its self a vertue to form all the parts from whence it issued; the Devil may indeed make the two first conditions meet, but never the latter, namely a fit and convenient seed, indued with spirits and vital heat, without which it is unfruitful and barren. For he hath no such seed of his own, because it is the result of the last concoction, which cannot be made but in a body actually alive, as that which he hath is supposed not to be; nor can he borrow such seed elsewhere, because it becomes unfruitful when once shed out of the Vessels of Nature by reason of the evaporation of its spirits.

The Fourth said, There is nothing supernatural in the *Incubus*; for 'tis only a symptom of the Animal Faculty accompanied with three circumstances, namely, Respiration hindered, Motion hurt, and a fanſie depraved. The first proceeds from a phlegmatick, raw, and cold matter, which coming to lye heavy in the bottom of the Stomack, pulls down the Diaphragm (whereto the Ventricle is annex'd by its upper part) which being loaden and wanting its free Motion; Respiration, whereof it is the principal Organ, is consequently hindered. As also it is by gross fumes elevated from the Hypochondres and Mesaraical Veins; (which being the first ways of Food, abound with impurities and gross vapours) which coming to the hinder part of the Brain, obstruct the commerce of the Spirits, dedicated to the motion of all the parts; but particularly that of the Diaphragm, by obstructing the two couple of Nerves which issue

out of the fourth and fifth Vertebrae, and communicate motion to it; just as, in sleep, Sensation is stop'd by more tenuous vapours possessing the forepart of the Brain, which is more soft. Hence such as sleep upon the back part of head are more subject to this Disease than those that sleep on one side. Lastly, the voluptuous phansie, which accompanies this accident, though very rarely, proceeds either from the abundance, or quality of the Seed; which sending its Species into the phansie, this Faculty frames to its self a delightful object and stirs up the Motive Power, as this doth the Expulsive Faculty of the Spermatick Vessels, which discharge that excrementitious matter, whilst the lascivious Imagination fancies to it self the conjunction of unclean Spirits.

CONFERENCE CXXIX.

Which Animal is happiest, according to Nature.

WHEREAS a man cannot so well speak of others as of himself, it were to be wished that every thing, which is naturally capable of felicity, came hither to give its suffrage. I believe the Birds would not be the last to testify to us by their singing and agreeable warbling, the most certain indication of joy and contentment; as cries are of the contrary, grief and sadness. Indeed, if there be any pleasure in the World, I think Birds have it; for they go not only to seek their food in the bottom of the water, as Water-fowl do (to whom that Element is common with Fishes); they have not only the same share in the benefits of the land with four-footed Animals, and both together with amphibious creatures; but moreover they fly in the Air, approaching Heaven nearer than we can, and cleaving that Element with an innocent pleasure not to be understood but by the action it self; whence Angels are painted with wings. And as of all Animals the most imperfect and least capable of felicity are the Reptile, such as Earth-worms, little differing from this very Element; so those are the happiest which remove themselves furthest from it, as Birds do. Amongst which I shall leave it to the Voluptuous to say, whether it be the Cock, the Sparrow, or the amorous Dove; those that love Musick, to determine whether 'tis the Nightingale, and to those that esteem the sight the most ravishing of all the Senses, whether it be the Eagle, whose eye discovers the remotest objects and turns not aside even from the beams of the Sun.

The Second said, That since nothing is intirely happy in the World, the Question should rather be put, Which is the least unhappy of all Animals. Man, the only competent judge, acknowledges 'tis not himself, for he seems to be the Butt of all

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the miseries in the World ; of which also he is so much more sensible than Beasts by how much he hath a mind more qualified to apprehend and resent them. For whereas they say, he alone is capable of felicity ; 'tis true indeed in reference to the future not the present life, no age whereof is capable of relishing an intire contentment : and if one drop of Gall mingled with a good quantity of Milk denominates the same bitter, certainly we cannot term mans life pleasant whilst it hath abundantly more pain then delight. He comes into the World weeping, and naked without any Arms or defence ; wherein he is more unhappy than Beasts-whom nature hath guarded with covertures against the injuries of the air. His first Child-hood is not yet capable of any sort of pleasure. Adolescence would taste thereof indeed, but is denied liberty by its Pedagogues. Youth precipitates it self into more kind of evils then it tastes of good : besides that, it sees most pleasures forbidden by Divines, Physicians, and Civilians, who seem to have endeavoured to take from us all contentment in this World ; which if old age makes us the less loth to part with, yet there is no so great resignation of spirit but is thwarted by temptations of the flesh, nor security so carnal but is startled with the records of conscience. Moreover, the true mark of felicity being the satisfaction and contentment of him that possesses it, no person can be happy in this world since none is contented. For man being design'd to a more perfect life then this, naturally desires the Supream Good, and all that is below it displeases him, as incapable to satisfy him ; and because he cannot find it here, therefore neither can he find contentment, which consists in satisfying the Appetite. Beasts, on the contrary, having no other knowledg but that of Sensual and Delectable Good, desire no other, but are fully satisfi'd and contented therewith, and consequently more happy in this World then men.

The Third said, If Felicity consist in action, that Animal must be most happy which acts most perfectly. So doth man, whether you consider him as to the Body or the Soul. For to say nothing of the divine functions of his Understanding and Will ; the sole structure of his Body, which was made erect that he might behold Heaven (whereof he is capable) and which alone is indu'd with beauty, one of the effects of Health, sufficiently proves it : For though some Animals possibly surpass him in some one sense, yet he alone excels equally in all, and knows the differences of colours, sounds, odours, sapours, and tactile qualities, in the participation of which he finds pleasure whereof beasts are incapable.

The Fourth said, That to believe Man can be happy here, is to contradict the opinion of all the Sages of Antiquity, who have acknowledg'd Man the weakest and pitifullest of all Creatures ; and the Scripture it self, which terms his life full of sorrows, and this World his banishment. And indeed if we place

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Felicity in the knowledg of possessing it, Misery must also consist in the knowledg or opinion we have of being miserable; of which reflection Man alone being capable, he must be also more too of unhappiness then felicity; and the more, inasmuch as there are more things that can afflict then content him; some always bringing present inconvenience with them, others leaving somewhat to be desir'd after them, and never satiating our Appetite. For the Reasonable Soul, which is held the subject of Mans happiness, is the principal obstacle to attaining it: since having for its object a more perfect and absolute Good then it can possess in this life, it cannot establish a true Felicity (which of its own nature must be as lasting as the Existence of him who enjoys it) upon things acknowledg'd frail and perishing, as Natural and Sensible goods are; which being futable to the duration and appetite of other Animals, their enjoyment thereof fills them with perfect happiness. But amongst these, Fishes seem to me most happy; whether you measure their happiness by the largeness of their habitation which is the vast Ocean, of far greater extent then the Earth, from which being more severed then Birds, who are forced to descend thither for their food and rest, they are also less subject to the ambushes of men, and in this regard more happy; or whether you consider corporal health (the foundation of all felicity) of which Fishes are so well provided that it hath occasion'd the Proverb, As sound as a Fish; or lastly, whether you place felicity in the privation of pain, which resides chiefly in the sense of Touching; which being more dull in them then in other Animals, they are also less sensible of inconveniences; and for this reason were made mute by nature which hath given a voice to Animals chiefly to testify thereby the grief which they resent.

The Fifth said, If there be so great a number of opinions wherein the felicity of one single Animal, Man, consists; there may justly be great variety of judgments, concerning which is the happiest of all Animals. To determine which, we must imitate Painters, who before they couch their Colours propose a perfect Idea of their work; which the nearer it approaches, the more excellent it is reputed. In like manner, we must first form an Idea of this felicity, and then see which Animal comes nearest it; whether the Servant or the Master, the brute Beast or Man; whose mind, whereby he infinitely surpasses all the rest of the Creatures, seems to be ingenious to its own loss; not employing it self, but to find out reasons to prove him unhappy: since in favour of other Animals we lay aside that ambition which is so natural to us, and are willing to yield to the vilest of them, what we would dispute with the most perfect of men. Now that which makes most people mistaken in their judgment, is, that being no person enjoys an intire felicity, they imagine that all happiness lyes in that thing which is wanting, and so esteem him alone happy that possesses it. Thus a poor spirit
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perswaded that all happiness consists in strength and courage, will say that the Lion is the happiest of all Animals, since his courage gives him empire over all those of his condition. The sick person accounting health (the most desirable of all goods, prefers Beasts before Man, whom his exact tempers renders more obnoxious to external causes which produce diseases. On the other side, if Animals are happy, 'tis as Fools are, whose minds are quiet, by reason of their ignorance and insensibility. But as it is better to be sensible than insensible even upon the condition of enduring pain sometimes; so it is more happy to have a rational mind, though it causes troubles to us sometimes, then to have none. Moreover we cannot avoid the strokes of fortune, otherwise than those of Thunder, namely by being very high or very low; but 'tis better to be above tempests than below them, and to be incapable of them by reason as a wise man, than by stupidity as a beast.

CONFERENCE CXXX.

Whether is better, that Men have many Wives, or Women many Husbands.

THough plurality of Wives or Husbands be disallowed by the Christian Law, yet not being contrary to the Law of Nations (for many admit it), nor of nature (during which it was in use); we may be permitted to doubt whether, supposing Polygamy, it were better one Husband should have many Wives, or one Wife many Husbands. There are examples of both. Plurality of Wives was practised by *Lamech*, who first had two; by *Abraham*, *Jacob*, and the Patriarchs, for multiplying of their Lineage; afterwards by *David* and *Solomon* who had 700 Wives and 300 Concubins; and at present 'tis in use among the Turks who are permitted to have as many Wives as they can keep. As for plurality of Husbands, though it be not now in use, yet it was sometimes amongst the Amazons who made use of Men only as Stallions; as also amongst the Medes and Persians, where it was a shame for a Woman to have less than five Husbands. And by the report of *Cæsar* in his Commentaries, the Women of great Britain had no less than ten or twelve Husbands a piece. Nevertheless this plurality of Husbands is something against the Law of Nature, according to which the Male as the most perfect is the head and master of the Woman: and as 'tis a monstrous thing for a body to have many heads, so 'tis for a Woman to have many Husbands; besides that they hinder production of Children; (for we see publick Women are barren) and on the contrary, plurality of Wives is the cause

cause of much issue. Wherefore 'tis more expedient in a State, whose chief strength consists in the number of men, that one Husband have many Wives, then one Wife many Husbands.

The second said, Though men, abusing the power and authority of Laws to their own advantage, have oftner married more Wives then they have permitted them to have more Husbands; yet the women have as much reason of complaint in this point, as in any other establish'd to their prejudice, without their being heard or summon'd. Their vehement and irregular appetite after man (of which the irregular motions of that *Animal in Animal* are most certain evidences) seems to conclude in their favour. For Woman alone of all Animals desires the Male at all times, even after conception; She, the Fire, the Sea, and Death, never say 'tis enough; as the matter hath a continual appetite of Forms, so hath she of the Male: which desire being natural, ought to be satisfi'd; otherwise it were in vain: but nothing is so in Nature, and therefore she ought to be permitted more Husbands; since one alone is more apt to irritate then satiate her. She is able and hath wherewith to satisfy them; but if one man cannot suffice one woman, how can he acquit himself towards a dozen; Especially in this age, wherein, no doubt, women would appeal from the constitution of *Solon*, who would have men live with their wives only thrice a moneth; as well as from that foolish custom of *Cato*, who never visited his but when it rain'd. *Lycurgus* was much better advis'd, when he permitted old or otherwise impotent persons to chuse out the handsomest young men to lye with their wives. This Sage Legislator well judging that they would of themselves take this liberty; and therefore 'twas better to grant it them, that so they might be quit of the vice and blame attending this action when prohibited.

The Third said, That the decision of this Question (the very report of which sometimes put the *Roman Dames* into an uproar) being of very great consequence to both parties, 'tis requisite to observe so much equity therein, that the Women have no ground of exception; though, to speak truth, I know not which would be most to their advantage, whether to have more Husbands (who would be so many Masters and Tyrants) or to share with other Women the Carelles of one alone; the first being contrary to their haughty humour, and the second to their jealousy. Besides, the plurality of Husbands would hinder not only the propagation, but also the education of Children; for none would take care of the Children which were not his own; and though they were, he would not believe they belong'd to him. It would be impossible for a Father to know his own Child; the term of Child-bearing being no more certain testimony, then the resemblance of Physiognomy. Moreover, whether the Wife were hated or loved by her Husbands, she would

would be displeas'd to see all her Rivals in bad intelligence, or the effects of their common hatred: However, being unable to please all, by reason of the diversity of their humours, she could not avoid the disgust of some of them. As for that impure pleasure, 'tis too shameful to be brought into the account; besides that the frequency of it would take away its sweetness; no pleasures of life being such, but upon the score of their rarity.

The Fourth said, They that fear the multitude of Husbands would hinder conception, and consequently generation, by the confusion of several Seeds, know not how either is effected; since Physicians affirm with *Hippocrates*, That the Womb no sooner receives the fruitful Seed, but it shuts it self up to embrace the same straitly (as the Stomach does the Meat) and that so exactly as not to admit a needles point; so that it cannot open again to receive new Seed in a second Coition. And though superfœtation happen sometimes, yet 'tis very rare, and is incident to a Woman that lies with the same Man several times, as well as to one that lies with many. The other Inconvenience, of the incertainty of Issues, and consequently of Successions, is as little considerable; for Man being not born for himself, but for the State whereof he is a Member; and Children less belonging to their Parents then to the Commonwealth, whereof they are the Nursery; 'twere more expedient that they were bred and instructed like those brave *Lacedemonians*, at the publick charge, than of their Parents, whose tendernefs and too great indulgence is oft-times the cause of their evil education. Moreover, this was the design of that Divine Commonwealth of *Plato*, who would have not only other Goods, but Wives and Children also common; that so those ungrateful words of *Mine* and *Thine*, which are the cause of all Mischiefs, might be taken away. For by this means that importunate solicitude of Appropriation and Jealousie, which oftentimes afflicts both parties, would be no longer any thing but a phantasm: Women would find their satisfaction in the plurality of Husbands; these, how many soever to one woman, having always enough and more then they needed; and the woman being cunning enough to divide her favours so that all her Husbands might be contented; who, besides dividing the burden of domestick cares, would have an easier task by having the more Associates. But especially 'twould be much for the womans interest; for if she be belov'd by all her Husbands, 'twill be unspeakable happiness to her; if hated by any, the caresses of some will make her amends for the bad usage of others: whereas finding no remedy in that Gordian knot which ties her to one person, she abandons her self to despair: insomuch that in the time of *Spurius Carvilius*, seventy women accus'd one another to the Senate of having poyson'd their Husbands. But if she be constrain'd to share the caresses of one Husband with a douzen rivals, there will be nothing but perpetual feuds, envies, and jealousies. Witness *Leah* and *Ra-*

chel; who, though holy women, yet daily contested for the possession of their common Husband *Jacob*. And the Scripture observes that *Leab*, who was blear-ey'd, was constrain'd to purchase of the fair *Rachel* with mandrakes the liberty of lying one night with *Jacob*.

The 5th said, That seeing a Woman is a hagger'd and indocible animal, (Experience shewing us, that one single man is not capable to reduce her to reason) 'twere more expedient to allow her many Husbands; the reverence and aw of whom (and in defect thereof, their force) might tame her pride and insolence; which is risen to the highest pitch, since the time that *Justinian's* Wife got the Law of Divorce repeal'd, which ever before had been a Bridle upon them.

CONFERENCE CXXXI.

Of the manner of Accretion.

MOtion, which is the mutation from one state to another, is either simple or compound: Simple is either of Quality, & is term'd Alteration; or of Place, and is call'd Lation or Motion Local. Compound is either to Substance, and is nam'd Generation, which includes alteration and formation; or to a greater Quantity, which comprehends Local Motion with Accretion or Augmentation, which cannot be made unless the parts extended change place. This Accretion is an effect of one of the Faculties subservient to the Vegetative or Natural, which are three, the Generative, the Auctive or Accretive and the Nutritive; according to the three operations observ'd in living bodies which have parts generated, nourishing, and increasing; for a thing must be generated before it can grow and acquire the perfection wherein it is maintain'd by Nutrition. The Generative Faculty, which is compounded of the Alterative and Formative, regards the *fetus* in the womb. The Auctive governs it from its birth till the twentieth or one and twentieth year, which is the term of Accretion. The Nutritive continues all the time of life, which cannot subsist without nourishment; because this repairs the continual dissipation of our substance caus'd by the action of heat upon humidity; in which action, Life it self consists. Now though the body may be nourish'd without growing, yet it cannot grow unless it be nourish'd. For Accretion being an Extension of the parts in length and breadth, new substance must be supply'd to fill up the place of that which is extended: otherwise, a living body should grow no more then a bladder doth when it is blown, or a piece of leather when it is stretch'd; in the former, what is gotten in capacity, is lost in thicknes; and in the latter, what is gotten in length is impair'd in breadth: so that the augmentation of parts would be rather imaginary than real,

real, without supply of new matter to succeed that which is equally extended in all its dimensions: amongst which, nevertheless that of stature, and of the solid parts, (as the bones) is call'd Growth, and not that which is made in thickness and the fleshy parts, which are enlarged manytimes after the time of full growth.

The second said, That all things being finite, must have bounds of magnitude sutable to the use whereunto they are appointed; which bounds are not determinate in inanimate bodies, as Stones, Metals, Hair, and Nails; whose accretion being made by the bare apposition of matter, they are augmented continually, so long as there is accession of new matter to the former. But in living bodies the same are regular; for the accretion of these being internal, and the work of the soul, continues till the body hath attain'd the proportion and stature requisite to its functions. To compass which, Nature employs Heat as the Efficient Cause, and Humidity as the Material. Hence children grow most in their infancy, because they are then most moist; and men to a larger size than women, because they have more heat. Young men indeed have a more pungent and vigorous heat than Children, but these are better stor'd; (as being nearer the principles of their generation); and though it be not so active, yet 'tis more proper for the growth of the solid parts, which being desiccated by a violent heat are not so extensible as when they are full of a fat and unctuous humidity. But as for the manner of Accretion, 'tis almost the same with that of Nutrition: The Aliment having been prepar'd in the Stomach and Liver, and by this latter transmitted by the veins into all the parts of the body, the purer particles of it, sweat through the coats of the Vessels, and fall like a gentle dew upon the parts, which first imbibe, then agglutinate, and lastly, assimilate the same. So that Nutrition is nothing but Assimilation of the substance of the food to that of the living body; and as Aliments nourish by resemblance of their Substance, and by vertue of their Form, so they cause augmentation by their Quantity, and Matter, which arriving at the solid parts, as the Bones, Cartilages, and Ligaments, causes the same to extend and grow in all dimensions; but especially in height, by reason that 'tis proper to Heat to drive Humidity upwards. And as when the Nutrition is equal to the Dissipation, the body is only nourisht (as in the Age of Consistence) so when the Income of matter is greater than the Expence, the surplussage meeting with a due heat causeth augmentation; if it be less, there follows wasting or diminution, as is seen Old-Age.

The Third said, As Animals are indu'd with a nobler degree of life than Plants, so they vegetate after a more sublime manner, and not only by bare heat and moisture. For amongst Animals, the Elephant a melancholy, and consequently, cold and dry beast, is yet the greatest of the field; the Crocodile, though cold,

grows all its life ; and some Serpents have by long age attained to the length of sixty foot. So amongst Trees, Oaks, though the dryest, are the largest. Of Bones, the *Malleus*, *Incus*, and *Stapes* in the Ear, which serve to reproduce sounds, grow not at all, though they be full of mucosity and humidity : on the contrary, the Teeth, the dryest of all parts (as is manifested by their rotting last) yet grow all the life long. But if Heat and Moisture were the causes of Accretion, then the Sanguine, who are hot and moist, should be of the largest size, as they are not, but commonly grow as well as the Flegmatick more in thickness than height, augmenting their flesh and fat more than their solid parts. On the contrary, the tallest men are commonly cold, dry, and lean, the lowest, generally hotter ; and people grow upon recovery after fevers which dry the body. Wherefore 'tis more probable that the Growth of Animals is an effect of the Spirits, which insinuating into the Vessels extend the same, and withall the membranes, muscles, and other parts encompassing them proportionably.

The Fourth said, That the Spirits are indeed the Soul's Organs and Instruments whereby she performs her functions ; but being of so volatile and fluid a nature, as not to be reckon'd in the number of the parts of Man's Body, they cannot of themselves cause Accretion, which requires Apposition of new matter, which insinuates it self equally into all the parts just as the nourishment doth ; both without penetration of dimensions, or admission of vacuity. This matter must be humid, because, of all Bodies ; the moist are most pliant and extensible : Whence the Sea by reason of its humidity, produces Monsters of strange bulk. Yet this humidity, as well as the heat must be in due degree ; for a great heat consumes instead of increasing ; whence the Males of Birds of prey are lesser than the Females, because they are hotter ; but if it be too weak, then the moisture, instead of ascending, falls downward by its proper gravity ; which is the cause that Women, who have less heat, are also of lesser stature than Men, and larger downwards as Men are upwards. According to the various marriage of this heat with moisture, bodies grow variously ; some more slowly ; others, more speedily ; some are little and dwarfish ; others, Giants ; according to the defect or abundance of the matter serving to their first Formation. But as for the rest of Man-kind, Wise Nature hath set her self such bounds as she hath judg'd convenient, beyond which the most part grow not ; which are between six and seven foot : Not the Accretive Faculty is then lost or corrupted, (for 'tis that power of the Soul, and consequently, incorruptible and inseparable, from her) but it cannot act longer for want of fitting dispositions, to wit, the softness and moistness of the solid parts. As a Mule hath a Sensitive Soul, but not the virtue of generating, which is one of the Faculties of that Soul ; and a Load-stone rub'd with Garlick, hath still the virtue of attracting Iron, but cannot

cannot employ the same, by reason that its Pores are stoppt, no more then the Eye can see in a Suffusion.

CONFERENCE CXXXII.

Whether the Dinner or Supper ought to be largest.

Diet, or the Regiment of Living, (which is the first and most general part of Physick, because it concerns both the healthy and the sick) consists in regulating the quantity and quality of Aliments, and the order and time wherein they are to be taken. The Quantity must be proportional to the nature of the Person, so that his strength may be repair'd and not oppress'd thereby. As for the Quality, they must be of good juice, and as pleasing and agreeable as may be. The Order of taking them is to be this; such as are moist, soft, laxative, and of soonest Digestion or Corruption, must precede such as are dry, hard, astringent, and of more difficult Concoction. The Time, in general, ought to be so regulated that the interval of Meals be sufficient for digesting the nourishment last fore-going. The Custom of most Nations hath made two, Dinner, and Supper; Break-fast, and Afternoon-collations, being but Diminutives, or parts of them two, and the over-plus of notorious excesses. Now if we compare Dinner and Supper together, it seemes requisite that the latter be more plentiful, because the Time ensuing, it is most proper for Digestion, in regard of the intro-recession of the natural heat during sleep, which becoming by that means more united and vigorous, performs the natural functions, to wit, Concoction, Distribution, Apposition, and Assimilation, more perfectly then after Dinner, when it is diverted otherwise, to the Senses and Operations both of Body and Mind: Besides that, the coldness and darkness of the night, contributes not a little to the same effect upon the account of Antiperistasis. Unless we had rather, with some, establish a new power of the Soul, governing and disposing the Spirits according to necessity; sometimes giving them the bridle, and causing them to move outwards, as in Anger, Shame, and Indignation; sometimes summoning them inwards, as in Fear, Sadness, and Sleep, which for this reason renders the Countenance pale, and all the extream parts cold; whereas in the time of waking, the external parts being hotter, leave the Internal more cold.

The Second said, That he agreed with the Church, which enjoynes Fasting in the Evening but allows Dinners; which it doth not without mature consideration, drawn as well from Nature as from Grace. For it thereby designs the eschewing those Illusions and Temptations attending good Cheer taken before going to bed; and conceives, a light Supper fittest for meditation
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and serenity of Mind. The reparation of our dissipated Spirits by Food, causeth the same disorder in the Body that happens in a Town or Village upon the entrance of strangers to people it, after its desolation by some accident; and therefore 'tis better that this trouble arrive in the day, when our waking senses are able to secure themselves from the Commotions caused by this change, than in the night, whose darkness helps to multiply the Phantasms which are in the Imagination, pester'd with the vapors and gross fumes of Meats, the Digestion whereof is then but begun. Whereas in the day time, such vapors transpire more freely by the Pores which are opened by the heat of the Sun, and by the Exercises which are used in the Afternoon. Besides, Meats being onely to fill emptiness, the time of the greatest inanition is the fittest for repletion; which certainly Noon must be, after the Evacuations of the fore-going Night and Morning.

The Third said, There are four manners of taking Repasts: First, Some eat often, and very much at each time; so did the *Athletæ* of old, and so do those Gourmandizers who are always hungry, and whose Stomacks have been found after their death of unusual capacity: This way is altogether opposite to Health. Secondly, Some eat little and seldom: which course befits acute Diseases; those that are judg'd the fourth day, requiring sometimes a total abstinence, in case the Patient's strength can bear it; those that reach to the seventh or fourteenth, very little Food and seldom. Thirdly, Such as must eat little but often; as little Children and Old people, whose heat being weak and easily dissipated, they must be often nourish'd; but by a little at a time, for fear of overcharging their too weak Stomacks. The last and commonest way, is, to eat plentifully but seldom, which is the manner of middle-ag'd people, who usually eat twice a day, and more at one Meal than at the other: it being hard for a Man to satiate himself both at Dinner and Supper without indammaging his Health. Which made *Plato* wonder when he heard that the *Sicilians* fill'd themselves with Meat twice a day, and oblig'd the *Romans* to make a light repast about Noon, and a splendid Supper; which I am for. Upon this account the Church hath, to macerate us, forbidden Suppers on Fasting dayes; which is an Argument that they are more agreeable and more conducing to Health than Dinners. For such quantity of Food is to be taken as answers to the natural heat; which being not onely more vigorous, but also of longer duration between Supper and Dinner, than between Dinner and Supper, (the interval whereof is seldom above six or seven hours, whereas that between Supper and Dinner is about seventeen) 'tis more reasonable to sup more largely than dine. For if the Dinner be largest, we shall eat either as much as the heat is able to digest by Supper-time, or more. If we eat more, and go to Supper before the digestion of the Dinner is wholly finish'd, we shall beget crudities, which are the seed
of

of most diseases. If we eat as much as the heat can digest, and the Supper be less than the Dinner; then the heat which follows the Supper being stronger and more active, will soon concoct the meat taken at Supper; and (because 'tis a natural agent, not acting from a principle of liberty but of necessity, and cannot remain idle) having no extraneous matter to work upon, it will necessarily consume the laudable juices of the body, drying up the same during sleep. For whereas sleep is said to moisten, whence arose the Proverb, *Qui dort mange*; He that sleeps, eats; 'tis true, when the stomach and entrails being fill'd with sufficient nourishment, the Heat raises and disperses to all the parts the purest of the juices and vapours like gentle dews; which it cannot do when the Stomach is empty.

The fourth said, Nature having given us an Appetite to advertise us of the need of all parts, there is no certain rule of the time of Repast than this Appetite, which for this reason is seated in the upper Orifice of the Stomach, render'd sensible by the Nerves of the sixth Pair terminating therein. For there is a continual dissipation of our substance in all the parts, which being exhausted attract from their neighbours wherewith to fill their own emptiness: these solicit the Liver, for supply; that, the Guts by the Mesaraick Veins: these the Stomach, at the top whereof this suction terminates, the sense or perception whereof is call'd Appetite; which, if of hot and dry, is call'd Hunger; if of cold and moist, Thirst. So that Nutrition being onely to recruit and repair the loss of our Substance, there is no more assured sign of the fitting time to eat, than when the said Appetite is most eager, at what hour soever it be.

The fifth said, That this might have place in well temper'd bodies which desire onely so much as they are able to digest, but not in those whose Appetite is greater than their Digestion, as cold and melancholy Stomachs; or who desire less, as the hot and bilious, whose heat melting the juices, abates the Appetite; as on the contrary, Coldness contracting the membranes of the Stomach, augments it: So that 'tis most expedient for every one to consult his own Temper, Age, Nature, and Custom of living; Old people, little Children, such as are subject to Defluxions, or have weak Stomachs, must sup sparingly; on the other side, the Cholerick, and such as are subject to the Head-ach, must eat a larger Supper than Dinner: But above all, the Custom of every particular person is most considerable herein.

CON-

CONFERENCE CX XIII.

Which of the Humane Passions is most excusable.

MAN being compos'd of two Pieces, Body and Soul, and upon that account styl'd by *Trismegistus*, The Horizon of the Universe, because he unites in himself the spiritual nature with the Corporeal, the Inclinations whereof are different; he hath also need of two guides to conduct those two Parts (the Rational and the Animal) and make them know the Good towards which they are carried of their own Nature. The Intellect makes him see the Honest and Spiritual Good; the Imagination enables him to conceive a sensible and corporeal Good. And as the Rational Appetite (which is the *Will*) follows the light afforded to it by the Intellect in pursuit of Honest Good, whence *Vertue* ariseth; so the sensitive Appetite is carri'd to the enjoyment of sensible Good which the Imagination makes it conceive as profitable and pleasant, and that by motions commonly so disorderly and violent that they make impression not only upon the Mind, but upon the Body, whose Oeconomy they discompose, and for this reason they are call'd Passions or Perturbations, and Affections of the Mind. These Passions either are carri'd towards Good and Evil simply, as *Love* and *Hatred*; the first inclining us to Good which is the Parent of Beauty, the latter averting us from Evil: or else they consider both Good and Evil Absent, as *Desire* and *Flight*: or Lastly, they consider them being present, and cause *Pleasure* and *Grief*; which, if of longer duration, produce Joy and Sadness. Now because difficulties frequently occur in the pursuit of Good and flight of Evil, therefore Nature not contented to have indu'd Animals with a Concupiscible Appetite, which by means of the six above-mention'd Passions might be carri'd towards Good, and avoid Evil; hath also given them another Appetite call'd Irascible, to surmount the Obstacles occurring in the pursuit of Good or flight of Evil; whence arise five other Passions, *Hope*, *Despair*, *Boldness*, *Fear*, and *Anger*. Hope excites the soul to the prosecution of a difficult but obtainable good. Despair checks the motions of the soul towards the pursuit of a Good no longer obtainable. Boldness regards an absent Evil, which assures it self able to surmount. Fear considers the same absent Evil without any means of being able to avoid it. Lastly, the violence of Anger is bent against a present Evil, whereof it believes a possibility to be reveng'd. And because a present and enjoyed Good cannot be accompani'd with difficulty; hence there is no Passion in the Irascible Appetite answering to Anger, as there is in the other Passions: which again are divided according to the several objects about which they are exercis'd.

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The desire of Honours is call'd Ambition; that of Riches, Covetousness; that of fleshly Pleasures, Concupiscence; that of Meats, Gourmandise or Gluttony. The Hatred of Vice causes Zeal; that of a Rival, Jealousie. The sorrow arising upon the sight of Evil suffer'd by an undeserving person, causes Compassion; Indignation proceeds from the happening of Good to one that merits it not. Now, among all these Passions, Ambition, which aims at a general superiority, seems to me the first; and since it hath serv'd to excuse Parricides and Violators of the publick faith, whom it hath caus'd to say, that for the sake of command nothing is unjust, it may very well be excus'd every where else; besides that, it hath been the instigator to the most glorious Actions, the source whereof is that laudable Ambition which every one hath to out-vie his companion.

The second said, If the Passions are Diseases of the Soul, as the Stoicks held, and the Question seems to presuppose; I conceive none more agreeable and excusable than Love; whose sweet violence insinuating into the severest breasts, finds nothing capable to resist it. Hence those that are taken with it, with nothing less than a cure, which cannot proceed but from oblivion of the thing belov'd, wherein they live more than in themselves: the soul being more where it loves than in the body wherein it lives. Moreover, this Passion is the most natural and common of all, and consequently, the most excusable; being found not only in all men, but also in all Animals, who feel the assaults of Love, which makes them naturally tend towards Good. And as Love is the most common, so it is likewise the source and principle of all the Passions: for we neither hate nor fear anything, we have neither joy, sadness, desire, fear, nor anger, but because we love something: the true course to become exempt from these Passions, being, To love Nothing.

The third said, That the most violent Passions being the most excusable because the hardest to subdue, those of the Irascible Appetite (particularly Anger) being more vehement than those of the Concupiscible Appetite, are also the most worthy of excuse. The former possess the noblest part of Man, the Heart, which is the source of Anger; the latter, the Liver which is the seat of Love; whose weakness the Poets have sufficiently demonstrated by representing it to us under the form of a Child, which hath no power over us but what we suffer it to take. But Anger which is proper to the Generous, as Love is to the weak and effeminate, makes it self master of the Soul; and by its sudden and impetuous motions obscuring the light of reason, makes us the more excusable in that we are no longer masters of our own actions. And as Madness excuses the Frantic from blame and punishment, so Anger which is a short Madness, as the Poet saith, deserves the same excuse; its violence being so much above that of all other Passions, that it is

the most quick and passes like Lightning: for when it takes root in the soul, it loses its name, and degenerates into Hatred.

The Fourth said, That he was for Joy, because all the other Passions acknowledg its power such, that they are contented to be its servants; Love and Desire are only in order to some hoped Joy; Hatred and Flight, only to remove all objects that may trouble it. Despair then only seizes us, when we can no longer hope for Joy; Hope is for it alone; Fear is only of what is contrary to it; Boldness, to break through all Obstacles opposing our contentment; and Anger serves to express the displeasure we resent for its delay or interruption. If a man injure us in his anger, or in his sadness, yea, or in his despair; we will not excuse him: but be we never so displeas'd, we not only excuse the joy of others, but take pleasure in it. And whereas Contraries are known by their Contraries, since nothing displeases us so much as Sadness, nothing pleases us so much as Joy; whose violence is manifested by some that have dy'd of it, as none ever did of Anger. In fine, we cannot better prove and approve the power and empire of any one than by becoming his subjects, as we all are of Joy; to which the greatest part not only give part of their time, but also quit the most important affairs to seek it in places destinated to the god of Laughter; whose Festivals are now more frequent in the days of *Apuleius*. And what makes us in youth bear and endure all the pains of study; Apprentices of each Trade, the hardships which they undergo; Soldiers, the danger of Death, but a pre-conceived hope of Joy? which he that possesses, becomes so master'd by it, that he forgets all his past evils: The Mariner no longer remembers the perils of the sea, nor the sick person his pains; In short, every one suffers himself to be possess'd and govern'd by this Passion, which is therefore the most excusable.

The fifth said, That Grief brings greater Evil than Joy doth Good; because Evil wholly destroys the Nature of a thing, which Good only renders more complete; whence it follows that the former is much more just and excusable than the latter which gives only Well-being, but Evil destroys Being it self; to the preservation whereof all Creatures being naturally inclin'd, more carefully eschew such things as may hurt them, then they pursue those that may procure joy and contentment. Moreover the accents of the Voice which testify Grief or Sadness are much more violent than those of Joy; which being nothing else but a bare complacency receiv'd in the enjoyment of Good, consists rather in rest than in motion, whereof Grief partakes more largely by the endeavours which it causeth the soul to put forth for removing of what torments it.

The sixth said, That the Passions being Appurtenances of our Nature, and part of our Selves, are all excusable in themselves, because

cause natural and inevitable; but especially those whereto we are particularly most inclin'd by Temper: so Love and Joy are most excusable in the sanguine; Choler and Despair in the Bili-ous; Hatred and Sadness in the Melancholick; Hope and Boldness in Youth; and Bashfulness is excusable in a Child, but culpable in an old man. Yet Hope, which accompanies Man not only while breath lasts, but extends even beyond death, seems by that duration to plead, that as it is the least separable, so it is the most excusable.

CONFERENCE CXXXIV.

Which is the most laudable Temperament.

Temperament is the Harmony and Proportion of the four first Qualities, resulting from the mixture of the Elements, whereof all sublunary Bodies are compounded; which being destinated to several ends, requir'd therefore different Tempers and Qualifications. Now although the diversity herein be almost infinite, yet it may be reduc'd to three Supream Heads. For either the four Qualities are so mix'd that they remain in an equal proportion; or one of them excels the rest; or else two together have the advantage. The first makes the Temperament equal; the two latter make it unequal. The equal Temperament is two-fold; one call'd Temperament by *Weight* (*ad Pondus*, as they speak) when the qualities are so perfectly proportionate, that, could they be weigh'd in a balance, not one would preponderate above another: (Understand this Equality, only of Qualities, not of Elements; for were there as much Fire as Water, as much Air as Earth, the more active fire would consume the rest and reduce into ashes all living things; whose dissolution shews us that they consist more of Earth and Water than of the other Elements. The other, call'd Temperament according to *Justice*, is found in every sort of compound-substances; amongst which there is one that serves for the rule or standard to all individuals compris'd under it, and possesses in perfection the temper require requisite to the functions of its nature. Thus amongst Animals the Lyon is hot, the Swine moist, the Salamander cold, the Bee dry: but Man is temperate, and amongst his parts the Bones, Cartilages, and Ligaments are cold and dry; the Blood, Spirits, Muscles, Heart and Liver are hot and moist; the Brain, Phlegm and Fat are cold and moist; each of them being temper'd according to Justice. The Skin alone, especially that in the Palm of a well-temper'd mans hand, being moderate in all the Qualities and seeming a rexture of the Flesh and Nerves, is equally cold and hot, soft and hard, and consequently the prime Organ of Touch, and

the judge of all other Temperaments. The unequal Temperament, (which nevertheless lyes within the latitude of Health) is either simple or compound. The former (wherein one of the four Qualities prevails over its contrary, while the other two remain in a mediocrity) is of four sorts, Hot, Cold, Dry, and Moist. The second, (wherein two excell) is likewise of four sorts according to the four combinations which the qualities admit; *viz.* Hot and Moist, Hot and Dry, Cold and Moist, Cold and Dry: for Hot and Cold, Dry and Moist, cannot subsist in one and the same subject. And though the heat incessantly consuming the moisture, and the cold collecting plenty of humid excrements, hinder the hot and moist, and cold and dry tempers from subsisting long in the same state; yet they may continue therein for some time, though they become chang'd by succession of ages. Now of the nine sorts of Tempers, to wit, the four simple, four compound, and one perfectly temperate, this last seems to me the most laudable and perfect; a body thus temper'd being neither fat nor lean, hot nor cold, dry nor moist, but of a square and indifferently fleshy constitution, not inclining to one extream more than another, being in an exquisite mediocrity, and consequently more laudable than any of those which approach nearer the (always vicious) extreams.

The Second said, If there be such an exquisite Temperament as reason seems to demonstrate, then since there is no passing from one extream to another but by the middle; when a Child changes the heat and moisture of his infancy into the cold and dryness of old-age, that middle equal Temper must pass away as swift as lightning, and it's duration will be almost insensible. Wherefore though it be the most perfect and desirable, yet since 'tis only the standard and rule of all others, I am for Hot and Moist, as most suitable to life, which consists in those two qualities; as Death, and its forerunner Old-age, are cold and dry. This is the Temperament of Child-hood, allotted to us by Nature at the beginning of our life; and therefore the most perfect, answering to the Spring (the most temperate of Seasons) and to Blood (the most temperate humour) whence 'tis call'd Sanguine; as the cold and dry, is Melancholick; the hot and dry, Bilious; the cold and moist, Phlegmatick. Which is not to be understood of the excrementitious but of the natural humours contain'd in the mass of Blood, which follow the principles of our Generation. Moreover, 'tis proper not only for the functions of life, whereof health is the foundation, and joy the most sweet support, which the Blood produces, (as Melancholy doth sadness, Phlegm slothfulness; Bile, fury and anger) but also for those of the Mind, which depending upon the pureness of the Animal Spirits, (as these do upon that of the Vital and Natural) which are more benigne in the Sanguine, their conceptions must be likewise more clear and refin'd.

The Third said, If Heat and Moisture are suitable to the actions

ons of the Vegetative Soul, (Generation, Accretion, and Nutrition) they are no less prejudicial to those of the Rational, the seat whereof is therefore remote from the two Organs of Concoction, the Ventricle and the Liver; lest the fumes of the Food coming to be mix'd with the Animal Spirits might offuscate and cloud the phantasms and ideas wherewith those Spirits are charged, and consequently hinder the operations of the Understanding, which depend upon those phantasms so long as it is linked to the Body. For all Souls being alike, their operations differ only according to the diverse temper of the Brain, which causes that of the Animal Spirits, which must be subtle and luminous, but not so far as to be igneous (like those of the cholerick and frantick, whose motions are precipitate and impetuous) but in the just proportion observ'd in the Melancholick temper, which being cold and dry (that is to say, less hot and moist) is most proper for Prudence and Wisdom, which require a settled compos'd Spirit, like that of old men, who owe not their Wisdom so much to the experience of many years, as to the coldness and dryness of their Brains, which makes men grave and sedate. All brave men have been of this temper, which gives patience and constancy, without which nothing grand and considerable can ever be perform'd. And as the hot and moist temper is most subject to corruption, so by the reason of contraries the cold and moist must be least obnoxious to diseases (as amongst Trees and Animals, the driest and hardest are least offended by external injuries) upon which account the Melancholy is not only most desirable, but also because it most contents the mind of him that possesses it, who being at his ease makes more reflection upon the benefit he enjoys, unless otherwise diverted by contemplation.

The Fourth said, That that is the most laudable temper which is most adapted to the functions both of body and mind; between which there is so great a disproportion, that what agrees well with the one, seems prejudicial to the other. The Sanguine is the most excellent for the operations of life and good habit of Body, but incommodious for those of the Mind; partly through the softness and mildness of that humour which cannot suffer strong attention, and partly through its excessive humidity, which filling the Imagination with vapours cannot supply fit matter to the Animal Spirits, whose temper must be dry for producing Wisdom, whereunto Melancholy is by some judg'd conducive; but were it so, 'tis too contrary to the health and good constitution of the body to be desirable. The phlegmatick temper is proper neither for the health of the Body nor the goodness of Wit. But the Bilious is for both; being less repleat than the Sanguine, and less attenuated and dry'd than the melancholick, besides very nimble and dextrous through the plenty of spirits; and as 'tis easily disorder'd, so likewise 'tis restor'd in a little time; its maladies being the shortest.

test. Moreover, its vivacity is much more desirable than the heaviness and lumpishness attending the Melancholy and making the Vulgar think them Sage and prudent though they are only so in appearance: whereas the Cholerick are Industrious and Courageous, accomplishing whatever they attempt; and as amongst Beasts and Birds the noble Lyon and Eagle are of this complexion, and according to some our first Parent *Adam* (which signifies Red) was in hair and temper bilious; whence perhaps also Man is call'd in the same language *Ish*, which signifies Fire, whereof choler partakes.

The Fifth said, That indeed his readiness to obey his Wife was an effect of that Temper, of which he seems rather to have been than of that laudable and perfectly temperate one which our Saviour enjoy'd. But indeed, Tempers being the principles of all our functions, which must be different in every individual, are desirable according to the Places, Seasons, Employments, Age, Sex, and Inclinations of every one in particular.

CONFERENCE CXXXV.

Of Happiness and Unhappiness; and whether men are Happy or Unhappy, because they really are so, or because they think themselves so.

Three sorts of effects are observ'd in Nature. Some arise always necessarily, as the vicissitudes of Days, Nights and Seasons, which depend upon the motion of the Stars, no more alterable without a miracle than the other effects of Universal Nature. Others come to pass often but not always; the particular nature which produces them being sometimes hindered by some accident, which makes it bring forth Monsters. The last happen neither always nor often but seldom; as all those which depend upon contingent causes, which are of two sorts. The first act by a necessity of nature, without any election: The second by a principle of liberty without choice or deliberation. Both, when they produce an effect contrary to their intention and primary design, are called fortuitous causes. And as those which act by natural necessity produce a casualty, as when a Stone falls upon the head of any one; so when those which operate by election and design, produce another thing than what they had propounded to themselves, they make fortune, or good and ill-luck, according to the good or evil arising thence by ways and springs, by us unforeseen: for in case the cause or motives be known, the effects are no longer fortuitous and contingent, because they have their manifest and certain cause. So when industry, labour, favour or friendship procure

cure Riches, the effect is not to be ascrib'd to Fortune, no more then the losses which follow upon the luxury and profusions of a disorderly life : but Riches and Honours are fortuitous when they happen to persons altogether incapable thereof ; as also poverty, infamy, and contempt also to brave men, whose constancy and resolution in undergoing all those disgraces hath made it be commonly said, That a wise man is above fortune, because he slights her strokes by the strength of his reason ; which being alone capable to render us happy, since Beasts destitute thereof have neither any share in good-luck or bad-luck, I conceive that both the one and the other depends intirely upon our fanisie, and the reflection we make upon the condition of the thing possessed ; which appearing sometimes good and sometimes bad, makes us accordingly judge our selves happy or unhappy.

The Second said, Diversity is no where more apparent than in humane Actions, the incertainty and inconstancy whereof is such, that men rarely arrive at their proposed end, but oftentimes behold themselves either exalted to an unhoped degree of Felicity, or overwhelmed with the Misery which there was no ground to apprehend. Which diversity of accidents, induced Superstitious Antiquity, to set up a blind and flitting Deity, constant onely in her inconstancy, whom they held the cause of all such effects ; thus betaking themselves to an imaginary cause, in regard they could not, or would not, acknowledg the true ; which I attribute to every ones temperament, by means of which is produced in the Soul a certain natural motion and impetuosity for obtaining some particular thing, without Reasons contributing thereunto ; and according as a Man follows or resists these instincts and inclinations, so he proves either happy or unhappy. Thus he who finds himself disposed to Arms, if he embrace them, thrives better than in a soft and sedentary life, whereunto the Melancholly person is more addicted, and prospers better herein. Now because dull spirits, fools, and thick-skull'd fellows, easily suffer themselves to be guided by those motions ; therefore they commonly prove more fortunate than the wise, whose Prudence and Discretion causing them to make abundance of reflections upon what they undertake, causes them also to lose opportunities which never return. For I am not of their Opinion, who hold, That as there are Spirits which make the Celestial Orbes move, and, according to *Averroes*, an Intelligence presiding over natural Generations ; so there is a particular one for the various events of life, which it makes to happen according to the different intentions of the First Mover : Since without recurring to such obscure and remote causes, we carry in our selves those of our Felicity and Infelicity, whereof we are the true Artificers ; which to place in the Phantie alone, and not in reality, is to say, good is not Good ; since goodness being an essential affection of real entity, is inseparable from it, and consequently true, not barely imaginary. The

The Third said, That Good being such onely upon account of its conveniency or sutableness to the Possessor, there is not in this world any Absolute Good or Happiness, but onely Relative and by Comparison, seeing what suits well with one, doth not so with another. Riches, wherein most Men place their Felicity, were cast into the Sea by a Philosopher, that he might the better attend Contemplation. Honors and Pleasures, (charms, which most powerfully inveigle most of Man-kind) are crosses and torments to some others. Imprisonment, one of the hardest trials of Patience, is nevertheless sought by some, who prefer Solitude and perpetual Restraint, before the vanities of the world. To have no Friends is the greatest of infelicities; yet *Timon* made it his prime Pleasure. Life, the foundation of all goods, hath been so tedious to some, that to be deliver'd from it they have kill'd themselves; and the pains, afflictions, and diseases leading to death, are, in the *Stoicks* account, but imaginary Evils, making no impression upon the wise.

The Fourth said, Since Happiness and Unhappiness seem to be the Elements, composing the Political Life of Men, and the two Poles of that Globe upon which the Antients plac'd Fortune, their Consideration may be taken two ways, either in their Cause, or in their Effect. As for the first, the *Stoicks*, who establish a Fate governing All by a Series of necessary and determinate Events, were as impious as *Democritus* and *Leucippus*, who, on the contrary, maintain'd that all things were done by Chance in the Universe, which, they said, it self was made by the casual occurrence of their Atoms; these denying the Providence of God, those his Power, by subjecting and tying him to the immutable Laws of Fatality. But without considering things in reference to God, to whom every thing is present and certain, we may distinguish them into two sorts. Some acting necessarily, have alwayes their necessary effects: others, which depend absolutely upon Man's Will, which is free and indifferent, have accordingly Effects incertain and contingent. Thus the accidents of the Sea, (where the vulgar believes is the chief Empire of Fortune), natural deaths, the births of poor and rich, have regular and necessary Causes. On the contrary, Goods freely given, or acquir'd with little industry, or found, have contingent Causes; which being almost infinite, (for there is no Cause by it self, but may be a Cause by accident, by producing another thing than what was intended) they cannot fall within the knowledge of Humane Wit, which knows onely what is finite and terminate. Other Events have Causes mixt of Chance and Necessity, as the death of the Poet *Æschylus*, hapning by a Tortoise which an Eagle let fall upon his bald Head. As for the second manner wherein Happiness may be consider'd, namely, Whether it render us happy in Reality or in Imagination; 'tis an accusing all Men of folly, to say that Felicity is imaginary and phantastical; since Nature, which hath given no Desire in vain, (as

(as she should have done, if she had caus'd us to desire a thing that exists not) makes all Men aspire to the one, and fear the other. There must be an Absolute Happiness as well as an Absolute Good, namely, the possession of this Good, as that of Existence is, which being the foundation of all Goods, must be a Real and Absolute Good. Virtue and, the Honor attending it, being likewise true and solid Goods, their possession must adfer a semblable Felicity; the verity and reality is no more chang'd by not being equally gust'd by all, than the favour of Meat, or the Beauty of Light, would be by not being perceiv'd by a sick or a blind person: Yea, as he that ha's a rough Diamond is not less the possessor, or less rich for not knowing the value of it; so he that possesses some Good ought not to be accounted less happy, though he think not himself so. Moreover, 'twould be as a bsurd to call a Man happy or unhappy because he thinks himself so; as to believe a fool is a King, or Rich, because he phantasies himself to have Empires and Riches.

The Fifth said, That Happiness, which is rather an Effect of our Genius, (as the examples of *Socrates* and *Simonides* prove) than of our Temperament, much less of the Stars and their influences, depends not onely upon the possession of some Good, or the belief a Man hath that he possesses it, but upon both together; namely, upon the reflexion he makes upon the Good which he really possesses; for want of which, Children, Fools, Drunkards, and even the Wise themselves, whilst they are a sleep cannot be call'd Happy.

CONFERENCE CXXXVI.

Of the Original of Precious Stones.

A Stone, which is defin'd a Fossile, hard, dry, and frangible body, is either common or precious. Both are compounded of the Four Elements, chiefly of Water and Earth, but diversly proportion'd and elaborated. Coarse Stones are made with less preparation, their proximate matter being onely much Earth and little Water, whereof is made a sort of Clay, which being dry'd by Nature, is hardned into a Stone. Precious Stones have more of Water, and less of Earth, both very pure and simple, (whence proceeds their Lustre, which attends the simplicity of the Elements) and exactly mixt by Heat, which concocting the aqueous humidity, purifies and sublimes the same to a most perfect degree by help of that Universal Spirit, where-with the Earth and whole world is fill'd, on which account the *Pythagoreans* esteem'd it a great Animal.

The Second said, Three things are to be consider'd in reference to the original of Stones; their matter, their efficient cause, and the place of their generation. Their remote matter is Earth and Water, which two Elements alone give bulk

and consistence : but their next matter, (concern'd in the Question) is a certain lapidifick juice, supplying the place of Seed, and often observ'd dropping down from rocks ; which, if thick and viscous, makes common stones ; if subtil and pure, the precious. Now this juice not only is turn'd it self into stone, but likewise turns almost all other Bodies, as Wood, Fruits, Fishes, the Flesh of Animals, and such other things, which are petrifi'd in certain Waters and Caves. Their remote efficient cause is Heat, which severing heterogeneous bodies unites those of the same nature, whereof it makes the said homogeneous juice, which is condens'd by cold ; which giving the last form and perfection to the stone is its proximate efficient cause. Lastly, their place is every where ; in the middle region of the Air, which produces Thunder-bolts ; in the Sea, which affords Coral, (of a middle nature between Stone and Plant) and Pearls in their shells which are their wombs, by means of the Dew of Heaven ; in Animals, in Plants and above all in the Earth and its Mines or Matrices which are close spaces exempt from the injuries of Air, Water, or other external Agents, which might hinder their production either by intermixture of some extraneous body, or by suffering the Mineral Spirits serving to the elaboration of the Stones to transpire.

The Third said, Precious Stones, produc'd for Ornament, (as Metals are for Use of life), are of three sorts ; namely, either bright and resplendent, as the Diamond, Ruby, Crystal, Amethyst ; or a little obscure, as the Turquois, Jasper, and other middle ones without perfect lustre, as the Opal and all Pearls. And as the matter of common Stones is Earth the principle of Darkness ; so that of the precious is an aqueous diaphanous humour, congeal'd by the coldness of water or earth, or by the vicinity of Ice and Snow which inviron Mountains and Rocks, where commonly their Mines are found ; and amongst others, Crystal which is (as 'twere) the first matter of other precious Stones, and the first essay of Nature (when she designs to inclose her Majesty in the lustre of the most glittering Jewels) is nothing else but humidity condens'd by cold. Whence a violent heat, such as that of Furnaces, resolves and melts it. Moreover, the effects attributed to these Stones, as to stop blood, allay the fumes of wine, and resist hot poysons, argue them caus'd only by cold, which also gives them weight by condensation of their parts.

The Fourth said, If Crystals and Stones were produc'd only by cold, they could not be generated in the Isles of *Cyprus*, the red Sea and other Southern parts, but only in the Northern, where nevertheless they are most rare, there being Mountains where cold hath preserv'd Ice for divers Ages without ever being converted into Crystal ; which (besides) should swim upon the water as well as Ice doth, and not be more heavy and transparent : which cannot be attributed to their greater density, caus'd by
a more

a more vehement cold; since water inspissated into Ice becomes less transparent, and Crystals are not so cold to the touch as Ice. But above all, their Calcination evidently shews that there is something else in them besides Water; for finding out of which, we must examine the principles of Bodies nearest akin to them; as Alom and Glas, which by their splendor and consistence, much resemble precious Stones, being (like them) Mineral Juices hardened and mixt by a proportionate quantity of Salts and violent Spirits, which joyned together, lose their Acrimony to embrace one another more closely: These Principles are very viscous, capable of great solidity, and being of themselves transparent, are proper to preserve all the brightness and light, which their specifick forms can add to them. This resemblance being supposed, we are obliged to discover the same Principles of Composition in Jewels; since things agreeing generically, and having resemblance of qualities, agree also as to matters, and have nothing to distinguish them but that unknown Form which determines the Species. But the truth is, little brightness and hardness proceed not from their Form alone, which is incapable of so close connexion, but from much dark Earth, and a very impure Phlegm; which is not found in precious Stones, or in the Glas where-with in the *Indies* they make Emeralds. Moreover, 'tis this body that most resembles those Stones, which hath no other Principles but a Spirit mingled amongst much Salt, and some little of Earth; which are united by the activity of heat, and condensed by their natural inclination to inspissation, (cold contributing but very little thereunto, since they acquire their solidity and consistence whilst yet very hot.) The Artifice of counterfeiting Rubies and Diamouids, with the same Principles of Glas, greatly confirms this Opinion; onely for avoiding brittleness, they mix less terrestreity, and consume not the moisture, (which causes Concretion) with so much violence. The Calcination of Crystals, whereby much Salt is extracted from them, and the easiness of making Glas there-with, in like manner shews what are the Material Principles of these Stones. Which Principles being contained, or generated in the bosome of the Earth, certain Juices are formed of their several mixtures, which unite to the first body which happens to impress its Virtues upon them; then the purest part of these Salts and Earths, is volatilized by the Spirit mixt there-with, and circulated by Heat, which alwayes perfects it by further Concoction, till it have rendered it Homogeneous. These Juices commonly stick in superficial parts of the Earth, where a moderate heat finishes their Concoction, evaporating the too great humidity which hinder'd the induration natural to such substances; Divers species are made according to the different impressions of Heaven, or the place of their Generation, or other dispositions; to which I also refer the diversity of their Colours, and not (as most Chymists do) to Sulphur, which is never found in these

Stones; which Colours, they ought to attribute rather to Salt, their principal matter, since by several degrees of Coction or Calcination, it acquires almost all the Colours of these Stones; being first white, then blew, and lastly, reddish.

The Fifth said, 'Tis most probable that in the beginning there were Species of Stones of all sorts, dispos'd in places most proper for their Conservation, which have continually generated the like, determining fit matter by the Emission of a certain Vapor or Spirit, impregnated with the Character of their Species during its union with their substance, before a perfect induration press'd it forth; which Spirit lighting upon, and uniting to fit Matter, fixes and determines the same to be of the same Species, with the Mass from which it issu'd. For the common Opinion, That these Stones are produc'd of a certain slime, compounded of Earth and Water, concocted and hardned by the action of Heat, is groundless; since how temperate soever that Heat were, it would at length dissipate all the moisture, and leave nothing but the Earth, the darkest and most friable of all the Elements; besides that, Water and Earth, having no viscosity, are incapable of any continuity and hardness, which arises from Salt, which indu'd with a Principle of Coagulation, perfectly unites the Water with the Earth, so as not to be afterwards dissolvable by any Water, but such as is mix'd with much Salt. Lastly, the Cement they make with Lime, Water, and Sand, petrifying in time, shews the necessity of the fix'd Salt of Lime, (which gives the coherence of all) in the generation of Stones. Wherefore I conclude, that as in common and opake Stones, there is a little Salt amongst much Earth; so in those which are precious, there is much Salt amongst a very small quantity of Earth.

CONFERENCE CXXXVII.

Of the Generation of Metals.

Metal, which is a Mineral, solid, opake, heavy, malleable, ductile, and sounding body, is compounded either by Nature, Art, or Chance, as, Latin, Electrum, and Corinthian Brass; or else it is simple, and divided into seven Species, according to the number of Planets, whereunto each of them is referr'd, as precious Stones are to the Fixed Starrs; namely, Gold, Silver, Lead, Copper, Iron, Tinn; and Quick-silver, which others reject from the number of Metals, because not malleable; as also Tinn, because compounded of Lead and Silver. Their remote Matter is much Water with little Earth; their next, according to *Aristotle*, a vaporous exhalation. Their general Efficient Cause is Heaven, by its Motion and Influences producing Heat, which attenuates and concocts the said Exhalation, which is afterwards

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condens'd by Cold: Hence all Metals are melted by violent Fire, which evaporates Quick-silver, and softens that sort of Iron which is not fusible. The place where they are generated is the bosome of the Earth; the Metals found in Waters, as Gold in *Tagus* and *Pañolus*, having been carry'd from the Earth by the Waters, which washing and purifying them, render them more perfect than those of the Mines.

The Second said, Although Metals were generated at the beginning of the world in their Mines, whence they were first extracted and wrought by Tubalcain, who is the fabulous Vulcan of Paganism; yet they cease not to be generated anew by the afflux of futable Matter, which is a metallick Juice form'd of humidity, not simply aqueous, (for then Heat should evaporate instead of concocting it) but viscous, unctuous, and somewhat terrestrial, which for a long time holds out against whatever violent Heat, as appears by the Fires of *Volcanoes*, which are maintain'd by Bitumen alone, and other sulphureous Earths. This also is the Opinion of the Chymists, when they compound them of Sulphur and Mercury; Sulphur holding the place of the Male Seed, and Mercury, which is more crude and aqueous, that of the maternal blood. And as the Salt or Earth predominating in Stones is the cause of their friability; so Sulphur and Mercury, which is unctuous moisture, renders them malleable and capable of extension; which is an Argument of their perfection, as well as colour, sound, and fixation, or enduring Fire without alteration, but not weight; for then as Gold, the perfectest Metal, is the heaviest, so Silver should be next to it in weight, which is not; Quick-silver being much more ponderous; next, Lead; after which follow Silver, Copper, Tinn, Iron, and Stones, whose weight is very different. Whence it appears, that Gravity is not an Effect of the condensation of Matter; otherwise the Starrs being the denser parts of their Orbs should be heavy, as they are not; but it proceeds from the Form, whereunto also the many wonderful Effects observ'd in Metals must be referr'd; as that Gold discovers Poysons, attracts Quick-silver, and is attracted by the Foot of a Spar-hawk, and lov'd by Gryphons, as Iron is by Estriches, who digest it; that Tinn makes all Metals brittle where-with it is mixt, Copper sinks not in the water of the Island *Demonesus*, near *Carthage*; and that Quick-silver, though humid, and alwayes fluid, moistens not; which some attribute to the equal mixture of ficcidity and humidity.

The Third said, If ever the Opinion of *Anaxagoras* (who held, *Omnia in omnibus*) was well grounded, it was chiefly in reference to Metals, whose Etymology, together with the Chymists operations, speak the easie transmutation of one into another; imperfect Metals differing onely in certain accidental degrees from Gold and Silver, which they may be turn'd into after purifying from their Leprosie, and refining by Nature or Art.

Art. And thus according to the opinion of some Moderns, it may be said, that, supposing the earth a great Magnet, it hath also in it felt a commencement towards such metallick mutation, since the Loadstone is in a manner the principle of Iron, the most terrestrial of all Metals; whence it is that they attract one another, as do Mercury and Gold, which is compos'd thereof. And thus by the power of heat in the bowels of the Earth, Iron the most imperfect and lightest of all Metals is turned into Steel and Copper, afterwards into Tin, and lastly, being more depurated into Silver and Gold. And since Art imitates Nature as in the fabricating of Artificial Gold you must first resolve a solid matter, then volatilize, and again fix and return into a solid substance; so the generation of Metals may be conceiv'd to be effected by evaporation of the thinner parts of Earth and Water, which being volatilized by the subterranean heat, and lighting upon Rocks and hard Stones, are there fixed and condensed into Metals differing according to the purity and concoction of their matter, and the places it lights upon, which are ordinarily Mountains.

The Fourth said, That the different properties of Metals plainly argue the diversity of their Species; since Properties presuppose specifying Forms. Besides, the World would have been very defective, if Nature had made only Gold, which may be better spared than Iron and Steel, and is less hard for uses of Life. Nor is it likely that Nature ever intended to reduce all Metals to Gold; which then should be more plentiful than Iron and Lead; since wise and potent Nature seldom fails of her intentions. As for the alledged transmutation of Metals, were it possible, yet it proves them not all of the same Species; change of Species being very ordinary, and as easie to be made in Crucibles as in Mines; nothing else being necessary thereunto but to open the bodies of the Metals, and set at liberty what in some is most active, and in others more susceptible of the Forms you would introduce. Nature indeed always intends what is most perfect, but not to reduce every thing to one most perfect Species, as all Metals to Gold; but to make a most perfect individual in every Species; labouring with no less satisfaction for production of Iron and Flints then of Gold and precious Stones. As for the principles of Metals, all compound them of Mercury and Sulphur, joyning Vitriols thereunto instead of salt to give Body to the said Ingredients; but some will have Mercury to be the sole matter, and understand by sulphur an internal and central heat in the Mercury concocting its crudity, and by Mercury the cruder portion of its self; their Salt being only the consistence whereof the Mercury is capable after Coction. Others distinguish what is metallick in metals (as only Mercury is) from the impurities mixt therewith, as earths, sulphurs, and Vitriols; and make the perfect metals so homogeneous that 'tis impossible to separate any thing

thing from them; which is a proof (they say) of the unity of their matter and conformity with Mercury, which always retains its own nature, though preparations make it appear in several shapes. Moreover, they infer from the great ponderosity of Gold, that it is only Mercury; otherwise the less heavy bodies pretended to be mixt therewith, should diminish its weight; and Fusion, which seems to reduce all metals into their most natural state, makes them perfectly resemble Mercury, in which alone the Chymists for that reason seek their Great Work. Nevertheless seeing Experience teaches us, that Mercurie's sulphurs and vitriols are found in all metals except Gold, it must be confess'd that these three bodies are their immediate principles. Nor doth it follow that they are not in Gold too, though the Chymists have not yet been able to find them, but so closely united as to be inseparable; Coction having such power upon matters that have affinity, as to unite them beyond possibility of separation; as appears in Glass, of which nothing else can be made but Glass, though it be compos'd of different principles; and in Mercury it self, which is a Mixt, but reduc'd to such homogeneity that nothing can be extracted out of it but Mercury. Indeed Gold could not be so malleable as it is, if it were all Mercury; and they that know Mercury, and the impossibility of depriving it of the proneness to revive, will not easily believe it can, without mixture of some other body, acquire the form of Gold; whose gravity proceeds from its proper Form, and not from Mercury which can give it no more weight then it self hath; Gold by being more dense, not acquiring more gravity, any more then Ice doth which swims upon the water.

CONFERENCE CXXXVIII.

Whether there be an Elementary Fire, other than the Sun.

AS there are three simple bodies in the world, possessing, by right of Sovereignty, Driness, Cold, and Moisture; so there must be one primely Hot, which they call Fire. The diversities of Motion, the four first Qualities, and their possible Combinations, the Humours, Temperaments, Ages, and Seasons, the Composition and Resolution of all Mixts, are powerful inductions for that quaternary number of Elements. Amongst which there is none controverted but Fire; the variety of fires found in the world rendring it dubious which of them ought to be acknowledg'd the Element, that is, the natural, simple, first hot and dry body, wherewith, together with the other, three all Mixts are compounded. The Sun indeed is the Efficient Cause of all productions here below; but being a celestial and incorruptible body cannot enter into the composition of any thing as
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a Material Cause. Much less can our common Fire which devours every thing, and continually destroyes its Subject. But it must be that Elementary Fire, which is every where potentially and actually in its own Sphere, which is above that of the Air, and below that of the Moon. Moreover, being the lightest or least heavy of all the Elements, the Harmony of the Universe which consists chiefly in their situation, requires that it be in the highest place, towards which therefore all other Fires which are of the same Nature, ascend in a point with the same violence that a stone descends towards its Centre; those remaining here below, being detain'd by some Matter whereof they have need, by reason of the contraries environing them; from which that Sublunary Fire being exempt, hath nothing to do with Matter or nourishment; and by reason of its great rarity and tenuity, can neither burn nor heat, any more then it can be perceiv'd by us.

The Second said, That subtlety, one of the principal conditions requisite to the conversion of Matter into Fire, is so far from hindring, that it encreases the violence and activity of Fire, making it penetrate even the solidest bodies; whence that pretended Fire, not being mixt with extraneous things to allay its heat, as that of *Aqua Vitæ* is temper'd by its Phlegm or aqueous humidity, but being all Fire in its own Sphere and natural (place, which heightens the Virtue and qualities of all Agents) must there also heat, shine, burn, and produce all its Actions, which depend not upon density or rarity, or such other accidents of Matter purely passive, but upon its whole Form; which constituting it what it is, must also make it produce Effects suitable to its Nature. Wherefore as Water condens'd into Ice or Crystal, is no longer Water, because it hath ceas'd to refrigerate and moisten; so the Fire pretended to be above the Air, invisible and insensible, by reason of its rarity, is not Fire but subtile Air. They who say its natural inclination to heat and burn, is restrain'd by the Influences of the Heavens, particularly, of the cold Starrs, as *Saturn* and the *Moon*, speak with as little ground; since the circular motion of the Heavens, whereby this Fire is turn'd about, should rather increase than diminish its heat; And besides, Fire being a necessary Agent, its action can no more be hindred by such Influences, than the descent of a stone downwards. Whereunto add, that the beams of all Stars have heat; and were any cold, yet those of *Saturn* are too remote, and those of the *Moon* too weak in comparison of this Fire, the extent whereof is about 90000. Leagues; for the distance between the Earth and the Moon is almost as much, namely, 56. Semidiameters of the Earth, from which subtracting between 25. and 30. Leagues, which they allot to the three Regions of the Air, the rest must be occupi'd by the Fire, which they make to extend from the Concave surface of the Moon, to the convex surface of the Air; which it would consume in less than a moment, considering the great

great disproportion between them. Moreover, were there such a Fire, it could not be own'd an Element, because its levity would keep it from descending and entring into the Composition of mixts; and, were it not leight, yet it would be hindred from descending by the extream coldness of the Middle Region of the Air, accounted by some, a barrier to the violence of that Chymical Fire, which ought rather to be reckon'd amongst their *Entia Rationis*, than the Natural Elements, whereunto Corporeity and Palpability are requisite. For these Reasons, I conceive, with *Pythagoras*, that the Sun is the true Elementary Fire, plac'd for that purpose in the middle of the World, whose Light and Heat enter into the Composition not onely of all living things, but also of Stones and Metals; all other Heat besides that of the Sun, being destructive, and consequently, no-wise fit for Generation.

The Third said, He confounds Heaven with Earth, and destroys the Nature of the Sun, who takes it for an Element, that is to say, a thing alterable and corruptible by its contraries, which it must have if it be an Element. The Heat of his beams proves it not the Elementary Fire, seeing commonly the nearer we are to Fire, the more we feel the Heat of it; but the Supream and Middle Regions of the Air, are colder than ours. Besides, were our common fire deriv'd from the Sun, it would not languish, as it doth, when the Sun shines upon it; nor would the heat of dung-hills and caves be greater in Winter than in Summer. Wherefore I rather embrace the common Opinion, which holds, That the heaviest Element is in the lowest place, and the leightest in the highest, whose Action is hindred by the proportion requisite to the quantity of each Element.

The Fourth said, That the qualities of Fire, *viz.* Heat, Dryness, and Light, concurring in the Sun in a supream degree, argue it the Elementary Fire; for Light being the Cause of Heat, the Sun (which is the prime Luminous Body) must also be the prime Hot, that is to say, Fire. For as the pretended one above the Air, was never yet discover'd; so 'tis repugnant to the Order of the Universe, for the leightest of Elements to be shut up in the Centre of the Earth, where some place it. We have but two wayes to know things, Sense, and Reason; the latter of which, is founded either upon Causes or Effects: Now we know nothing of the Sun, or any other Celestial Bodies, otherwise then by its Effects and sensible qualities, which being united in Spherical Burning-glasses, (as they are in the body of the Sun) notifie to us by their Effects the Nature of their Cause.

The Fifth said, That Fire being to the World what the Soul is to the Body, as Life is in all the parts of the Body; so also is Fire equally diffused throughout the whole World. In the Air it makes Comets, and other Igneous Meteors: In the Earth it concocts Metals, and appears plentifully in *Volcanoes*, whose

Fires would not continue alwayes, if they were violently detained in those Concavities; yea, 'tis in the Waters too, whose saltness and production of Monsters, cannot be without Heat. Yet being the most active of all Elements, it is therefore distributed in much less quantity than the rest; Nature having observed the same proportion both in the greater and lesser World, Man's Body; in which there is less of Fire than of the other Elements: Otherwise, had the Fire been equal to the rest, it would consume all living things to ashes. Nevertheless as the fixed Heat of Animals requires reparation by the Influent Heat from the Heart, the Soul's principal seat; in like manner the Elementary Fire, dispersed in all parts of this great body of the World, needs the Influence of the Sun's Rayes, which produce and conserve it.

CONFERENCE CXXXIX.

Which is most desirable, long or short Life.

Nature, not contented to produce all things, hath given them a desire of Self-preservation. Even Inanimate Bodies redouble their activity at the approach of their destructive contraries; whence proceeds Antiperistasis. But this desire appears chiefly in Animals, and above all in Man, being grounded upon the Love he bears to himself: Which extream Love, instigating him to seek all good things contributory to his contentment, makes him likewise desire long Life, whereby he may continue his other enjoyments, and, consequently, avoid all occasions of Death, as that which interrupts the course of this Life, and makes him cease to be. Hence, as by general consent Death is the most terrible of terribles; so, by the reason of Contraries, Life is the most agreeable, and consequently, most desirable and best thing in the World; and not desirable only by all Men who are endued with Knowledge, but also by all living things, each after its mode, and according as they are capable of desiring; Plants attracting their nourishment, and Animals seeking their Food with difficulty, and carefully avoiding all dangers that lead to Death. For though Nature loves change, (whereof she is the Principle) yet 'tis onely that of Generation, or of a less into a more noble substance; that of Corruption and Death she abhors, being not further pleased in the vicissitudes of mutations, than she gains by the change; but she is a loser by Death, which separates the Body from the Soul, in the union whereof, she hath all that she can wish. She may disguise her self, and changing of shape and countenance, but can never light upon any more agreeable, than that which she makes appear in the Marriage of a Body with a Soul; which are so perfectly united, that, after their dissolution, our Souls alwayes retain an Inclination toward their ancient Matres which they once animated. The

The Second said, If the sentiment of Nature makes us conceive long Life desirable; Reason, which evinceth it full of Miseries and Calamities, teaches us that the shortest is best, and that we may justly wish, either never to have been, or to have dy'd as soon as we came into the World. This was the Judgement not onely of the greatest Sages of Pagan Antiquity, many of whom cheerfully quitted Life to escape its Miseries; but the sometimes famous Republick of *Marseilles*, gave Licence to the miserable to take Poyson, which was kept in a publick Store. Yea, even the holiest Personages have been of the same Advice; as *Job*, amongst others, who calls Man's Life a warfare upon Earth, and curses the day of his Birth; *Moses* and *Elias*, who pray'd to God they might dye; and Saint *Paul*, who desires nothing so much as to be loos'd from this miserable Body; in which, as in a dark prison, the Reasonable Soul is enclos'd, and remains against its will; since being of a Celestial Nature, and so continually longing after the place of its extraction, Death, which delivers it from its fetters, must be as desirable to it as contrary to the Body, which having nought to hope for after this Life, but to be the food of worms and corruption, hath all reason to dread it, and avoid the occasions of it; as accordingly all such do who live onely for the Body, resenting no other motions in themselves but of desire to live long. Whereas Reason instructs us, that here we never possess the Good whereof the Immortal Soul is capable by its two Powers, the Understanding and the Will, which never find any Truth or Goodness in the things of this World but what is sophisticate; it makes us also conceive Life as a violent state, and contrary to the Felicity of our better part.

The Third said, Since Life is the duration of Being, which undoubtedly is the greatest of all Goods, (Entity and Good being convertible) that must be the most desirable which is of greatest continuance, because it comes nearest infinity and eternity, under which all Perfection is compris'd, and which being therefore passionately desir'd by all Men, but not attainable by any, they endeavor to partake as much of it as they can by prolongation of Life, which is the foundation not onely of the Goods of the Body and Fortune, (whose sweetness makes amends for some Evils of Life) but also of the Mind, in which Natural Felicity consists; whereunto amongst other conditions, long Life is requisite both for attaining of Knowledge and Virtue, not to be gotten without long time, (which renders Men knowing and prudent) as for making others taste the fruits of an exemplary Life.

The Fourth said, That Beasts and even Stones having the good of Existence as well as we, that alone is not sufficient to render Life desirable, in regard Non-existence is much rather to be wisht than a Being alwayes miserable, what ever some say to the contrary; since even our Saviour saith, It had been better for

Judas never to have been born, then to have fallen into the crime of Treason. Moreover, *Seneca* saith, No person would accept of Life, if he knew how dear it must cost him. Hence we enter into the World weeping, as if it were against our consent; and as our Lives begin with tears, so they are continu'd with labor, and ended with pain. Nor have we more reason to desire long Life for the Goods of the Mind, which consist in Virtue alone. For if we be vicious, 'tis expedient both for our selves and the Publick, that we live but little, for fear of corrupting others by our evil Examples. If virtuous, 'tis much to be fear'd lest we be corrupted by the converse of the wicked, who are very numerous; which was the cause why God by a special favour took away *Enoch* in the midst of the course of his Life, and transported him into the Terrestrial Paradise.

The fifth said, If a long Life were less desirable than a short, God should have deceiv'd those that honour their Parents, by promising them a bad salary in recompence of a good Action: Nor ought Physick to trouble it self and those that use it, by so many Rules and Receipts, were a short Life (that is to say, a speedy death) so desirable; nor would the Laws punish Criminals with Death, if what they give them were better than what they take from them. Moreover, as the long-liv'd Oak and Palm-Tree are more excellent than the Mushrome, Hyssop, and the Rose; Stags, Elephants, Eagles, Ravens, and the Phoenix, more perfect than Butterflies, and those Insects which they call *Ephemera*, because they live but one day; so amongst Men, those that live long, seem to have some advantage above those that are of a short Life, having the Principles of their Generation more vigorous: wherein nevertheless the Sex, Temperament, Climate, Habitation, and manner of living, make a notable difference; Sanguine Men, and the Inhabitants of Temperate Regions, commonly living longer than Women, cholerick Persons, and such as live under intemperate Climates.

The Sixth said, Reason having been given Man to correct the Inclinations of the Sensitive Appetite, 'tis that alone must judge whether it be expedient for him to live long; not Sense, which makes us judge like beasts, That nothing is dearer than Life. But Reason, illuminated either by Faith or by Philosophy, teaches us that this World is the place of our banishment, the Body the Soul's Prison which she alwayes carries about with her, Life a continual suffering and War; and therefore he fights against Natural Light who maintaines it expedient to prolong so miserable a State. For, besides the incommodities attending a long Life, which after 70. years, as *David* testifies, is onely labour and sorrow, long Life is equally unprofitable towards attaining Knowledge and Virtue. He that lives long can learn nothing new in the World, which is but a Revolution and Repetition of the same Effects produc'd alwayes by the same Causes; not onely in Nature, whose course and changes may be
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seen in the Revolution of the Four Seasons of the Year, but even in Affairs of State and Private Matters, wherein nothing is said or done, but what hath been practis'd before. And as for Virtue, the further we are from Childhood, the less Innocence and Sanctity we have, and Vices ordinarily increase with years. The long Life of the first Men having according to some been the probable Cause of the depravation of those Ages.

CONFERENCE CXL.

Of the Lethargy.

AS the Brain is the most eminent and noble of all the parts, being the Seat of the Understanding, and the Throne of the Reasonable Soul, so its diseases are very considerable; and the more, in that they do not attaque that alone, but are communicated to all the other parts, which have a notable interest in the offence of their Chief, ceasing to diffuse its Animal Spirits destined to Motion, Sense, and the Function of the Inferior Members. Which Functions are hurt by the Lethargy, which deprives a Man of every other Inclination but that to sleep, and renders him so forgetful and slothful, (whence it took its Greek name, which signifies sluggish oblivion) that he remembers nothing at all, being possess'd with such contumacious sleepiness that she shuts his Eyes as soon as he ha's open'd them; besides that, his Phansie and Reasoning is hurt with a continual gentle Fever. Which differences this Symptom from both the sleeping and waking Coma, call'd, *Typhomania*: the former of which commonly begins in the Fits of Fevers, and ends or diminishes at their declination; but the Lethargick sleeps soundly, and being wak'd by force, presently falls a sleep again: The latter makes the Patient inclin'd to sleep, but he cannot, by reason of the variety of Species represented to him in his Phansie. The signes of this Malady are deliration, heaviness of the Head, and pain of the Neck after waking, (the Matter taking its course along the spine of the back), frequent oscitation, trembling of the Hands and Head, a palish Complexion, Eyes and Face pufft up, sweatings, troubled Urine, like that of Cattle, a great Pulse, languishing and fluctuating, Respiration rare with sighing, and so great forgetfulness, as sometimes not to remember to shut their Mouths after they have open'd, nor even to take breath, were they not forc'd to it by the danger of suffocation. The Conjunct and next Cause of this Malady is a putrid Phlegm, whose natural coldness moistens and refrigerates the Brain, whilst its putrefactive heat kindles a Fever by the vapors carry'd from the Brain to the Heart, and from thence about the whole. Now this Phlegmatick Humor is not detained in the Ventricles of the Brain,

Brain; for then it would cause an Apoplexy if the obstruction were total, and if partial an Epilepsy, wherein the Nerves contract themselves towards their original for discharging of that Matter: But 'tis onely in the sinuosities and folds of the Brain, which imbibing that excessive humidity, acquires a cold and moist intemperature; from whence proceeds dulness and listlessness to all Actions. For as Heat is the Principle of Motion, especially when quickned by Dryness; so is Cold the Cause of stupidity and sluggishness, especially when accompanied with humidity, which relaxes the parts, and chills their Action. In like manner, Heat or Dryness inflaming our Spirits the Tunicles of the Brain, produce the irregular Motions of Frenzy, which is quite contrary to the Lethargy; although it produce the same sometimes, namely, when the Brain after great evacuations acquires a cold and moist intemperature; in which case the Lethargy is incurable, because it testifies Lesion of the Faculty, and abolition of strength: But on the contrary, a Frenzy after a Lethargy is a good sign, resolving by its Heat, and dissipating the cold humors which produce the same.

The Second said, That coldness being contrary to putrefaction, Phlegm the coldest of all humors, cannot easily putrifie in the Brain, (which is cold too of its own nature) much less acquire a Heat sufficient to communicate it self to the Heart, and there excite a Fever; it being more likely for such adventitious Heat to cause in the Brain rather the impetuous motions of a Frenzy, than the dulness and languor of a Lethargy. Nor is it less then absurd, to place two enemy-qualities in the same Subject, to wit, Cold and Heat, whereof the one causes sleep, the other a Fever; which, I conceive, to precede not to follow the Lethargy, and which having raised from the *Hypochondres* to the Brain, a Phlegmatick blood mixt with gross vapors, there causeth that obscuration of Reason, and sluggishness of the whole Body, but especially the abolition of the Memory, the sutable temperament for which is totally destroyed by excessive humidity. Indeed the troubled Urine, liquid Digestions, Tumors and pains of the Neck, bloated Flesh, and other such signs accompanying this disease, argue that its matter is more in the rest of the Body than in the Brain, which suffers onely by Sympathie.

The Third said, If it be true that sleep is the Brother of Death, then the Lethargy, which is a continual drowiness, with a Fever and *Delirium*, seemes to be a middle Estate between Life and Death which is known by the cessation of Actions, most of which fail in those afflicted with this Evil, which nevertheless is less then the *Carus*, wherein the sleep is so profound, that the Patient feels not when he is prickt, or call'd by name; but is depriv'd of all Sense and Motion, saving that of Respiration, which scarce appears in the *Catoche*, or *Catalepsy*, (a stranger symptom than any of the former) wherein the Eyes remain wide open, the whole

whole Body stiff, and in the same state and posture wherein it hapned to be when it first seiz'd the same. The Cause whereof, most say, is a cold and moist humor, obstructing the hinder part of the Brain; but I rather ascribe it to a sudden Congelation of the Animal Spirits, as I do the Lethargy to narcotick and somniferous vapors, which are the sole Causes of Inclination to sleep; which cannot be produced by simple, cold, and aqueous humidity, (for then Water should do it sooner than Wine, whose very smell in Presses and Cellars causes sleep, and oftentimes inebriates) but by a fat and oleaginous humidity, such as is found in all Hypnoticks; some whereof are hot, as Anise and Opium; others Cold, as Lettice, Poppy, and Henbane.

The Fourth said, That the Brain being the Principal of Sense and Arbitrary Motion, which it derives into all the parts, both the one and the other are offended by the maladies of that part; some whereof are without, others, are necessarily accompanied with a Fever: which is either Acute or Gentle, according to the diversity of the humor producing it, the former commonly proceeding from Choler or Blood, the latter from Phlegm or Melancholy. Amongst these Diseases, those which invade suddenly, as the Apoplexy and Convulsions, are caused by the obstruction of the Ventricles, Constriction, or Division of the Nerves, which hinders the Flux of the Animal Spirits: but those which arruire in some space of time, as the Coma, Lethargy, and Carus, proceed either from a simple intempeires, ordinarily Cold and Moist, or else joyn'd with some Matter, which is oftentimes a Cold Phlegm, whereof the Brain is fruitful: Which coming to be inflamed, by reason of its putrefaction caused by defect of Transpiration, and the Heat of the Brain (which though Cold by its first Temper, is yet hot, inasmuch as animated, and more burning than the Air of Sommer) that Extraneous Heat begets a Fever, which yet is but little violent, and so hinders not the Natural Coldness of the humor from producing the sleep and sluggishness apparent in the Lethargy; which nevertheless by is, *Hippocrates*, plac'd amongst Acute Diseases terminated on the seventh day; which time if it exceeds, the Patient recovers, especially if the Matter happen to be discharged into the Brest, and cause an Empyema there, or, in some others, the Parotides.

The Fifth said, That the Internal Maladies of the Head are of three sorts: Some attaque the Membranes, and cause the Cephallagy, Megrim, and other pains of the Head, being very dolorous, by reason of the exquisite sensibility of those Membranes, which are either prick'd, press'd, or too much extended by vapors, wind, or humors, for the most part acrimonious and serous. Others are in the Cavities and Passages of the Animal Spirits, whose Influence being stop't by some Matter that obstruct the Passages, they cause the symptoms of the Lesion of Motion and Sense in the Vertigo, Palsie, Apoplexy, Epilepsie, Incubus,

Incubus, Convulsions, Trembling, and Catarrhs or Defluxions, to which Man alone of all Animals is subject, by reason of the quantity of excrements where-with his larger and more elevated Brain abounds: The third sort which possess the whole substance of the Brain, and either onely deprave the functions of the three Prime Faculties, Reason, Imagination, and Memory, are the simple *Delirium*, the Frenzy, Melancholy, Madness, and Lycanthropy; or else wholly abolish them, as in Folly, Stupidity, Forgetfulness, the *Catoche*, *Carns*, and Lethargy, which is caus'd not onely by a Cold Aqueous Phlegm, where-with the Brain is soak'd, but also by such as is render'd viscous, thick, and tough, by the substance of the strange and some extraneous heat, which causeth the Putrefaction and Fever.

CONFERENCE CXLI.

Whether it be better to marry, or not to marry.

IF Nature made the CrySTALLINE humor of the Eye without colour, the Tongue without favour, the Ear without sound, to the end they might impartially judge of all Objects offer'd to those Senses; I know not to whose judgement we must refer the Decision of this Question: Virgins, marry'd people, and those that are not marry'd, being equally interest'd, and consequently, lyable to exception. The first, professing Hatred of Marriage; The second, unwilling to blame it, for fear of affronting their pass'd Judgement; And the Third, being unfit to judge thereof for want of Experience. If we will credit *Cato*, who had try'd it, and who being one day sollicit'd by his Friends to second Nuptials, told them, He had once been deliver'd from Shipwrack, and therefore car'd not for venturing to Sea again; those that never embarque in Marriage will gain the Cause, it being the highest point of Humane Prudence to be wise at the expence of others, whose example makes them justly fear the inconveniencies of a Contract, so disadvantageous to the freedom of Man, as that of Marriage is, wherein there is this peculiarity, that in all other Contracts, ever one party is a gainer; but here both are oftentimes cheated, almost alwayes discontented with the bargain, and willing to retract, if they had liberty, which hath been retrencht ever since the Law of Divorce was abrogated by that of Grace, for the greater mortifying of Men, and teaching them to suffer and sigh, in satisfaction for their sins, under the heavy yoke of Marriage. Besides that, the Friendship so much boasted therein, is so rare, as to be almost impossible; partly, because the Will is never carry'd to love an Object but by its full Liberty, and loves less upon never so little constraint; and partly, because Converse shews the Marry'd Couple

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one another's defects, which being alwayes more then their Virtues, 'tis no wonder if Hatred arise thereupon more frequently than Amity, whatever artifice be us'd to make shew of the contrary.

The Second said, He must be a Misanthropus, and have wholly renounc'd all Humane Sentiments that can blame Marriage, the most honourable and ancient Society of the World, founded not onely upon the Divine Law, (which makes it a Sacrament, and a very great Mystery) and upon that of Nations, by whose universal Consent, it hath been honor'd with great Priviledges and Immunities; as on the contrary, Celibacy hath been publickly discountenanc'd and punish'd: but also upon that of Nature, who hath inspir'd into all Animals a desire of joyning and coupling together for Generation of their like; which desire is greater in Men, inasmuch as he aspires to Immortality, no otherwise attainable in this World but by Marriage, which revives him in his Children. And the pleasure of them too is so great, that he must first be a Father that would conceive what it is; nor is the yoke of Marriage insupportable, except to such as desire to live dissolutely. The Amity arising thereupon, if founded upon Virtue and Honor, not upon Beauty, or such other profitable or delightful Good, differs as much from Love, as the continual temperate heat of the Blood and Spirits doth from its ebullition and distemper; being alwayes augmented by mutual Offices of either party, rendred with a frankness and confidence not found in any other condition whatsoever, where there is nothing else but Dissimulation and Hypocrisie. 'Tis in Marriage alone that there is any treating with Liberty and Ingenuity; and therefore that State is to be desir'd, not onely by the miserable for Consolation of their Afflictions, but also by those who are happy for communicating their Felicity, which is tedious when it hath no partakers.

The Third said, Our Life is full enough of miseries, without needing addition of those that commonly attend Marriage; which a Philosopher, who had try'd it, said, hath but two good dayes; the first, when there is nothing but laughing; and the last, which delivers us from that sad slavery; perfectly contrary both to liberty and quiet, (the two greatest Goods a wise Man can enjoy in this Life) which are inconsistent with the turmoil of Housewifrie, and the Cares of Marriage; from which therefore the Brachmans, Gymnosophists, Galli, and Vestals, and at this day, such as are devoted to God's Service, have been exempted, to the end the better to mind Contemplation and Virtuous Exercises; both hard to be done in Marriage, wherein scarce any other Virtue is practis'd but Patience, (whereof 'tis the true School) which *Socrates* said, He had learnt better by the scolding of his Wife, than by all the Precepts of the Philosophers.

The Fourth said, Men would be Vagrants and Stragglers like
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wild Beasts, were it not for Marriage, which is the foundation of the State; for it makes Families, and Families make Common-wealths; which, consequently, owe their Nativity and increase to marry'd people, who have a much greater interest in the Conservation of the State, than those that have neither House nor Home, as unmarried Men seldom have. But as there is no compleat Good in this World; so Marriage, though a most holy and good thing in it self, instituted by God in Paradise, and during the state of Innocence, hath nevertheless its in-commodities, not so much from it self, as from the fault of the persons who know not how to use it as they ought.

The Fifth said, 'Tis peculiar to Marriage to have nothing small or moderate; every thing in it is extream. 'Tis either full of sweetness and Affection, or of Hatred and bitterness; 'tis either a Paradise, or a Hell. When 'tis suted with all Conditions requisite, there's no state happier; but when any is wanting, no Infelicity equals it. And because Good requires the integrity of all its constituent parts, but Evil comes from the least defect; 'tis no wonder that few or no Marriages are happy, since there is none wherein there is not something to be wisht for, especially when the match is made, (as most commonly 'tis) by another's Hand; though 'tis strange, that Men who are so circumspect and wary in other bargains, searching, examining, and taking Essay of what they buy, should have so little Prudence in an Affair of such Consequence and Danger. There is nothing but a Wife that a Man is oblig'd to keep as long as he lives; but they have been taken at a venture, since, at the instance of the Roman Dames, the Law of *Ancus Martius* was abolisht, who had purposely built a Temple to Male-Fortune near the *Tyber*, where Women were carefully examin'd. And as 'tis an intolerable madness to engage voluntarily into fetters and a perpetual Prison, by subjecting one's self to the Caprichio of a Woman; so 'tis great simplicity in a Man to entrust his Honor, the chiefest of all Goods, to her inconstant humor, who may render us infamous when the Phansie takes her. I think therefore, every one ought to consult himself, Whether it be fit for him to marry or not, that is, Whether he believes he ha's Virtue and Constancy enough to suffer the defects of a Woman, who may be commendable in some Point, but at the bottom is alwayes a Woman.

CONFERENCE CXLII.

At what time the Rational Soul is infus'd.

AS Religion obliges us to believe, that the Soul, which is of an Immortal Nature, comes immediately from God, who drawing it out of the Abyſſe of Nothing, at the ſame time creates it in the Infuſing, and infuſes it in the Creating; ſo nothing is determin'd abſolutely touching the time in which that infuſion is made. For knowing which, we muſt obſerve that the whole time of the Child's reſiding in the Womb, is divided into four parts; namely, the Conception, Conformation, Motion, and Parturition; ſo diſtinguiſhed between themſelves, that the time of Motion, is about treble to that of Conformation; and the time of Parturition, double to that of Motion. The whole work of Conformation is divided again into four times, according to which the Matter contained is diverſly faſhioned and wrought, and is called Geniture, or Coagulated Milk, Fœtus, Embryo; and an Infant when the Conformation of the parts is finiſhed, which is at the thirtieth day for Boyes, and at the forty ſecond for Girles; whoſe leſs Heat and more wateriſh materials, require a longer time for Conformation of their Spermatick parts: After which the Blood arriving, fills the void ſpaces of the Muſcles, Fibres, and other carnous parts, which are not perfectly ſhaped till towards the time of Motion, which is the third month for Males, and the fourth for Females; at which time the Second Conformation ends, and the whole organization is compleated. At firſt, the Infant hath onely a Vegetative Life, by means of which, his parts are generated by the Alteration and Conformation of the Matter, and are nouriſhed, and take their growth not onely by their Attraction from all parts of the Matrix, but alſo by an Internal Vital Principle, which is the Vegetative Soul, reſiding in all fruitful ſeed, and being the ſame with the Formative Faculty. Now becauſe the Vegetative or Sensitive Soul is but an accident, namely a certain Harmony of the Four Qualities; therefore they eaſily give place upon the arrival of the reaſonable ſoul, which I think happens when the organization of the parts is perfected, to wit, about the third or fourth month; before which time, the Body not being organized, cannot receive the Soul, (which is the act of an Organical Body) which alſo ſhe forſakes, when, upon any notable ſolution of continuity, the Organs are deſtroyed and aboliſhed oftentimes, though the Temper of the ſimilary parts be not hurt; which conſequently, is not the ſole requiſite for the Infuſion of the Soul, but alſo the convenient Fa-brick of the Organs.

The Second ſaid, That the opinion, which introduces the Rational Soul in the firſt days of Conception as ſoon as the mat-

ter necessary for receiving it, begins to put on the diversity of Organs, is the most probable; since by this means this soul differs from others in that it proceeds and makes the dispositions, whereas others follow the same and absolutely depend thereupon. And the same reason which obliges us to acknowledg the Reasonable Soul after motion, constrains us to admit it before; which nothing hinders us from attributing to some other cause, (as to the Sensitive Soul introduc'd before the Rational) saving that causes are not to be multiplied without necessity, and one Soul alone may suffice for Sense, whilst yet the defect of Organs allow not the exercise of Reason. The same reason shewshow absurd it is to assign any other cause, in the first days, of the Vegetative Actions; it being as easie to infer the presence of the Reasonable Soul by this sort of actions as by the Sensitive Actions, which may also have another cause. For the infusion of the Reasonable Soul after forty days cannot be proved by actions proper to it (for it reasons not till long after) nor by the actions of a Soul simply; for then you must grant that it is there before Organization, which is an action proper to animated things. Moreover, the Soul must be admitted in the Body as soon as it may be there, which is at the beginning of conception; because even then there wants no fit disposition to this Soul, which needs not any different Organs for the barely Vegetative Actions which she then performs, no more then Plants do; nor are different Organs necessary to her absolute exsisting, since God hath created her immaterial and without any dependance: and we see the similiary parts of the Body are animated; so that the dispositions wherewith the Soul can subsist, and which suffice to retain her in the Body, are also sufficient to introduce her thereinto. Now these dispositions are no other then the same which are requisite for the actions of the Vegetative Soul. For whatever indisposition happen to the Organs of Sense and Motion, the Soul abides in the Body till the heat be dissipated or extinguished; the Organs of Sense and Motion being not necessary to retain the Soul in the Body saving in as much as they contribute to respiration. Even the Apoplexie which abolishes all the noble dispositions which the Philosophers hold necessary to the Soul, never drives her away unless it be by accident; since a Child in his Mothers belly may have that disease without incommodity, saving when it comes to need respiration. Now though Organization be not a disposition requisite to the introduction of the Soul, yet she requires certain others, some whereof we know not, as that unexplicable character imprinted in the Seed, besides the temperament which suffices perfectly to determine the matter for introduction of this form and exclusion of all other. The conformation of Organs being not a disposition which determines necessarily (seeing amongst humane bodies some differ more from the generality of men in respect of the principal parts then they do from certain

certain other Animals) but 'tis the temperament alone, which arising in the first days after the mixture of the two seeds, and according to *Hippocrates*, the *fetus* having in the first seven days all that he ought to have, this opinion is more pious and expedient for repressing the criminal license of those who without scruple procure abortion within the first forty days.

The Third said, Though the Reasonable Soul be of a much sublimer nature than the souls of other Creatures; yet being created with reference to the Body 'tis not introduced thereinto till the same be fitted for its reception; as no other natural form is ever received into a subject not previously fitted with all due dispositions. And since the Soul is the principle of all actions, hence she needs Organs and Instruments for performing them; and the more sublime she is, the greater preparation doth she require than the Sensitive Soul, as this also doth than the Vegetative, which demands only a certain mixture of the first qualities, besides which the sensitive requires a more exquisite temperament of the two Principles of Generation, Seed and Blood, endued with a vital Spirit, capable of producing Sense and Motion. So that the Reasonable Soul ought not to be infused, till after the conformation is in all points completed.

The Fourth said, Since there is no proportion but between things of the same nature, the Immortal Reasonable Soul cannot have any with the corruptible Body, and so not depend more on the matter in its infusion than in its creation, which is probably the third day after conception; at which time the actions of life appear in nutrition, growth, alteration, and configuration of the parts. Which actions must proceed from some internal and animated principle; which cannot be the Soul either of Father or Mother, since they act not where they are not inherently; nor yet the spirit of the Seed which is not a principal agent but only the instrument of a Soul; nor the formative virtue, which is only an accident or temper of qualities, and in like manner the instrument of some more noble agent. 'Tis therefore the Soul contained in the bosom of the matter, which produces all these actions therein. They who hold the Reasonable Soul not introduced till after the two others, consider not that Forms receiving no degrees of more or less cannot be perfected or changed one into another, much less annihilated; seeing corruption is caused only by contraries, and Forms have none. It follows therefore that the Reasonable Soul is the principle of all these functions; which she performs according to the dispositions she meets with; and that she is the architect of her own habitation.

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CONFERENCE CXLIII.

Of Metempsychosis, or Transmigration of Souls.

THough Metempsychosis, or the Transmigration of Souls, be rather imaginary than true; yet because there is nothing which more enriches the Field of Philosophy than liberty of reasoning, we shall here inquire whether the Heathen, guided only by the light of Nature had any reason to maintain this extravagance; which was first taught in Greece by *Pythagoras* who had learn'd it of the Egyptians; by whom and most other Nations of antiquity it was believ'd not only that souls departed out of some bodies re-entered and animated others, but also that all things after a certain revolution of Ages should resume the same state wherein they had formerly been. This was also the opinion of *Plato*, saving that he was more rational than *Pythagoras*, who making three Souls of the same quality, said that those of men after death went to animate the bodies of Men, Beasts, or Plants; for which reason he abstained from the flesh of Animals, and could hardly resolve to eat Beans for fear of biting his Fathers head. But *Plato* held the Transmigration of Rational Souls only into humane Bodies. Which opinion though less absurd than the former (which destroys it self by the confusion it introduces amongst all natural beings) yet it hath its inconveniences too; since the Soul being an incomplete form, making one whole with its other half the Body, it can never meet with one in all points like the first; besides that, were it in another, it would have an inclination towards the first, and so would not be in such body in quality of a form, but in a state of constraint and violence.

The Second said, That the Pythagorical Metempsychosis is not more absurd (in regard that being the form gives a determinate and specific being to every thing, if humane souls pass into the bodies of Beasts or Plants, these Creatures would be Men;) then that of *Plato* seems probable: nothing hindring but that a humane soul may enter into another humane body after the dissolution and ruine of the former. For if there be any thing to hinder it, it must be because there is no return from privation to habit, That which hath sometimes been, can no more be such as it was, and 'tis impossible for a soul which hath once informed a body to re-enter it again and there exercise the functions of life after having been once totally thence expelled. But these Reasons hinder not, seeing the soul may be introduced anew into some body wherein it is not now, but hath been formerly; as Gangranous and wholly mortified members may be again vivified by a powerful effect of the soul and the goodness of temperament. Moreover, it is not less possible for that
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which never was to begin to be, then for that which hath formerly been to exist again in nature; seeing both being equally pure nothing, they are objects sufficient to be created by God; as the first matter (which is almost nothing) is the object of Nature, his inferior; and natural bodies are the objects of Art which is below Nature. So that not only souls, after having informed one body, may pass into an another by Metempsychosis, but (which seems more difficult) the same soul may again inform the same body.

The Third said, 'Tis impossible for one and the same thing which hath been to be a new; for then it should be twice and have two durations, and consequently two existences, and so not be one and the same thing; seeing singularity depends upon existence. So neither can the same soul return into the totally deserted body, although it may re-animate some parcels of it, nor yet into other bodies. For in the first place, as for the souls of Plants and Beasts, there is no more reason to believe that these forms disappearing upon destruction of the Organs whereby they exercise their functions, go to animate other bodies of the same species, then that, when my wood is burnt, the same form of fire goes to seek another faggot and kindle the same as soon as fit dispositions thereunto arise; if it were so, the Woodmongers should have a very dangerous Trade. Moreover this transmigration of souls is either absolutely necessary (that is, bodies are animated no other way but this) and so there will be no other new generation, but the supernumerary souls must wait till their turn come, (according as the Platonick poet *Virgil* represents them in the sixth Book of his *Aeneis*) for if there be more bodies then souls, there will be no production, whatever disposition be found in the matter; and then though we sow the Ground never so much with Corn, nothing will come of it, in case more be sown then there are Vegetative Souls to animate it; whence we should be in great danger of Famine. As for the Reasonable Soul, since there is no animated body whose outward figure is not an Index of its inward form, werethere such a thing as Metempsychosis, the soul of a Horse should be under the outward form of a Man, and so all knowledge from external shape should be deceit and delusions, far from serving for Physiogmony. Moreover the Ancients introduced this Opinion, partly to frighten the wicked, by making them believe that after death their souls should do penance in the bodies of Beasts whose manners they had imitated (Cowards becoming Hares, and cruel persons Wolves,) till after re-purgation by the River *Lethe* they should again become men; and partly to excite the good with hopes that their souls should be received into the bodies of Heroes and Demi-gods; such fabulous stories serving to keep the more ignorant sort within their duty.

The Fourth said, That the separated soul carries along with
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her, only three powers, the Understanding, Will, and the Motive Faculty; by means whereof she is carried towards what she desires by a real local-motion, whereof she is as well capable without as within the body. Now she desires nothing so much as to be united to the body with whom she hath formerly been conjoyned. And consequently she cannot but return thither of her own accord; seeing when the desire and power meet the effect must necessarily follow, especially when the desiring is in a violent state, contrary to its own Nature, as that of the separated Soul is; and therefore since nothing violent is of long duration, the Soul's separation from her Body cannot be perpetual.

The Fifth said, If it be true that nothing is made which hath not already been, and that, according to *Origen*, there was a certain number of Souls produced in the beginning of the Creation, after which it is said, That God rested from all his Works, and that he creates nothing since he put the last hand to the perfection of the World, (which it borrows from the forms or beauties which it contains) it may seem consentaneous to the ornament of the Universe, to say that it was at first stor'd with all the forms, where-with the Matter is informed, according as it comes to have fit dispositions thereunto. And that these forms having no contraries, and consequently being incorruptible, upon forsaking their first Subject, (through default of fit dispositions to maintain them) are received into other Subjects, like the first, and consequently, as capable of receiving such form, which of it self is indifferent to one Subject as well as to another; but since the Rational Soul cannot have any particular Inclination towards the Body it formerly animated, which after Death being no longer Organical, nor capable of being so, but only Dust and Ashes; 'tis more probable, that when separated, it resents motions (if it have any) towards some Body duly organized, and not yet furnished with a form; there being (besides) less inconvenience in saying that one and the same Soul, can animate divers Bodies one after another, than that it can animate divers at the same time, and in divers places, which nevertheless is the Opinion of most Philosophers. For when it is separated, it remains still an Act and a Form, capable of informing any sort of well disposed Body, without affecting any in particular; into which it enters not ignorant, since Knowledge follows Immateriality, and the Species and Notions being to the Soul, what accidents are to their Subjects from which they are inseparable, they must accompany her where-ever she goes; although by reason of the Clouds, and humidities of the Body which she informs, she is not actually knowing in Infancy, but only proportionably, as in time the Body comes to be dried, and the humidities assumed, the Species which were engraven in the Soul begin to appear, and as it were to be produced anew by Reminiscence, which necessarily follows Metempsychosis.

CONFERENCE CXLIV.

Whether there were braver Men in any preceding Age, than in the present.

ALthough this Question, being rather of Fact than of Right, might best be discuss'd, by comparing all the great Men of every Age between themselves, or those of each Age with ours; yet that way would be too long, by reason of the great number of Illustrious Men who have flourish'd downwards to our Age, which is the fifty seventh since the Creation of the World, (the duration whereof amounts to 5920. years, according to the most probable Opinion, which reckons 3683. years and three months to the Nativity of our Lord) the Matter may also be decided by Reason, provided we lay aside two powerful Passions; the one proper to young Men, who alwayes value themselves above their Predecessors, and, like *Rehoboam*, think their own little finger stronger than the whole Body of their Fathers; the other ordinary to old Men, who alwayes extoll the time past above the present, because the infirmities of their Bodies and Minds, no longer allowing them the contentment they formerly enjoyed, they know not where to charge the fault but upon Time, though, in truth, it lyes upon Themselves. For Nature being still as Wise and Powerful as heretofore, and the Universal Causes the same, their Operations must be likewise as perfect, and their Effects as excellent in these dayes, as they have been in any. Then, as for our Minds, they are so far from being impair'd, that they improve more and more in acuteness; and being of the same Nature with those of the Ancients, have such an advantage beyond them, as a Pigmy hath upon the shoulders of a Gyant; from whence he beholds not onely as much, but more than his supporter doth.

The Second said, As a Stone hath more force by how much 'tis less from the hand that flings it; and generally all Causes act more powerful upon their next, than upon their distant Effects: so also Men are less perfect proportionally to their remoteness from their Source and Original, from whence they derive all their perfection. This decay is chiefly observ'd in our bodies, which are not so sound and well-constituted, as those of our Ancestors; and therefore 'tis no wonder if the Souls where-with they are inform'd, have less Vigor though the same Nature. For although, in order to judge aright of the Excellence of the Souls of one Age compar'd with another, we ought to wave that advantage which the later have over the preceding, by enjoying the benefit of their inventions; whereunto 'tis as easie to add, as 'tis to build upon a good foundation, whereof others have firmly lay'd the first stones and Pillars. Yet, for all those great advantages, there hath

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not in these last Ages, appear'd any one equal to those grand Personages of Antiquity, who have had the vogue in each Art and Science. Moreover, want of things made them more ingenious, and the Experience of many years render'd them capable of every thing; whereas now we cease to live, when we but begin to know our selves. Indeed they had the true Disciplines and Sciences, whereof we have no more but the shadows; and instead of real and solid Philosophy, such as that of the First Ages was, nothing remains to us but an useless Scholastick Gibberish, which having been banisht the Company of all discreet people, is shamefully confin'd to the inclosure of Colledges, where I am confident the Professors will readily yield to *Socrates*, *Plato*, *Lycurgus*, *Solon*, and the Seven Sages of Greece, to whose Age, which was the year of the World, 3400. I clearly give the prize; there being no indowment of the Mind preferable to that of Wisdom.

The Third said, If Wisdom must carry it, there is no Age to be compar'd to that of *Solomon*: but because one Swallow makes not a Spring, I should prefer before it that of *Augustus* and *Tiberius*, when the Roman Empire was in its greatest Glory; the rather because our Saviour, the Paragon of all great Men liv'd in it, and *Virgil*, *Ovid*, *Cicero*, *Cato*, besides many others, flourish'd at the same time. Not to speak of the rare Inventions which also then appear'd; as Malleable Glass, and Perpetual Lights, both now unknown.

The Fourth said, If the complaint of the decay of Wits were true and new, the World must be very old, since *Seneca*, who liv'd 1500. years ago, made the same in his time: But if the present Wits are not inferior to those of *Seneca*'s time, it will follow, either that the world grows not worse, as is commonly said; or that long Series of years, which makes above a quarter of the whole Age the world, is taken but for one and the same time: In which Case, the world must be older than religion and truth teach us, before it fell into that decay, wherein we see it continue for so many Ages. But indeed, 'tis a weakness to imagine that Wits diminish; our Natural Inclination to despise what we possess, and to regret what is pass'd, making us judge to our own disadvantage, that we are less perfect than our Ancestors, and that our Nephews must be worse than our selves; whence arose that Fiction of Four Ages, differing according to so many Metals; the Golden one, by reason of its excellence; that of Silver, Brass, and Iron, proportionably, as Men fell from the former Perfection of Soul, and Innocence of Manners. But all this while, 'tis in the beginning of the World that the weakness of Man appear'd by suffering himself to be govern'd by his Wife, and the damnable Resolution of a Fratricide. Moreover, the Mind of Man being a Power of well Conceiving, Reasoning, Inventing, and doing other Functions, whereof he is capable, he may arrive to a Supream Degree of Excellence, either by the
pure

pure and liberal Will of his Maker, or by the disposition and concurrence of Natural Causes, or by Humane Industry. So that God, Nature, and Art, the three sole Agents of this World, being the same as heretofore, they must produce the same Effects. For God creates not Souls now with less advantages and grace than formerly; he is as liberal of his favours as ever, especially in the Ages of Grace. Nor doth Nature and other Second Causes contribute less to the perfection of Souls than heretofore. And the Humane Soul, however independent of Matter as to its Essence, yet is so link'd to the Organs of the Body, that it operates well or ill according as those are diversly affected, which is, what we call Good or Bad Wit, whilst we judge thereof by the Actions, and not by the Essence. For those Organs and Dispositions depend of the Elements and Superior Bodies, which are always the same, and consequently, must produce the same Effects; and hence, the equal Dispositions of Bodies, will infer equal perfection of Minds. But as for the difference of Souls arising from Art and Instruction, undoubtedly, those of our Age are better cultivated than any ever have been in times pass'd.

The Fifth said, When I consider the high pitch whereunto so many great Men have carry'd the Glory of these last Ages, I find more wonders than in the preceding; but it pertains onely to the Ages ensuing to make their *Elogiums*; Great Men, whilst living, being kept down by Envy or Contempt. One Age must be let pass, before we begin to judge of the worth of it; then the following begins to regret what it sleighted, it being natural to us to seek onely what is wanting, and to be disgusted with plenty. And truly, I think 'tis the multitude of persons excelling in all sort of Arts, and especially in the Sciences, (whereof never were so many Doctors, Regents, and Professors, seen in one single Age as in this) that makes us less esteem the ingenious that are now living; for 'tis onely rarity that gives price to things, and that made him pass for a great Clerk a few Ages ago, who could but write and read; he that spoke Latine was a Prodigy, though now 'tis a Tongue almost as universal, and common as the Native. Now Admiration being the Daughter of Ignorance, the esteem had of most of the admired in former Ages, is rather an Argument of the Rudeness and Ignorance of the Times, than of the excellence of their Wits. Nor were they better than we in their Manners, but onely more simple, and yet culpable of as many Crimes. But were we the more wicked, this were no Argument of want of Witt, which is the matter in question. And if there have been sometimes a *Ceres*, a *Bacchus*, a *Pallas*, a *Vulcan*, and others, advanc'd to Deities for finding out the way to sow Wheat, plant Vine-yards, spin Wool, and forge Iron; we have had in these last Ages the Inventors of the Compass, the Gun, Printing, the Tubes of *Galileo*, and a thousand other Inventions both more difficult and excellent; the

easiest having been first discover'd. The Modesty of those that govern us, (who no less hate the vanity of praise, than they know how to exercise Actions deserving it) permits me not to shew you, that all pass'd Ages have nothing that comes near the grandeur of their Souls, and that their conduct is the more to be admir'd, in that their business is both to keep themselves up with Friends, and give reason to Enemies, who also help to verify, that there are greater States-men and Captains in this Age, than in any of the preceding.

CONFERENCE CXLV.

Of the Serene, which is a hurtful Dew falling in Summer Evenings.

AS Painters find it harder to represent a calm smooth Sea, than the rampant foaming billows of a storm, which require more variety of Colours, and afford the Pencil more liberty; and as a History of Peace is harder to write, and less pleasant to read, than the Troubles and Commotions of War: So I think it less difficult to describe the several impressions of Tempests, than those of a calm Air, which nevertheless at certain times, produces pernicious Effects; so much more remarkable, in that they proceed from a very simple Cause, no-wise malignant of it self, to wit, from a clear and serene Air, free from Clouds and Vapours, which in the Evening being cool'd by the reason of the Sun's Elongation, acquires a certain Refrigerating and Catarrhus quality, call'd by the vulgar, *The Serene*: because it happens either in the Evening, or more commonly in fair weather, when the Air is serene, than when it is pluvius and full of Vapours. Which quality, some ascribe to the Influence of the Stars, especially to the Moon, term'd for that reason by the Psalmist, *Infrigidans*; which hath indeed a notable dominion over all Humid Bodies, particularly, those of Men, who find sensible alterations in themselves, according to the several faces of that Planet. But because the Heavens diffuse their Influences upon those that are under covert, as well as upon those that are in the open Air, where onely the Serene is felt; I should rather pitch upon the alterations of the refrigerated Air, which acts but so far as it is near us; and 'tis always more proper to attribute Effects here below to proximate Causes, than to recur to the Heaven, which is but an equivocal Cause thereof.

The Second said, If Cold were the Cause of the *Serene*, the same should happen where-ever it were cold, and be more hurtful according to the vehemency of that quality, as towards Midnight or Morning, and likewise in Winter: Yet the *Serene* is never spoken of but in the temperate Seasons of Spring and Autumn,

tumn, and some little portion of the Seasons bordering upon them. Besides, in Summer the air of our cold Caves should be capable of producing it at mid-noon. Wherefore I cannot think the Serene an effect of bare cold, but of the vapors wherewith the air, howsoever apparently pure, is always charg'd (whence proceeds the diversity of refractions in the Planets, especially at Sun-rise and Sun-set, which is never without some clouds) which vapours being destitute of the diurnal heat and so coming to be condens'd, fall down upon our heads just as Dew doth, which is produc'd after the same manner but of a matter somewhat thicker and more copious. And as there is no Dew so there is no Serene but in temperate Seasons, and Regions; never in Winter or the midst of Summer: for violent cold congeals these vapours into Frost and Ice, and vehement heat dissipates and consumes them. The practice of our Ladies (who use to remain in the Serene, thereby to whiten their complexion and soften their flesh) shows that this evening-air having a cleansing and levigating vertue must be impregnated with a quality like Dew, which is deterfive by reason of the salt which it drew from the earth; by means whereof it not only whitens Linen and Wax but also purgeth Animals, as appears by the fluxes hapning to Sheep driven out to grass before the Sun has consum'd the Dew; and by Manna, which is nothing but a condens'd dew, and hath a purgative vertue.

The Third said, Mans body being subject to the injuries of all external Agents, receives so much greater from the impressions of the Air, as the same is more necessary to life; capable of subsisting for some time without other things, but not a moment without Air, which is continually attracted into our Bodies not only by respiration, but also by insensible transpiration through the Pores of the Body, which is pierc'd with holes like a Sieve for admission of air which is taken in by the Arteries in their motion of Diastole or Dilatation. And being most agile and subtle, it easily penetrates our Bodies, altering them by the four first qualities wherewith it is variously impregnated according to the vicinity of the Bodies environing it, which make the four Seasons of the Year, wherein it variously disposes the bodies upon which it acts, changing even their natural temperament. And because the parts of a natural day have some proportion with those of a year, upon account of the several changes caus'd by the common and proper revolutions of the Sun; hence the Morning is like the Spring hot and moist, or rather temperate, and the Blood then predominates: Noon resembles Summer, hot and dry, at which time Choler is in motion: the following part is cold and dry, Melancholy and correspondent to Autumn: the Evening and whole Night, by its coldness and humidity which puts Phlegm in motion, is a little Winter, the coldness whereof proceeds not from the vapors (which are always accompani'd with some extraneous heat, wher eby

whereby they are retain'd in the Air and kept from falling) but from the bare privation of the heat of the Sun, who, as by his presence he actually causes heat in the Air, so by his absence he causes coldness in the same; which penetrating our Bodies cald'd by the diurnal heat, easily therein condenses the vapors which are not yet settled or laid, and squeezing them out of the Brain and all the parts (just as we do water out of a wet sponge) they fall upon the weakest parts, where they cause a fluxion and pain.

The Fourth said, That the Air being of it self very temperate, can never do any mischief, unless it be mix'd with some extraneous substances, as Vapors and Exhalations which continually infect the first Region wherein we reside. And because those subtle parts of Earth and Water exhal'd into it are imperceptible, 'tis not strange if they produce such sudden and unexpected effects, as we see the Serene doth; which is caus'd by vapors rais'd after Sun-set by the force of the heat remaining upon the surface of the Earth, like those arising from heated water after it is taken off the fire: So that the Serene is that vapour whilst it mounts upwards, not when it falls downwards; for it cannot descend till it be render'd heavier by condensation into Water, Clouds or Mists, which make the Air nubilous and not serene, as in this effect it uses to be. But at their first elevation, they are more volatile, rare, subtle, and invisible.

The Fifth said, That the chief cause of this hurtful accident, is the change of one contrary into another without *medium*, which is always incommodious to Nature; who for that reason conjoyns all extremes by some *mediums*, which serve for dispositions to pass from the one to the other without difficulty. And as the alteration of the body from cold to hot is painful, (witness those who hold their cold hands to the fire after handling of Ice) in like sort that from hot to cold is very incommodious; whence the hotter the preceding day hath been, the more dangerous is the serene; because the pores of the Body being open'd, and all the humors disorder'd and mov'd, by the diurnal heat, the cold insinuates into and works upon the same with more liberty; just as heated water is soonest frozen by reason its parts are more open'd by the heat, and consequently more capable of receiving the impressions of Agents. Which is also the reason why the first cold hurts us rather than the greatest frosts, namely, because it finds the body more open, then ensuing hard weather doth. So though in Winter the air be colder, yet because 'tis almost continually the same, it makes less impression in the evening upon our bodies already accustomed to its rigor: and though the air is colder at midnight than at Sun-set, yet the serene is only at the beginning of the night, when our bodies more sensibly receive alteration from the same. Wherefore 'tis only the sudden change of the air which makes the serene, whereof our bodies are the more sensible according

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to the openness of the pores and of the sutures of the head, and the softness of the flesh, which renders the body obnoxious to external causes, as hardness (which secures it from them) makes it subject to internal causes, through want of transpiration. Hence Peasants, Souldiers and all such as are hardened by labour and are of a firm and constant constitution, feel no inconvenience from the Serene, although they breathe an air more subtle, and consequently more capable of being impregnated in the evening with qualities noxious to the body.

CONFERENCE CXLVI.

*Whether the French are Light and Inconstant;
and why?*

There is no more perfect Mirror of Inconstancy, then Man; as appears by the pleasure his body takes in the change of Pasture, his mind in that of Objects, and both in that of Condition. Hence men look not upon present honours but as so many steps whereby to ascend to new; the possession of present goods bringing no other satisfaction then that of their Stomack, that is, till a second Appetite be excited by new Meats. Whereunto the nimbleness of their volatile Spirits, the fluidity and mobility of their humours which constitute the temperament, too notoriously furnish the efficient and material cause to inquire elsewhere for them; for which reason the melancholick are less subject to this defect; this earthy humour being less susceptible of change, whence they prove more wise. But amongst all Nations there is none to whom the vice of Levity is more imputed then to the French. *Cæsar* who had long convers'd with them, frequently objects the same to them, and experience sufficiently shews by what is pass'd that they are very far from the constancy of other Nations, as not only their Statutes and Edicts which they cannot long observe, but all their Modes and Customs, and their desire of novelty abundantly testifie. The causes whereof are either from the Climate or the Soil. For 'tis observ'd that where the Heaven is always in the same posture, as toward the Poles; or where the Sun heats almost in the same degree as near the Equator (which makes the days and nights equal), the Manners and Inclinations of the People are also equal: on the contrary, those that by the several remotions and approaches of the Sun have different constitutions of Air, receive futable impressions from the same, which are afterwards manifested in their actions. And because what is below is the same with what is on high, the Earth consequently partakes of the same alterations which the Heaven produces in the Air, and retains

retains them longer : Thus our Soul being heated and cooled, moistned and dry'd in one and the same day, suffering contrary changes in a very little time ; 'tis no wonder if the Aliments it affords make the parts, humors, and spirits, like it self, that is to say, flitting, inconstant, and mutable ; which parts being communicated from Father to Son, can no more be chang'd by us, even by Travels and Alteration of Soil, than the Moor can change his skin which the temper of his native climate hath in like manner given him. Add hereunto, that the French Courtesie, receiving all strangers more civilly than any Nation of the World, is also more easily lead by their perswasions and examples : And whereas the roughness and rusticity of many other people thinks shame and scorn to change, (as implying preceding Ignorance) the sincerity and frankness of the French is such, that he easily alters his Mind and way as soon as another seems better to him than his own : other Nations, (what-ever Pride they take in being always constant and equal to themselves, and especially more patient than we in our Adversities) surpassing us onely in this particular, that they better know how to dissemble their discontents.

The Second said, Lightness of Minds is, like that of Bodies, respective onely, not absolute. And as Air is term'd Light, in respect of Water and Earth ; so dull people, those of the North, and such others as would have gravity alone in words, gestures, and actions, pass for Wisdom, call the French light, because they are more nimble and active then themselves ; and being really what others are onely in appearance, affect not that false mask of Wisdom, whereof they possess the solidity and Body, whilst these content themselves with enjoying its shadow and ghost. For 'tis not the change of habits or modes that argues that of the Mind, but in great Matters, as Religion and State, in maintaining whereof, the French may be affirm'd more constant than any Nation. 'Tis not an Age yet, since *France* had reason to glory, (as well as in Saint *Jerom's* time) of never having produc'd Monsters, but of planting the Faith well amongst all its Neighbors, whose rigorous Inquisition is less a testimony of the Constancy, than of the lightness or baseness of their Spirits, since they are kept in their Religion by fear of the Wheel and the Gallows. Then as for the State, the French Monarchy is the ancientest in the world, and hath been always maintain'd amidst the ruines and downfalls of other States, by the exact observation of its fundamental Laws ; which is an eminent Argument of the Constancy of the French ; the Nations who have most charg'd them with this Vice, shewing themselves the most inconstant, whilst this puissant body of *France* remains always like it self ; which it could not do, if the members which compose it were light and inconstant, the greatest Vice where-with they can asperse us. For since, according to *Seneca*, Wisdom is always to will and not-will the same things ; Inconstance and Irresolution,

Irresolution, in willing sometimes one thing, sometimes another, is a certain testimony of Folly, Imprudence, and weakness of Mind; which coming to change, intimates either that it took not its measures aright, nor apprehended the fit means of attaining to the proposed end, or that it had not Courage and Resolution enough to go through with its designs. And not onely he who hath an inconstant and flitting Spirit is incapable of Wisdom, which requires a settled Mind, not mutable like that of the Fool, (who, as the Scripture saith, changes like the Moon) but also of all sort of Virtue, which consisting in a mediocrity, is not attainable but by Prudence which prescribes its Bounds and Rules, and by Stability and Constancy which arms the Mind against all difficulties occurring in the way of Virtue; in which, as well as in the Sciences and Arts, the French having more share than any other Nation, 'tis injurious to accuse them of Inconstancy.

The Third said, 'Tis not more vanity to believe one's self perfect in all things, than temerity in going about (upon blind passion for his Country) to exempt it from a Vice, whereof all strangers, who know us better than we do ourselves, are universally agreed. Let us confess therefore that we are inconstant, since, in comparison of the Vices of other Neighbouring Nations, this will not onely appear light, but make it doubtful, whether it be a Vice, since 'tis grounded upon Nature, which is in perpetual change; whereby she appears more beautiful and agreeable than in identity and rest, which is not found even in the prime Bodies and universal Causes, which as well as others, are in a continual mobility and change, which is no-wise contrary to Wisdom, which requires that we accommodate our selves to the circumstances of places, persons, and times, which alter incessantly, and that we consequently alter our Conclusions according thereunto; besides that, change of Opinion is a testimony of a free and ingenuous Spirit, as that of the French is; and it may be attributed to the power of example, in a people environ'd with sundry Nations extremely different, and consisting of Spirits which are imbued with the qualities of them all. For this Country lying under the forty third degree, and the forty eighth, the mixture of these people, which partake a little of the Southern, and a little of the Northern Neighbours; sometimes conforms to the modes of one, sometimes to those of the other: And as in the change of Colours, the difference is not seen but in the two extremities, those of the middle appearing changeable and diversifi'd; so France situated between the Germans, Italians, and Spaniards, mixing and tempering in it self the qualities of those Nations which are in its extremities, appears to them changeable and uncertain.

The Fourth said, Though the French are not more inconstant than others, yet their boiling and impetuous humor, and the quickness of all their Actions having made them be esteemed

such by all their Neighbors, I shall rather refer the Cause thereof to their abundance of Spirits, which are the sole Motors and Principles of all Actions, (produc'd by the purity of their Air, and the variety of their Aliments) than to the Aspects of Heaven, or such other Causes; since Nations under the same parallel, with *France*, as *Podolia*, *Hungary*, *Tartary*, and many others, should be subject to the same Vice, which was sometimes imputed to the Grecians, the most fickle and inconstant of all people; without referring the Cause to the Winds, as *Cardan* held, that such as are most expos'd thereunto, to have volatile Spirits; otherwise the French, and other Nations, subject to Winds, should quit their levity when they came into Climates less windy.

CONFERENCE CXLVII.

Of the sundry Motions of the Sea and Rivers.

Nothing ravishes us more than the Motion of Inanimate Bodies; *Automata*, or Bodies moving by Artifice, having in the beginning made Idolaters, who were undeceived when they came to know the Springs of them. But above all, the Motions of the Sea seem the more marvellous, in that they are very different and contrary. And they are of two sorts; One Internal, and common to all heavy Bodies, whereby the Water descends downwards, the agitated Sea becomes calm by returning to its level, and Rivers follow the declivity of the Lands through which they pass: The other, violent, which is either irregular, (render'd so by the irregularity of the Winds) or regular, which again is of two sorts, namely, that of reciprocation in the flux and reflux of the Sea, and that which depends upon the several parts of the World, being either from East to West, or from North to South. 'Tis true, Water being naturally fluid and moveable, and not to be contain'd within its own bounds; it were more strange if this great Body were immoveable, than to see it move, as it was necessary it should for Navigation, and to avoid corruption. The wonder onely is, to see in one sole Body so great a diversity of Motions, whereof onely the first is natural to it; the others arise from some extrinsick Causes; amongst which, none acting more sensibly upon the Elements than the Celestial Bodies, 'tis to the diversity of their Motions, that those of the Sea must be imputed, but particularly, that of its flux and reflux, which being regular, and always alike in one and the same Sea, cannot proceed but from as regular a Cause, such as the Heaven is, and chiefly the Moon, which manifestly exercises its empire over all Humid Bodies, the flux and reflux following

following the Lunar Periods and Motions, not onely every six months, to wit, during the two *Æquinoxes* when their Tides are very high, but also every month in the *Conjunction* and *Opposition* of the Moon, and also every six hours of the day, almost all Seas have their flux and reflux, except some which make the same in more or lesstime, and are longer in their reflux than their flux; or on the contrary, according to the declivity and various winding of the Lands, the greatness or smallness of Creeks, the Streights of the Seas, narrowness of banks, and other differences of situation.

The Second said, That the Sea, being a simple body, can have but one natural Motion, *viz.* that of its own weight, which makes it flow into places lower than its source, which it can never surmount. Amongst the other three Motions proceeding from without, that from East to West is discern'd by the time spent in Voyages at Sea, which is much longer from West to East, than from East to West: because in the first, they move contrary to the Motion of the Sea, and in the second with it. Now the cause hereof is the impression of the First Mover upon all the Orbes and Inferior Bodies, which follow the rapidity of its daily Motion from East to West upon the Poles of the World. That from North to South, is likewise seen in most Seas, and chiefly in the *Euxine*, which being fill'd by the *Palus Meotis*, and the *Tanais*, discharges it self by the *Ægean*, into the *Mediterranean Sea*; which, were it not for the high fluces of *Africa*, would continue the same Motion Southwards: Which sometimes hindred *Darius* and *Sesostris* from digging that space of Land which is between the *Red-Sea* and the *Mediterranean*, for fear lest this latter should overflow those Southern Countries. The Cause of this Motion, is the multitude of Waters towards that Pole, whose coldness not raising so great a quantity of Vapors and Rains as towards the South, the Waters come to be greater there, and so are forc'd to fall towards the lower places. Or rather, (since there is the same cold under the *Antarctick Pole*, and consequently, the same quantity of Waters and Rains) this descent of the Waters Southwards, must be attributed to the Elevation of the Earth in the North, or to the narrow mouths or gulphs of those Seas which make the waters descend out of them more easily than they enter into them. As to the flux and reflux, which is a Compounded, but regular Motion, it cannot proceed from Vapors, or from inconstant and irregular Winds, but from the Motion, Light, and particular Influence of the Moon; which attracting the Sea in the same manner that the Load-stone doth the Iron, is the Cause of its accumulation, or swelling and increase, which makes the flux: And then her Virtue abating by her elongation, the Waters by their proper weight resume their level, and so make the reflux. And because all Seas are continuous, the Moon when under our Horizon, ceases not to cause the same Motions in our Seas, as when she is above it; the Waters necessarily following

lowing the motion of those which are next them, which would be alike in all did not some variation arise from the different situations of Lands, which is the cause that the flux and reflux of the Ocean is more sensible then the Mediterranean, and in this the Adriatick, then the Tuscan, by reason that *Sicily* and the point of *Italy* makes the Sea enter impetuously into the Gulph of *Venice*; wherein is observ'd another particular motion call'd Circulation, whereby the Mediterranean flowing by its proper motion from East to West, and meeting immediately at the entrance of that Gulph the Coast of *Macedonia*, discharges it self impetuously thereinto and continues its motion to the bottom of the Gulph, whence being repercuss'd it returns by the opposite Coast of *Calabria* to the other point of the Gulph by which it enters into the Tuscan Sea. Hence, to go from *Venice* to *Otranto* they take the Coast of *Calabria*; and to return back, that of *Macedonia*.

The Third said, Nothing so strongly argues the mobility of the Earth as the motions of the Sea and Rivers: for what else were it but a miracle if water contain'd in an immoveable vessel should agitate and move it self. That of Rivers proceeds not from their weight, which makes them fall into a place nearer their Centre; seeing that in a declivity requisite to the course of a River for 200 leagues, there must then be a depression more sensible then the altitude of the highest Mountains of the Earth, nor could the Sea remit the waters to their Springs (as the holy Scripture saith it doth) if those Springs were higher then it. But supposing the motion of the Earth, 'tis easie to render a reason of that of the Water. As for Rivers, (almost all which run westward) the Earth having its Diurnal Motion from West to East (according to the Hypothesis of *Copernicus*) may cause this their contrary motion by subtracting it self from the fluidity of the waters (liquid bodies not exactly following the motion of solid) as the water in a Tub rises in the side opposite to that towards which you sway the Vessel. By the same reason also the Sea shall have its course from East to West, which is therefore very sensible between the two Tropicks where the rapidity of the Earths motion is greater then under the Poles. Hence upon this account Navigation is very easie Westward, the Currents very violent, the Tides great towards the Coast of *America*: as is observ'd chiefly in *Magellan's Streight*, where the refluxes of the Northern and Eastern Sea are advanc'd above 70 leagues; and the *Mar del Sur* scarce goes to 25, and that weakly: but about the Poles the Sea hath no other motion but that which is caus'd by Winds and Tempests. As for the flux and reflux of the Sea, according to the same supposition, of its motion compounded of the annual in the Ecliptick (where others make the Sun circulate) and the Diurnal upon its own Axis and proper Centre there arises a certain irregular motion, sometimes slower and sometimes swifter, which is the cause of that flux and

and reflux: for as in a Boat mov'd at first swiftly and then caus'd to move somewhat slower, the water contain'd therein swells in its extremities till by continuation of that motion it recover its level; and the Boat being again driven with the same velocity, the water swells again upon the change of the motion: the same comes to pass upon the unequal motion of the Earth mixt of the annual and diurnal. But because the Moon being annex'd to the Earth exactly follows its motions; therefore most Philosophers have taken the Moon for the cause of the flux and reflux, although she be only the sign of it.

The Fourth said, That according to this Hypothesis 'tis easie to render a reason of two things very remarkable in *Danubius* and *Nilus*. The first which runs from West to East, is observ'd in *Hungary* to move slower about Noon then at other hours of the day, as appears by the Water-mills which grinde less at that time: because the motion of the Earth being then contrary to that of the Ecliptick, it consequently appears more slow. And as for the other effect, namely, the increase and inundation of *Nilus*, which begins at the Summer Solstice, this River running directly from South to North from, one Tropick to another, which is just the middle part of the Earth, when it comes to incline its Axis and return the Antartick part to the Sun, the stream of this River, which is contrary to that motion, waxes slower; and being besides augmented by the continual Rains of Summer, swells and overflows the Plains of *Egypt*. Which made some Ancients imagine that the North Winds blew again the stream at that time and forc'd the water back upon themselves.

CONFERENCE CXLVIII.

Whether is better, to Love, or to be Lov'd.

THE same Nature, which by an instinct common to us with all things in the world, causes us to seek our own good, obliges us likewise to Love, when we meet Goodness or Beauty in an object capable to render us happy by its possession; which consisting in being united to the thing lov'd, 'tis in this union that the Lover places his greatest felicity, and accordingly goes out of himself to joyn himself to what he loves; the motions of the will (of whose number Love is) differing in this point from the actions of the Understanding, that these are perform'd by the Species receiv'd by mediation of the Senses into the Intellect, which cannot know any thing but what comes home to it; but the Will when it Loves, must go out of it self and become united to the thing it Loves, to the end to beget something for Eternity. And because things are not known by the Understanding

standing till they have been first purifi'd from the grossness of their matter by the illustration and abstraction which the Agent Intellect makes of their Phantasms or Species, hence the notions of the foulest and most dishonest things are always fair and laudable, being spiritualis'd and made like the Faculty which knows them. On the contrary, the Will in loving renders it self like the object which it Loves, is turn'd into its nature, and receives its qualities; if the object be unlawful and dishonest, it becomes vicious and its love is criminal. Which seems to argue that the Lover is less perfect then the Loved, into which he is transform'd; as food is less perfect then the body, into which it is converted. And as that which attracts is more excellent then what is attracted, because the stronger draws the weaker; so the thing Loved must be more excellent and noble then the Lover, whom it attracts to it self. Moreover, Love, according to *Plato*, is a desire of Pulchritude, which desire implies want; and therefore he that Loves shews thereby that he wants some perfection, which renders the thing Lov'd amiable: since the Will is never carri'd to any object but what hath some goodness either apparent or real. Only God loves not his Creatures for their goodness, since they have none of themselves; but his will being the cause of all things, he renders them good by loving them and willing good to them.

The Second said, Since friendship consists in the union of two, or at most, of three Wills, whose mutual correspondence makes that agreeable harmony and those sweet accords, which make ravishing Lovers dye in themselves to live in what they love; there is no true love but what is reciprocal; which is the reason why none can be contracted with inanimate things, no more then with Beasts or Fools. And Justice commanding us to render as much as is given us; 'tis a great injustice not to love those that love us; yea, if we may believe the Platonists, 'tis a kind of homicide of the Soul; since he that loves, being dead in himself and having no more life but in the thing lov'd, if that refuses his love, by means whereof it should live also in him as he in it, he is constrain'd either to dye or languish miserably. And whereas he that loves is no longer his own but belongs to the thing lov'd to whom he hath given himself, this thing is oblig'd to love him by the same reason that obliges it to love it's self and all that pertains thereunto. But though perfect love be compos'd of these two pieces, to love and to be lov'd; yet the one is often found without the other, there being many Lovers wounded with the Poets leaden Arrows, who instead of seeing their love requited with love, have for all recompense nothing but contempts and refusals. 'Tis true, that it being harder to love without being lov'd, then to be lov'd without loving, there is no body but would chuse rather to be lov'd then to love upon those terms, because nothing flatters our ambition so much as to see our selves sought unto. Yet loving is a nobler

nobler thing then to be lov'd; since honor being more in the honorer then the honored, the honor receiv'd by the lov'd thing reflects upon him that loves; who for that reason being commended by every one that esteems a good friend as a good treasure, and not he that is lov'd, is also more excellent and hath more vertue, inasmuch as he hath more honor and praise which are the attendants of vertue. Moreover, the Lover acts freely, and therefore more to be valu'd then the lov'd person, who is forc'd to suffer himself to be lov'd. For though desire commonly follow Sensual Love, yet Love is not a desire, nor consequently a sign of Indigence; otherwise, it should cease with the desire, and expire after enjoyment; which is false: for Mothers love their dead Children, and even before they came into the world, not by a desire but by a motion of Nature, which causes us to love what appertains to us, and the more if it cost much pain; which is the reason why Mothers, who contribute more to the birth of their Children, and have better assurance that they are their own, love them also more tenderly then Fathers do.

The Third said, That to compare the lov'd person with the Lover, is to equal the Master with the Servant; for the amorous assuming to themselves the quality of Servants of the Ladies whom they call their Mistresses, manifest sufficiently thereby that they yield them the pre-eminence. And although they be the most interess'd in this cause, yet they will never have the vanity to prize themselves above what they love; which would be to condemn their own choice and their love of defect of judgment, which making them sigh after the enjoyment of the object they adore, argues their want and indigence, not to be supply'd by possession of the good they expect from it; which herein like the Intelligences which move without being mov'd themselves, excites passions and motions in the Lover's breast, it self oftentimes remaining immovable. And as he acts in a more noble way that moves without being mov'd, because he resembles the end, which is the noblest of all the Causes; so he that loves resembles Matter which Desires all Forms, expecting its perfection from them; and consequently is inferior to the person that is lov'd, as from whom he expects his felicity. Even in Mutual Love, he that begins is less perfect, as confessing by that address some inviting accomplishments in the other, who finds not any obligation to love him again but the consideration of gratitude: For inferring the advantage of those that love from the nobleness of their subject, as in Gods love to his Creatures, and that of Parents to their Children; I answer, that 'tis rather an effect of passion then of true love.

The Fourth said, That Love is according to the variety of its Object, (Good), three-fold; considering either Profit, or Pleasure, or Vertue. In the two former, 'tis better to be lov'd then to love, but they are of no long duration; those friends
being

being wont to break as soon as they cease to find their market or the contentments which they receive from those to whom they pretended kindness. In honest friendship (which alone deserves that name, being founded only upon virtue, which makes it durable) though 'tis not possible to love without being lov'd, because vertuous persons being alike mutually love and agree well together; yet since this Amity, before it can become such must be cemented by frequentation, without which they cannot understand, nor consequently love one another, because love arises from knowledg, it may be demanded whether the active love of him that loves first be better then the passive of the other who is lov'd. Which Question I determine for the former, because he contributes most to the ensuing friendship, by laying the foundations of it. For friendship, as well as other things, is preserv'd by the same means that produce it, namely, by loving. And as the Agent is nobler then the Patient, as concurring more considerably to the perfection of the work; so he that loves being the Agent is more perfect then the Person lov'd, who is the Patient. Also to love is to wish and do good; to be lov'd, is to receive it: But 'tis more honorable and vertuous to give then to receive; which is a shameful action: and therefore he that receives never desires witnesses. Hence, as he that do's a benefit loves more then he that receives it, as the Artificer loves his work more then his work loves him, and a Creditor desires his Debtor's safety more then on the contrary; in like manner he that loves is more excellent then he that is lov'd, Love being not so much a testimony of indigence as abundance, because 'tis a desire of communicating; and the more goodness a Being hath, the more it is communicative and diffusive.

CONFERENCE CXLIX.

Of Hair.

OF the different parts of Man's Body some are absolutely necessary, others only for convenience or ornament, as the Hair, wherewith wise Nature hath adorn'd the Head (his noblest part) whose nudity would have been indecorous; whence people are asham'd of baldness, which is also threatned by God as a curse to the Daughters of *Sion*. The good man *Elisba* had sufficient patience to endure *Jezabel's* persecutions for a long time, but not to support the affront of the little Children of *Bethel* who call'd him bald-pate; and upon his curse forty two of them were torn in pieces by two Bears which came out of the neighbouring Woods; God by that means avenging the injury done to the noblest part of this Prophet, namely the Head;

Head; upon which 'tis also the custom to place Crowns: and because 'tis the Mansion of the Rational Soul, our Lord forbids swearing by it. The Superincumbent Hair receives by that vicinity some particular and mysterious dignity, which hath made it so esteem'd, that not onely the Ancients offer'd it in sacrifice to their Deities, especially when they were toss'd by Tempests of Sea, and burnt it upon the death of Friends; but also the *Nazarens* who were the Religious, or Monasticks among the *Jews*, were particularly prohibited by God to cut it; wherein likewise *Sampson's* strength, *Absalom's* Beauty, and, according to the Poets, *Nisus's* happiness consisted. But above all, there is a certain Majesty in the Beard, which is reserv'd onely to Man, as best futing with the gravity of his manners. A large Beard was ever counted the character of Wisdom, and as such chosen by Philosophers as a badge of their profession. Hence *Diogenes* to one that ask'd him, Why he wore so long a Beard, answerd, To the end, that beholding it, I may remember that I am a Man, not a Woman. For though Wisdom and Folly be found in all Ages, and there be as many old fools as young hair-brains, yet the Beard is a sign of Experience, which principally renders Men wise. Natural Reason seems also to prove, that those that have Beards are wiser, and less impetuous than those that have not yet put them forth; inasmuch as the fumes and fuliginosities, which are the matter of Hair, being still inclos'd in the latter, make them more inconsiderate and rash. Yea, were it onely for shew, I should conclude in favor of great Beards, which at least have this good that they make Men appear wise, though they be not so. And as *Lycurgus* said of long Hair, that it adds handsomness to them that are handsome, and covers the deformities of them that are not, whom also it renders terrible to their Enemies; so large Beards serve for Ornament to those that are already wise, and make them considerable that are not so overmuch.

The Second said, Hair is the Symbol of Thought, deriv'd from the same Brain, and as various in conceit and fashion; Nations having chang'd modes for Hair and Clothes accordingly, as they have fancy'd more becomingness and suitableness in one fashion than in another. Four hundred years together there was no Barber at *Rome*, the first being carry'd thither from *Sicily* by *Ticinius Menas*, Anno *V.C.* 454; and after that time 'twas accounted with them a note of barbarity and extream desolation to let their Hair and Beards grow, as *Augustus* did after the defeat of *Varus*. The French have been as mutable in this matter as in any other; Their Kings of the two first Races, wearing long bushes of Hair, in token of liberty. And since *Francis* the First, who shav'd his Hair upon occasion of a wound in his Head, and let his Beard grow to hide the deformity of scarrs remaining in his Face after other wounds; short Hair and long Beards began to be in request, and continued so till our Age, wherein Peri-

wigs are more the mode than ever ; which being to be grounded upon convenience or seemliness, I see nothing that can justify the great bush but Caprichio and Example. For Hair being a superfluous Excrement, its exorbitant greatness cannot but be incommodious and prejudicial to Health, and the good Constitution of the Brain ; the fuliginous vapors whereof, being repercus'd by the abundance of Hair, cause Vertigoes and pains of the Head, not more certainly cur'd than by shaving the Head. As for seemliness, much Hair is rather frightful than handsome, and our Ancestors were no less comely persons than we, though they wore short Hair ; as at this day also do many warlike Nations Enemies of softness and delicacy, whereof great Hair is a most certain token, being proper to Women, as on the contrary, the long Beard is a note of Virility. For inasmuch as he that loves, conforms as much as possible to what he loves, we may judge of the softness and dissoluteness of the manners of this time, by the desire Men have to render themselves as like Women as they can, by wearing (like them) much Hair and little Beard : For when Men wore shorter Hair, long Beards were in request ; and when the Hair ha's been long, the Beards have almost ever been short ; the length of the one recompensing the brevity of the other, which would otherwise render Men hideous.

The Third said, If ever 'twas true that Custom is a Tyrant, 'tis in this Case, no variation having been so much as in matter of Hair. The *Scythians* and *Parthians* wore both Hair and Beard long, thereby to terrifie their Enemies. The *Greeks*, whose Hair is much commended by *Homer*, kept it long, to distinguish themselves from their slaves, who were shorn, as at present are Galley-slaves, Artizans, and Monasticks for Humility ; whom also *Peter Lombard*, Bishop of *Paris*, caus'd to shave their Hair and Beard in the year 1160, according to the 44th Canon of the Fourth Council of *Carthage*, which forbids Clerks to wear either Locks or Beards. The *Egyptians* wear their Hair long, and shave off their Beards. The *Maxii*, a people of *Africa*, are shorn on one side of the Head, and let the Hair grow on the other. The *Abandi*, had the fore-part onely shaven, the *Antii* contrary. The *Arabians* shave even their Daughters round about, leaving a Lock on the top. The *Armenians* shave their Hair into the form of a Cross ; but there is something more majestic in the Beard than in the Hair, and even Animals furnish't there-with, seem to have some sort of gravity more than others. Hence such as have affected the title of Wise, have likewise suffer'd their Beards to grow ; but the *Ephori* made the *Lacedemonians* cut theirs, as also *Alexander* and many Captains did their Souldiers, lest their Enemies might catch hold of them. But as the caprichio of persons of authority, especially Courtiers, gives the first model of fashions, particularly, as to Hair and Beard ; so to wear short Hair now every one's reaches to his waste ; or a magisterial spade Beard, now all are close shaven,

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(except such whose Age and Condition exempts them from this Rule) were for a Man to make himself taken notice of, for things which bring no commendation : which hath no place in discreet Minds, but argues a phantastical and humorfome person, who is commonly appointed contrary to the Modes ; whereof the present continually out-vie the Antient.

The Fourth said, Hair, which is rather the leavs and boughs, than (as *Plato* held) the roots of Man's Body, (which he terms a Tree revers'd) having been chiefly design'd for preservation of the Brain from External Injuries ; they who would have care of their Health, must consult the Constitution of their Brain before they determine either for long or short Hair. Cold and Moist Brains, need store of Hair to fence off the cold Air ; Hot and Dry, the contrary. As for the Hair of the Chin, it was design'd onely for Ornament, and a Testimony of the Authority which the Male hath above the Female ; whence that part seemeth somewhat sacred, it being an Injury to touch one's Beard, of which the Emperor *Otho* made such account, that according to *Cuspinian*, he was wont to swear by his own. The proportion of it ought to follow the model of others of like condition ; Wise Men following the advice of the greatest number in matters indifferent, provided they be not contrary to Honesty and Health.

CONFERENCE CL.

Whether Alterations of States have natural Causes.

States being compos'd of Realms or Provinces, these of Cities and Towns, these of Families, these of particular Persons, and each Person having Natural Causes ; 'tis clear that the Alteration of the Whole is to be attributed to the same Causes which make the change of its parts. Thus when all the Houses of a Town are afflicted with Pestilence, or consum'd by Fire, (which Accidents are capable of producing great Mutations in a Common-wealth) it cannot be otherwise express'd, but by saying, that the Town is burnt or wasted by the Plague. And as when the particular suffrages of each Counsellor tend to the absolution or condemnation of a Criminal, 'twere senseless to say, that the Sentence of the Court were other than that of the President and Counsellors ; so also it is ridiculous to say, that the Causes of personal mutations are Natural, but not those of Political. As therefore 'tis almost the sole demonstration we have in Physicks, that our Bodies are chang'd and corrupted, because they are compos'd of the four Elements ; in like sort, I conceive, the Cause of alteration befalling the body of a State, is to be sought in the Collection of the several members that compose it ; which

coming to lose the harmony, proportion, and respect which made them subsist, they are dissolv'd and corrupted; which is a mutation, purely natural, and of absolute necessity.

The Second said, If God hath reserv'd any thing to his own disposal, 'tis that of Crowns and the preservation of States, which are the first and universal Causes of the safety of every particular person. Whence the transferring of those Crowns, from one State to another, which is a greater mystery, is a mutation purely supernatural; as not onely God himself hath manifested, when he subjected the State of the Israelites first to Judges and Captains, which was a kind of Aristocracy, and afterwards to Kings reducing them to a Monarchy; but also all such as have wrought great changes in States of the World: And Legislators knowing this belief imprinted in all Men's Minds, have affected the Reputation of being descended from, or favor'd by some Deity, as did *Alexander the Great*, and *Numa Pompilius*. Moreover, the Holy Scripture attributes to God the changing of Scepters, and frequently styles him the God of Battels, the winning and losing whereof, are the most common and manifest Causes of the change of States. And 'tis a pure effect of the Divine Will, that Men born free, subject themselves to the Will of one sole or few persons; so the changing of that Inclination, cannot proceed but from Him who is the searcher of Hearts, and gives us both to will and to do. If Natural Causes had their effects, as certain in Politicks as in Physicks, States should have their limited durations, as Plants and Animals have: and yet there is such a disproportion in the duration of all States, past and present, that one hath lasted above 1200. years, (as the French Monarchy, whose flourishing State promises as many more Ages, if the World continue so long) and another hath chang'd its Form several times in one yeat, as *Florence*. Upon which consideration, the greatest Politicians have put their States under the Divine Protection, and caus'd all their Subjects to venerate some particular Angel or tutelar Saint. Thus *France* acknowledges *Saint Michael* for its Protector; *Spain*, *Saint James*; *Venice*, *Saint Mark*; and even the Ethnicks thought that a City, (much less a State) could not be destroy'd till the Deity presiding over it were remov'd. Whence *Homer* makes the *Palladium* of *Troy*, carry'd away by *Ulysses*, before the *Greeks* could become Masters of it.

The Third said, The Supream Cause exercises its Omnipotence in the Rise, Conservation, and Destruction of States, as well as every where else; yet hinders not subordinate Causes from producing their certain Effects, natural in things natural, (as in the Life and Death of Men, which though one of the most notorious Effects of God's Power, and attributed to him by the Scripture and all the World, yet ceaseth not to have its infallible and natural demonstrations.) Inlike manner, subordinate Moral Causes, produce their Moral and contingent Effects in Moral Things, such as that in Question is; which Causes, depending

ing upon Humane Actions which arise from our Will, no-wise necessitated but free, cannot be term'd natural and constrain'd, unless either by those that subject all things here below to Destiny, which subverts the liberty of the Will (that is, makes it no longer a Will) or those who will have not only the manners of the Soul, but also the actions always to follow the temperament of the Body; which were hard to conceive, and yet would not infer a necessity in the alteration of States, since the effects of Love and Hatred, and other passions which give inclination or aversion are oftentimes prevented by thwarting causes. When the Lacedemonians chang'd the popular State of *Athens* into an Aristocracy of thirty Lords, whom they call'd afterwards the thirty Tyrants, no other cause can be assign'd thereof but the chance of War, which subjected the will of the Athenians to that of the Lacedemonians: And the same may be said of all other ancient and modern Revolutions. Indeed, if the causes in Policy had regular effects, or States were subject to natural declinations, Prudence, which is conversant about contingent things to manage them freely and alter its course according to occasion, should signify nothing. 'Tis more credible that as in the state of Grace God hath left our actions to the disposal of Free-will, that we may work out our Salvation our selves; so in the administration of Republicks he hath left most things to chance, for imploying men's industry according to their will, whose motions being free and contingent, are diametrically opposite to the necessity of natural causes.

The Fourth said, That these alterations may be, though voluntary, yet natural, yea necessary too; our Will being as inclin'd to apprehended good, as our Intellect is to Truth. As therefore knowing this truth that 2 and 2 are 4, 'tis impossible but I must believe it; so, knowing that such an action will bring me good, I shall do it: so that the causes of humane actions have something of necessity, and (besides) having their foundation in nature may in some sort be term'd natural. Moreover, since things are preserv'd by their like and destroy'd by their contraries (which contraries are under the same genus) it follows that all sublunary things having had a natural beginning must also have a like end. Desire of self-preservation, which is natural, gave birth to States; but if, instead of this desire which renders Servants obedient to their Masters, these to the Magistrate, and him to the Sovereign, Rebellion and Treason deprive their Chiefs of the succour they expect from them, and by this means exposes the State in prey to the Enemies, it cannot but fall to ruine; unless that some other natural cause, Perswasion (as that of *Menenius Agrippa* taken from the humane body, upon a Secession of the Mechanicks of *Rome* from the Senate) or an exemplary punishment reduce the Subjects to their forsaken duty. Whereby it appears that the State resumes its first vigor by as sensible and natural causes, as 'tis to be perswaded,

swaded, or become wise by others harm. Amongst many examples, the ruines of *Troy* and *Thebes* were caus'd by the rape of *Helene* whom the injustice of the Trojans deny'd to restore to her Husband, and the feud of two Brothers aspiring to the same Royalty : then which no causes can be assign'd more natural and more necessarily inferring the loss of a State.

CONFERENCE CLI.

*Which is more healthful, to become warm by the Fire
or by Exercise.*

They who question the necessity of Fire for recalefying our Bodies chill'd by cold the enemy of our natural heat, deserve the rude treatment of the ancient Romans to their banish'd persons, whom they expell'd no otherwise from their City but by interdicting them the use of Fire and Water; knowing that to want either was equally impossible. Without Fire our Bodies would be soon depriv'd of life which resides in heat, as cold is the effect and sign of death. And as *Aristotle* saith, those that deny Vertue would not be otherwise disputed with but by casting them into the fire; so would not I otherwise punish those that decry it, but by exposing them to freez in mid-winter, instead of burning a faggot for them. What could little Children and old people do without it? For though the natural heat be of another kind then that of our material fire, yet this sometimes assists that in such sort that those who digest ill are much comforted by it, not to mention weak persons and those that are subject to swoonings. Moreover, the external cold must be remov'd by an external heat, as Fire is, which heats only what part and to what degree you please; but motion heats all alike. As the Sun (which some Philosophers take to be the Elemental-fire) contributes to the Generation, so doth Fire concur to the conservation of Man; not by immediate contact, but by the heat which it communicates to the Air and the Air to our Body, which by approaching or receding from it, tempers its excess in discretion, and thereby renders it sutable to our natural heat, not destroying Bodies but in its highest degree; as also the Sun offends those at Noon whom it refreshes at rising and setting.

The Second said, That the violent action of Fire which destroys all sublunary Bodies, argues its disproportion with our natural heat; which disproportion renders the Stoves and places heated artificially by Fire so noxious, and makes such as loye the Chimney-corner almost always tender, scabby, and impatient

patient of the least inclemency of the Air; that heat against nature not only destroying the natural but corrupting the humors and exsiccating the parts. But the bodies of Plants and Animals inur'd onely to natural heat are far more vigorous, whilst the same is secured against external cold by Bark, Hair and Skin, and those defensive Arms which Instinct taught our Fore-fathers so long as they were guided by Nature, in Caves of the Earth which moderate the injuries of the Air much better then humane Art can do; or else by thick clothing which reflects the fumes incessantly issuing out of the pores of the Body; from which repercussion, proceeds the warmth of our Garments. If cold happen at any time to over-master the natural heat in the external parts, the same is presently reviv'd (but dissipated by fire, before which infirm persons frequently fall into fainting fits) by motion and exercise which heats all Bodies, and much more such as are animated, driving the Spirits and Blood (and with them heat) into the agitated part. Of the benefit of which motion we cannot judge more certainly then by its effects. For as Fire takes away the Appetite and dulls the Senses of those that sit at it, so Exercise encreases it and renders the Body and Mind much more lively. Wherefore I conclude for Exercise against Fire, without which a late Physician liv'd twenty years, seeing no other but that of his Candle, and without employing his Wood, as *Sylvius* did who run up and down Stairs laden with two or three Fagots, more or less according as he was cold, till he was warm, and then he laid them up till another time.

The Third said, Exercise is not more profitable to such as are accusom'd to it, then hurtful to others. Which Sedentary persons find true when they play at Tennis, or Hunt, or use such other violent motion. For every sort of motion is not Exercise, but only that which is perform'd with some streining, whereby respiration is render'd more frequent, the Arteries dilated, the Spirits and blood chaf'd, whence oftentimes they break their vessels, and beget Fevers, Pleurises, Fluxes, Head-aches and Catarrhs: which is a manifest proof that 'tis better to leave the Humors and Spirits in their natural temper. For Health consists in a just proportion of the Humors, which are generated by the Concoction of temperate and moderate Food; which Concoction is perform'd better during rest then during motion, and in the sleep of the night then in the labour of the day. So also are excrements better expell'd when the Body is quiet then when 'tis in motion, which brings a confusion of pure with impure; Insensible transpiration is sufficiently effected only by the internal motion of Nature without the help of external, which Nature hath not prescrib'd Animals, although they have no need of Fire, being naturally Furr'd, Feather'd, and otherwise guarded against the injuries of weather, and yet their age is almost as regular as that of immovable Plants. Man, on the
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contrary, by reason chiefly of his several violent exercises hath no prefix'd time of life, which labour (inseparable from exercise) wears and consumes more then his years, and makes him old before his time, depriving him also of that contentment and pleasure which makes us live. Moreover, since things are preserv'd and acquir'd by the same causes, lost health which is recover'd by rest and the bed, cannot be preserv'd by travel; which, besides consuming our radical moisture swifter then the natural heat doth alone, hath the same effect that motion hath in a lighted Candle which is sooner spent when stirr'd then when at quiet.

The Fourth said, That since Fire introduces into us a foreign and contranatural heat, as besides the inconveniences already alledg'd, the sweating of the head testifies, 'tis more hurtful then Exercise, which only rouses up the natural heat enfeebl'd by the aperture of the pores caus'd by the Fire in Winter and the Sun in Summer, when for that reason Exercise ought to be less. The incommodity Exercise brings to unaccustom'd Bodies ought not to hinder their being form'd thereto by little and little, and by the degrees recommended by *Hippocrates* in all changes. For if Physicians contribute all their skill to correct distempers drawn from the birth, much rather may they endeavour to turn bad customs into good; as being an easier task. Thus *Galen* was not accusom'd to cleave wood, nor *Pittacus* King of the Mytelenians to grind corn, yet they exercis'd themselves in these labours for their health. And indeed some Maladies, as those which proceed from a cold and moist distemper, are cur'd by exercise; especially if they come from repletion. Thus *Nicomachus* of *Smyrna* was so monstrously fat that he could not put his hand behind him, yet was brought to a moderate bulk by Exercise. On the contrary, *Germanicus* whose legs were somewhat too slender brought them to a competent proportion by Riding; the concussions whereof shake the Stone out of the Kidneys. Recovering persons need Exercise so much, according to their strength that 'tis the most safe means of restoring it, and old men are chiefly preserv'd by it. *Antiochus* the Physician and *Spurnia*, both of them 80 years old, preserv'd their Senses and strength, entire by walking a great way every day on foot. And yet Fire is less hurtful in that age by reason of the coldness and thickness of the skin which gives not its heat so free entrance, nor so easie an issue to that within.

CONFERENCE CLII.

Whether Wine helps or hinders Digestion, and why?

THIS Question will seem frivolous to the vulgar, who are no sooner debarr'd Wine by the Physitian, but they complain of Indigestion and weakness of Stomack. But our free Philosophy shall use its own rights, and inquire, whether the common Opinion in this Point be the best. Now if Wine, which is hot, and acknowledg'd such by all Physitians, be receiv'd into a temperate Stomack, it brings it into a distemper; whence Saint Paul enjoyn'd it not to *Timothy*, but in regard of the coldness or weakness of his Stomack, in which case a due temper results from the one cold, and the other hot. But temperate persons must avoid its use, which was a just cause of Divorce to the Roman Dames, capital in the Camp of the *Carthaginians*, and still in divers parts of *Asia*; whereunto if you add, all those that are depriv'd of it, because they have none produc'd amongst them, Children and sick persons, it will appear that (to say nothing of Beasts, which drink onely water, and are more healthy than we) there are a hundred live without it for one that drinks it. Moreover, they who are troubled with Indigestions, find and make others sufficiently understand, that Wine is last digested; otherwise it would not keep its first colour, favor, and smell, after all other food, or at least onely alter'd by the acidity into which 'tis easily corrupted. Besides, Water-drinkers have a better Appetite than Wine-drinkers, which is an Argument that Wine helps Concoction less than Water; and no wonder, since, as *Galen* saith, it increases Thirst instead of quenching it as Water doth. For Thirst, which is the Appetite of Cold and Moist, cannot be extinguish'd by Wine, which is Hot, and so more apt to inflame it. The Life of the first Patriarch, before the use of Wine, namely, before the Deluge, was much longer than it hath been since; and, no doubt, the principal defect in Man, and the Cause of most Diseases, is bad Digestion.

The Second said, That Digestion being perform'd by the conflux of Spirits elaborated in the Spleen, and Wine which is more spirituous, and consequently, furnishes more matter for our Spirits than any other Aliment, cannot but powerfully promote the same. Which clearly appears by old men, in whom Wine hath the same Effect that Milk hath in Children, and preserves these latter from Worms. Whence possibly *Hippocrates* gave it not onely in Quotidian, but also in Continual Fevers; the hurtfulness to be fear'd from its heat, were it conjoyn'd with dryness, being secur'd by its humidity, which makes it symbolize with blood. Yet all Wines are not hot; small green Wines, especially the White and Sharp, have more of coldness than of heat; and

other Wines drunk in small quantity with much water, refresh more than water alone, because opening the Pores, they insinuate into the remote parts, which plain water presently closes. Yea, Wine, as hot, is a friend to the Stomack and Bowels, whose membranous substance being cold and dry, needs the contrary qualities of Wine; wherefore Wine helps Digestion, which water hinders, being indigestible it self, and so unable to give what it hath not. God's discovering Wine to Men after the Flood, as a remedy to the defect, left thereby in all Creatures serving for their food, being rather an evidence of its utility than hurtfulness. And there is as little reason to accuse it of shortning our dayes, as *Guaicum* of causing the Pox, upon pretence that the use thereof was not known till that Malady appearing, needed it for its Cure.

The Third said, That the sole reason of the difficulty we find in digesting Wine, is the great resemblance of its qualities with those of Blood, both being Hot and Moist. But there can be no proper Physical Action without contrariety. For since every principal Agent induces Alteration in the subject which receives its Action, this change cannot be effected, but by depriving it of its former State, and the qualities which maintain'd the same. Which cannot be done, but by contesting with, and destroying them by contrary qualities; and so according to more or less contrariety, the Action is stronger or weaker. Hence in the Digestion of Aliment, which is a proper Physical Action, wherein the Natural Heat destroys the Food, in order to turn it into another Form, there must be contrariety; and such Food as has least, gives the Heat least hold to work against it; it not being easie for the Natural Heat and Moisture to act against an Aliment Hot and Moist, by reason of the resemblance between them; as a Friend hardly combats and destroys his Friend. Wherefore Wine being of the same quality, our Heat becomes idle in order to its Concoction. Possibly too, its abundance of Spirits make it hard to be digested, stifling the Spirits employ'd for Concoction, by reason of the too great resemblance between those of the one and the other.

The Fourth said, That onely a disproportionate quantity of Wine is of difficult Digestion, a small quantity promoting it. Which holds good in all repletions, but, particularly, of Wine; which relaxing the Fibres and Tunics of the Stomack, weakens the Retentive Faculty, provokes the Expulsive by its Acrimony, either in the Superior Orifice, whence arise Hick-cocks; or in the Inferior, whence proceed loathings and vomitings. Therefore the Apostle saith, Drink a little (not drink much) Wine. Nor would the inconvenience be less, if the best Aliments in the World were taken in Excess. For when their mass is too great to be constring'd and embrac'd by the Stomack, the Natural Heat is it self alter'd instead of over-mastering that, in order to Assimilation.

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The Fifth said, That the Question is to be determin'd by the difference of Wines and Stomacks. Strong Wines, such as are sweet and piquant, are improper for Hot and Cholerick Stomacks which must have only small green Wines, or other beverages of neer quality to common water. On the contrary, Phlegmatick and Cold Stomacks, and Melancholy Tempers, are strengthened by Wine, but prejudic'd by water and other cold drinks; not that Heat is the cause of Digestion, (for the hotter a Fever is, the more it hinders the same) but because 'tis a *Medium*, whereof our Natural Heat serves it self.

The Sixth said. That indeed the diversity of Subjects makes some change in the Hypothesis, yet hinders not but we may pronounce upon the Thesis; whether Wine helps or hurts Digestion. I believe the latter; because Digestion cannot be perform'd, unless all the Meats of one meal be digested at the same time; else the Chyle will be, part well elaborated (namely, that made of the Food which hath had a convenient stay in the Stomack) and part too much concoct and adust, made of that which stay'd in the Stomack too long and after Digestion; and part also too little, proceeding from Meats requiring more Concoction, and yet hurried away with the rest. Now 'tis certain, that Wine being sooner digested than other Aliments, by the authority of *Hippocrates* and *Galen*, (who hold, that it asswages Thirst, and is distributed sooner than they) it will produce a confusion and hotch-potch in the nature of the Chyle, which should be uniform. But Water serving only for a Vehicle, agrees better with variety of Meats, being like the Menstruum of the Chymists, and the Uniting *Medium* of the *Lullists*, which serves to re-unite all different Bodies into one alone, patiently attending their disposition without corrupting, (as Wine and Vinegar doth) and without leaving behind in the Kidneys the tartar, or lee of Wine, which is the seed of the Stone, where-with Water-drinkers are not so commonly troubled; partly, for the above-said reason, and partly, because that tartar is not dry'd in them, as having less Heat than others.

CONFERENCE CLIII.

Why 'tis colder at Day-break than at any other time of the Night or Day.

IF Cold be a real quality, then the greater distance there happens to be between it and the Source of Heat and Light, (the Sun) the greater must the Cold be. And if it be only a privation of Heat, then mid-night is darker then either the Evening or Morning, because oppos'd directly to the Light of the Sun, it may seem that the Cold ought be greater likewise at that time,

because the same is opposite to Noon, when the Sun's Heat is greatest; yet the cool of the Morning argues the contrary, being so ordinary that it fore-tells Day-break more certainly, than the crowing of the Cock. Unless you will attribute the cause to this, that at Morning before Sun-rise 'tis longer since the Sun enlightned the Horizon, than at mid-night; at which time the Air and other Elements, still retain some of the preceding Day's Heat, which tempering the Cold, occasion'd by the Sun's absence, renders the same less perceptible during the thickness of the Nocturnal Air, less subtile than that of the Day; when the Light coming to dissipate those Clouds, subtilizes the Air by its insinuating beams; whence the Cold thereof more easily insinuates into our Pores by the help of that weak Light, which is not strong enough to heat the Air. Just as Vinegar, though hot and biting of its own Nature, yet mix'd with much water, cooles the part whereunto 'tis apply'd more than water alone doth.

The Second said, That possibly the comparison of the Heat of our beds, (out of which we arise in the Morning) with the cold of the outward Air, makes us guilty of a mistake; unless you had rather refer this Effect to the Oblique Aspect where-with the other Celestial Bodies of our Hemisphere are regarded by the Sun at his rising. For at mid-night when he is directly under the Horizon, the little bulk of the Earth hinders not, but he directly darts his Rayes upon those Stars which are above us, the Pyramid of the Earth's shadow not passing beyond the Moon; so that then the vast and incredible magnitude of all those Celestial Bodies perpendicularly reflects upon us the Heat and Light of the Sun, which thus reflected may calesie the Air, as the Sun doth in the same posture; but not at all at Sun-rise in their Oblique Aspects: Whence though the Sun be nearer us in Winter, yet he warms us less. If it be excepted, that the Evening, when the same Oblique Aspects return, is not so cold as the Night; 'tis answer'd, that this difference proceeds from the Heat of the foregoing Day, remaining in the Earth, Water, and Air, which conserve the same, till by the absence of the Sun the supervening Night wholly dissipate them.

The Third said, That the Matutinal coolness proceeded from the approaching Suns driving the Clouds before him, which agitation raiseth a wind (as there is always one at day-break) whereby the same coolness is effected in the Air that a Fan causeth to a Lady. For all things here below having their motion from East to West, 'tis reasonable that the Air be so mov'd too, and acquire the consequent of its agitation, namely, coldness. That all things come from the East, sundry instances manifest; Mankind was from thence diffus'd into the other Quarters of the World; Rivers run generally Eastward; And the greater speed of Navigation from East to West, than contrarily, argnes the Sea to have the same motion; as is chiefly observ'd under the

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Equinoctial, the greatness of which Circle renders that motion more manifest. This rule the Winds keep, when not diverted to a contrary course by Exhalations: And as for the Heavens, experience shews us, that their ordinary and best-known course is from East to West: So that 'tis no wonder if they hurry the neighbouring Air with them, and by a Mathematical contact and natural consecution, all the other Elements. I speak not of Sciences, Arts, Policy, and other things which the more curious may find to have been deriv'd from the East. It suffices that the Sun taking this road drives the Air before him; the wind proceeding from which motion, causeth the coolness we feel chiefly at day-break; when the vapours between us and the Sun being by his heat violently driven (as the water of the *Æolipila* is turn'd into wind and driven forth by the subjacent fire) the coolness is more unacceptable, in that it succeeds and multiplies (instead of diminishing) that of the night, as the diurnal heat in likelihood ought to do.

The Fourth said, He attributed the increase of cold at day-break to the ordinary action of all natural Agents, which is strongest when they arrive at the period or utmost point of their declination. So a Candle just upon extinguishing casts forth a smarter flame; the violence of a Disease is greatest at its crisis, when 'tis towards ending; a Stone moves swiftest as it approacheth its Centre. And to compare the Year to the Day, the cold is commonly greater and more insupportable in *February*, the last Moneth of Winter, than in the beginning thereof; though in reason it might seem rather to be so at the end of *December*, when the Sun is further from us, and that the custom of the two first months cold should render this last more tolerable; as on the contrary, the heat is greater also in the dog-days, and afterwards, than at the Summer Solstice, when the Sun is elevated highest above our heads. So also in Summer 'tis hotter two hours after noon, than at noon it self; not so much through any disposition already received in the Air and Earth, as by reason of that Rule, That Natural Actions are stronger at the end than the beginning; whereas violent actions, as the motion of a Stone upwards, is swifter in the beginning than the end.

The Fifth referr'd this effect to the Antiperistasis of heat and cold. For as fire seems more scorching upon the approach of a great frost, so by a contrary reason cold must become more vehement at the approach of the Sun's heat. Moreover, the like combat is observ'd between the thickness of the darkness of the night, and the rarity of the day, when the Sun's light rendring the illuminated Air more subtle, what was gross in the dark Air cannot be expell'd in an instant without some conflict and motion of the part condens'd by darkness with the rarefied by light; from which agitation ariseth a wind commonly at day-break, which is probably the cause of the cold at that time. Now of that tenebrous part condens'd is made the Dew and Frost in our Climate,

Climate, and the *Manna* in Southern Countries; as the cold which we feel redoubled in Winter in the space between a neighbouring fire (but out of its Sphere of Activity) and the rest of the Air, is a familiar example of this Antiperistasis of heat and cold redoubled upon the approach one of the other. For as 'tis much colder then elsewhere, between that fire which is too distant to warm us, and the Air left in its natural frigidity; so at day-break our Air being too far off from the Sun to be heated by it, augments its coldness upon his approach.

The Sixth said, Air hath no natural quality but supream humidity, whereby 'tis supple, movable, and pliant; heat and cold being impress'd upon it by outward agents: Otherwise being the general medium and mediator of motions local, natural, vital and animal (for the Spirits are of an aerious nature) and the Factor of all Agents by whose intervention they communicate their influences, it would act against the qualities impress'd upon it, sometimes hot and sometimes cold, and destroy them by its own. Which indeed its humidity doth, but to the profit of animated bodies; dryness being their enemy. Hence cold and dry *Saturn* hath under him, hot and moist *Jupiter*, who tempers his hurtfulness and sutes him to living things. Now the Sun having at the declining of the day rais'd many aqueous, and consequently supreamly cold, and the heat whereby they were rais'd abandoning them upon his absence, the natural cold of those vapours becomes predominant, and returns them by degrees into their first state. Which refrigerating the Air makes the night the colder, the further the vapours are from their extraneous heat, that is to say, the nearer day approacheth.

CONFERENCE CLIV.

Whence the whiteness of Snow proceeds.

THE first attributed the cause thereof to the desiccation of water; for experience shews in all sublunary Bodies that dryness whitens, as Sea-water becomes white when dry'd to Salt, the stalks of Corn, Pulse and the leaves of all other Plants wax white as they wither and dry. The same happens to the Bones of Animals, and grey Hairs, on no other cause but siccity, since the extremity expos'd to the Air is white, but not the root. Hence water by its transparence already partaking much of light (but which its rarity reflects not to our view) is no sooner desiccated into Ice, Hail, or Snow, but it acquires this pure whiteness, which humidity again destroys. So the high ways white with dust grow black upon rain; a wet cloth appears darker then a dry; and that some things become black by drying (as Coal)

Coal) is because there was heat enough to draw the humidity, which was at its Centre, to the Circumference, but not enough wholly to dry it up, as appears in that the same heat continu'd reduces the coal to white ashes which would be as perfectly white as Snow, did not the Tincture imprinted thereon by the Salts withstand it; for if you urge them further by fire, you will make them of a perfect whiteness; as appears in Chalks, which are made not only of grey and black stones, but even of Metals, as Ceruse is made of Lead.

The Second said, Whiteness is not a real Colour, since it appears in all bodies depriv'd of preceding Colours, of all which 'tis indifferently susceptible. But 'tis otherwise with real Colours, a subject imbu'd with one of which is not apt to receive all others but some only; as Nature hath fram'd the Organs of Sense naked of all sensible objects, to the end they might be susceptible of the same. Wooll dy'd into a sadder colour cannot receive a lighter, and black Wooll admits none at all; but white, being natural to every subject that hath no colour, is capable of receiving all: So when you wash off the blew or dirty colour of a Band, it becomes white. Whereby it appears, that Whiteness hath the same reference to Colours that Unity hath to Numbers whereof 'tis the beginning, but is none it self. And as 'tis the Emblem of Innocence and Purity, so also it proceeds from them. The Air, which is the purest of our Elements (for Fire is only in Mixts) and water refin'd into vapours, which follows the Air in purity, hapning to acquire visibility by condensation into Snow, cannot represent the same under any other out-side but Whiteness. Now that Whiteness is an effect of purity, is manifest by the Stars, which are represented to us only under the species of Whiteness, and cannot be painted but with white in their light, which de-albating what it irradiates, and leaving the same elsewhere black, shews that 'tis as the purest, so also the whitest thing in the world. Likewise Metals are whiter according to their purity; Lead is worse than Tin, and this then Silver only upon account of their impurity; the sole perfect mixture of the yellow incombustible Sulphur of Gold not permitting it to be alter'd and spoil'd of its yellow colour which nearest approacheth whiteness. Wherefore Snow being a most pure Body, compounded only of two colour-less elements, namely, Air and Water, 'twas necessary either that it should have no colour, or if any (whereby to become visible) the principle and origin of all Colours, namely White, in the perfection with which Nature makes all her Works.

The Third said, That the same difference which appears between the Stars and their Orbs, is found between Water and Snow, arising only from Density and Rarity. As the Star appears white, and the rest of the Heaven darker by reason of its rarity; so likewise Water seems obscure upon account of its rarity, and Snow white upon that of its density.

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The Fourth said, If that reason were good, then Ice should be whiter then Snow, because 'tis more solid; and yet the contrary appears. Besides Snow is so far from being more dense and solid then Water, that on the contrary, there is less Air in Water then in Ice, which is more close and compact then Snow; the swimming of Ice upon the Water arguing some aerious parts included in it at the time of its congelation, which is not and cannot be made without air. Wherefore Snow differs from Water only by its figure or accidental form, which reduceth it into flocks congealed by cold in a cloud (not as it is resolv'd into Rain, for then 'twould prove Hail) but whilst yet a vapour in the region of the Air. So then in this figure alone is the reason of the whiteness of Snow to be sought; which is not found in water, partly by reason of its transparency, and partly because its smooth surface gives no hold to the visual ray. Which is the reason why Water is pictur'd with a blew and darkish colour. Thus burnish'd Silver as that of Looking-glasses seems dark if compar'd to rough Silver, which doth not dissipate our visual Spirits as that former doth. Hence Ice is much whiter then water, as being less smooth.

The Fifth said, That 'tis proper to cold to whiten, as 'tis to heat to blacken. Thus Southern People are either black, or tawney; Northern, white: and the Hair of both grows white with old age by reason of the coldness thereof. All the cold parts of our Body are white; as the Brain, Bones, Cartilages, Membranes, Fat and Skin. Linen and Wax are whitened by the coldness of the night. For the same reason, not only Snow but Hail, Frost, Ice, Rime, and all other cold Meteors are of the same colour.

The Sixth said, That though the whiteness of Snow was disputed by *Anaxagoras*, and *Armenia* produces red by mixture of the exhalations of Vermillion with the ordinary vapors which the Sun raises from the water; yet this whiteness is as manifest as the causes are hid, no less then those of light, which is the colour of Celestial Bodies, as colours are the light of Terrestrial. However, this whiteness seems to proceed from a mixture of Air and Water, as appears in froth, whose consistence is like that of Snow, the whiteness whereof, possibly, is increas'd by the Spirits wherewith Snow abounds, which are luminous Bodies, whereof the fertility caus'd by Snow is an Argument; to which Spirits, (which Frost hath not) may be ascrib'd what *Galen* affirms, namely, that Fish cover'd with Snow become more delicious; for to the Moon it can with no more reason be referr'd than to the Sun.

The Seventh said, That an univocal and certain cause of whiteness cannot be found in the first or second Qualities: Not in Heat or Cold; since Snow, Sugar, and Salt are equally white, though the first is cold, the second temperate, and the third hot: Nor in Siccity or Humidity; since humid Milk is no less white than

than dry Chalk and Plaster. The density and weight of Silver, the rarity and levity of Snow, the sweetness of Sugar, and the acrimony of Salt; in short, the examen of all other Second Qualities of white things, shews that it depends not on them. Nor yet on the third: for white Agarick is purgative; white Starch, and flouwr of Beans, astringent. Lastly, what some call Fourth Qualities, or Properties of the whole Substance, depend as little upon Colours, since the same whiteness which is in the Meal that nourishes us, is also in the Sublimate that kills us. It remains to inquire the reason of Colours, and consequently, of Whiteness in the proportion between the Sight and the Surface of the colour'd body. When therefore it happens that the Visual Ray, which issues forth pure and white, that is to say, colour-less, finds no Colour in a Surface; if the same be Diaphanous, it takes it for a *Medium* not an Object; (as is seen in Glas, Crystal, Air, and Water); if opaque, it stops at the said Surface; and finding no Colour thereon, returns with the Species of the Object to make its report to the Common Sense that it saw nothing; and this is what they call Whiteness. Hence, White so little delights the Sight, that it disgregates and wearies it; as a false stroke doth that brings nothing. Now to apply this to Snow, the Visual Ray is indeed stopt by its condens'd Surface; but whence should it have Colour, since 'tis compos'd of Air and Water, both colourless? The Truth is, sutably to its Principles, it must necessarily remain without Colour, that is, White, whereby it so disgregates the Visual Rayes that sometimes it blinded a whole Army.

CONFERENCE CLV.

Whether Courage be natural or acquir'd.

Courage being the Contempt of Danger, which we naturally fear, we cannot be naturally courageous; for then two contrary Effects should proceed from the same Cause. But the Truth is, our Nature is indifferent to every thing whereunto it is lead and fashion'd. Thus, skittish Horses are made sober by inuring to the noise of Muskets, which before they could not endure. On the contrary, brave Coursers kept in a dark Stable and unemploy'd, become resty and jadish. Moreover, since there is no true Courage without Knowledge of the Danger, (whence Fools and Drunkards cannot be styl'd courageous) this argues that this Virtue hath need of Rules and Precepts, as without which, our Knowledge cannot but be very imperfect. Nor did any thing render the *Romans* more valiant than the Nations they subdu'd, but Military Discipline; wherein the Roman Legion-

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ary under-went his Apprentifage, as other Artificers do in their Trades: Which Instruction, fome of their Descendents defpifing, have fhewn thereby what difference there is between themfelves and their Anceftours, and determin'd this Queftion to the advantage of Industry. At this day our Souldiers are not more ftrong and courageous than Town-people; and the Officers whom alone we fee perform all the brave Actions, furpafs not in Courage ordinary Souldiers, faving that thefe have not been fo well inftructed as they, and reflect not fo much upon the fhame and lofs which they incur by Cowardize. And becaufe that Courage is greateft, which makes us contemne the greateft dangers; hence that which leads us to the Contempt of Death, the moft terrible of all things, is, undoubtedly, the greateft. But the Hiftory of the Milesian Virgins is remarkable, who, upon the perfuafions of a certain Orator, were, contrary to the natural timidity of their Sex, carry'd to fo great a Contempt of Death, that nothing could refrain them from killing themfelves, but the example of their Self-murder'd Companions drawn forth-with naked about the ftreets. Whereby it may be judg'd, how powerful Perfuaſion is to encourage us: Which Captains and Generals of Armies are not ignorant of, who employ all their Rhetorick to impreſs Audacity in their Souldiers breafte, upon an affault or a battel; and thoſe that have been in ſuch encounters, affirm, that nothing conduces more either to inflame the Courage of Brave Men, or infuſe it into ſuch as have none, than an Exhortation well apply'd and futed to the Minds of thoſe that are to be encourag'd; ſometimes by the Memory of their former Gallant Actions; ſometimes by thoſe of their Enemies Cowardice; ſometimes by the greatneſs of the Danger, and the inevitable ruine they incur in caſe of turning their backs; but commonly, by the falvation of their Souls, and the good of their Country; and always by the fair ſpur of Honour and Glory: Conſiderations directly oppoſite to thoſe dictated to us by Nature, which tend onely to prefervation of the Individuall.

The Second ſaid, If Inſtruction made Men valiant and courageous, than all that receive the ſame Education, learn in the ſame Academy, and fight under the ſame Captain, ſhould be equally courageous. Yet there is ſo notable a difference between them, that it cannot be imputed to any but Natural Cauſes; ſuch as are the ſtructure of the parts of the Body, the temper of the humors, the nimbleneſs or heavineſs of the Spirits, and eſpecially the diverſity of Souls which inform our Bodies; which diverſity is apparent even in Infancy, before the Corporeal Organs can be ſuſpected to be the Cauſe thereof. One Child is more timorous than another, and no ſooner begins to go, but he beats his Companions, who ſuffer themſelves to be beaten by one weaker than themſelves; the firſt, not quitting his hold for the rod, for which another will do more than you would have him.

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The truth is, if the Soul be the Architect of her habitation; to her must be imputed the Principal Cause of the variety found therein; upon that of our Actions visibly depends. For as every one readily addict himself to those employments and exercises of body and mind whereunto he is most fit, and which he performs with most ease; so he is more easily lead to Actions of Courage, whose Organs are best dispos'd for the same. And because Children commonly have some-what of the Habit of Body, and Temper of their Parents, hence Courage seems to come by Descent; which possibly renders our Gentry so jealous of the Antiquity of their Families, in which they had rather find a Man beheaded for an Action that speaks Courage, than a Burgeſs who had not liv'd in a noble way. Moreover, to judge well of Courage, we must not consider it solely in Man, ſince 'tis found ſo reſplendent in Animals incapable of Discipline and Inſtruction, that the certainest Phyſiognomical Rule whereby to judge of a Valiant Man, is taken from the ſimilitude or reſemblance he hath with the Lyon, Bear, or other Beasts of Courage. Which ſhews that the true and original Valour being in Animals, Precepts rather alter and pervert, than produce it in us. Hence the moſt learned are oftentimes the greateſt Pultrons. For which reaſons the *Romans* caus'd the warlike people whom they had ſubdu'd, to deſcend from the Mountains into the Valleys, that by that means they might change their Nature. Indeed, theſe *Romans* were better disciplin'd than the Nations whom they call'd barbarous; and by that means more eaſily overcame them; but they were not the more courageous for that, he who is vanquiſh'd abating nothing of his Courage thereby: witneſs King *Porus*, whose Courage *Alexander* more admir'd for his reſuſing to eat, that ſo he might by dying avoid the ſhame of being overcome, than for the ſingle fight to which he had challeng'd him. Officers out-do common Souldiers, becauſe they have more to loſe than they, and their Puſillanimity would be more taken notice of. And the Speeches of Generals in a day of battel are not for the truly courageous, who need them not, but for the Cowards, who are encourag'd againſt the fear of Death, by falſe ſuggeſtions of the Enemies paucity, and their own number. Whereas true Courage, as *Socrates* ſaith in *Xenophon*, is not in thoſe that fear not, becauſe they ignore the danger, but in thoſe who be- holding it great, yet judge their own ſtrength greater and thereupon preſume of ſurmounting it; which Reſolution is never learnt by Books or Precepts, but is inherent in the Mind.

The Third ſaid, That he was of the Opinion of *Socrates*, in the ſame *Xenophon*, namely, that as ſome Bodies are more robuſt, ſo alſo ſome Souls are better to undergo dangers. That nevertheleſs Inſtruction ſerves greatly to perfect Nature: Whence certain Nations cannot ſuſtain the aſſaults of others better train'd and accuſtom'd to manage ſome ſort of Arms. All the kinds whereof, both offensive and defensive, proceeding from

Humane Industry, Nature alone must not arrogate the advantage we have over other Animals; whose Courage being by the help of Art surmounted by that of Man, as Art can do nothing without Nature; so the Courage which leads us to attack and vanquish them, must be ascrib'd to Art, without which, Man durst not attack them.

The Fourth said, We must distinguish Courages according to the diversities of Subjects whereon they are employ'd. The highest Class is that of persons, who freely offer themselves to certain death for their Religion, whether true or false. So did amongst the Romans, *Q. Curtius*, who threw himself into a Gulph to appease the anger of the Gods; *Metellus*, who ran into the fire to fetch out the Statue of *Minerva*; and of Hereticks a great number, of whom Books are full. But this Martyrology shews us a greater number in the true Church; yet the Courage of so many Martyrs cannot be ascrib'd to Nature alone, but to Persuasion, and to Faith. Next comes the Courage of those great Heroes, and illustrious Men of Antiquity, as *David* and his nine Worthies, *Alexander* the Great, the three *Horatii* and *Curiatii*, *Caesar*, *Cato*, and many others, whom none can say would have done those brave Actions, unless they had been lead thereunto by a noble desire of Glory, to which our Minds are carry'd onely by Reasons, Precepts, and Examples; and consequently, their Courage may be judg'd rather acquir'd than natural. Lastly, Courage is found in all Callings and Employments. A Minister, or Counsellor of State, a Divine, and a Judge, acquire the Title of Courageous, when they resolutely perform the Office where-to they are call'd. This is not taught any person by Nature, and therefore I find more effects of acquir'd than of Natural Courage, which (besides) how great soever, is perfected by Industry.

CONFERENCE CLVI.

*Whether Men, not having learn'd of others, would
would frame Language to themselves.*

Nature having given Animals a Voice for mutual communication at distance, and that distinguish'd into as many severall Tones and Accents as they have different Passions and necessities; 'tis not credible that she hath provided worse for Man, as to what was more necessary to him, as being subject to more passions and necessities than any other Animal, which oblige to a Society, no-wise imaginable without Speech; which consequently, two Children would frame to themselves, as soon as the moisture of their Brain and Organs serving to Speech, being dry'd by Age, permitted free motion to their Tongue; beginning

ning by imitation of voices or sounds which they hear, and giving names to things suitable to the voices or sounds they render'd. In defect whereof they would frame other articulate words, first Monosyllables and Simple, as those of the Chineses are, and afterwards compounded: by which they would express all their other conceptions, if not with such facility as other Languages, which time hath enrich'd, yet at least after their own Mode, using the most conformity they could to the nature and property of each thing. And where reason fail'd them, they would be help'd by hazard; our Nature being so strongly carry'd to imitation, that he of the two, who first apply'd a word to some thing, would be follow'd by the other without contradiction. For the mind of Man being an Act, incessantly conceives; his greatest pleasure is in communicating those conceptions; and as a Torrent or River without shore, take their course every way, so Man's conception being destitute of terms to imitate, would frame new according to his phantasie, which coming to be receiv'd by others, would acquire the same perfection whereunto other Languages arrive in time. Yea when the Organs of Speech fail, dumb persons move their members a thousand ways to make themselves understood; and that so happily, that when Monsieur de Sancy was Embassadour in *Turkie*, he hapned to see two Mutes, the one a Turk and the other a Persian, who not understanding one another because they had different signs, there was found a third Mute who serv'd them for an Interpreter. Which being harder then to articulate a voice, argues, that Nature would much sooner teach Speech then expression by gestures. For no body is ignorant that it is easier to speak then to do.

The Second said, That Speech being only an imitation, he that should never hear another speak could never speak himself. Hence persons born deaf are always dumb, though they have all the Organs fit for formation of Speech: and yet none will imagine that they have not all the same faculties and necessities of expressing themselves that other men have, yea and greater too, being depriv'd of all instructions which are acquir'd by the ear, and other benefits proceeding from the same. Which is further verifi'd by the examples of all savage Men that have been found; even by that of the Satyre, who by the report of *S. Jerome* in his Epistles appear'd to *S. Anthony* in the Desert; all which instead of words pronounc'd only inarticulate voices, liker sounds and bellowings then words; these men being like one ignorant of playing on the Lute, who though he hath fingers yet cannot make it speak as he can who is skill'd in that Instrument.

The Third said, That the Reason why persons born deaf are also mute, is, that he who speaks must first hear himself speak before he be heard by others; otherwise he knows not whether himself hath spoken or no, much less can others know: and as little

tle doth he remember the voice which he made use of to express this thing or another : which is absolutely necessary to being able to employ the same voice when he would signify the same thing. But the case is not the same with him that having a good ear and intending to cause himself to be understood endeavours to express his conceptions of things by his voice which he articulates by the judgment of his ear, as a Lutenist doth the strings of his Instrument, which indeed is more artificially touch'd by a skillful then by an ignorant person, yet ceaseth not to strike the Ear, as the Language invented by such men without Precepts will not be less audible though more disagreeable then another. Moreover, Speech being as proper to man as Reason (whereof 'tis the Image, whence possibly the Greeks denote both by the same word) it may seem, that one remote from all commerce would not cease as to reason so neither to speak ; but might as well do the one as the other. If there be any obstacle, it must proceed from some cause : not from the material, to wit, the species of things, which it imports not whether they be introduc'd by one sense or another ; Nor from the efficient, the Organs of Speech being suppos'd intire ; nor from the Formal, which cannot fail, since 'tis necessary for Speech to follow as often as the breath is strongly driven out of the Lungs through the sharp Artery into the Mouth, organiz'd by the Epiglottis, modifi'd by the Tongue, minc'd by the Teeth, and form'd by the Lips. As for the final, which is Communication, 'tis not less beneficial to one then to another. Wherefore all the causes of Speech concurring and being supply'd to man by nature, the effect must necessarily follow. And if Beggars, particularly those call'd Gipsies, make to themselves a particular jargon, which they call *Blesche* or *Narquois*, it will not be harder for those we speak of to do as much. Yea they will not find more difficulty therein, then occurs in the inventing of new Characters by such as write in Cyphers : which is also confirm'd by the judgment of the Fathers who hold that the alteration of Tongues at the building of *Babel*, was nothing but the total abolition in each man's memory of the species of his maternal Language ; which Memory being thereupon become a ras'd table and like a white paper, it concern'd men to agree together about new terms significative of their conceptions. Otherwise (they say) if God had then infus'd an actual knowledg and habit of several Languages in all those Workmen, this had not been a punishment but a reward of their arrogance, and in some sort parallel to that famous gift of Tongues by the Holy Ghost at *Pentecost*.

The Fourth said, That since nothing can be in the Intellect which was not before in the Sense, the Species of Voice cannot be introduced into the Understanding but by some outward sense : Not by the Hearing, which is the right sense of Discipline, since none speaks to the Children of whom the question is : Nor by the Eyes, whose sole object is the visible Species : nor

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by the other Senses, whose objects are also different from those of the Hearing. Moreover, a Language being comprehended under Grammar, which is a Science, it cannot be understood much less practis'd without either Precepts or Examples. For want of which the memory of Children (of whom, we now speak) not being furnish'd with any Idea, can dictate nothing to the Muscles and Nerves, the instruments of voluntary motion, which therefore can form no Speech; just as he that is not accusom'd to other exercises of the body no more then to those of the mind, produces them not. That God created *Adam* and *Eve* with Speech, and that (as 'tis reported) some Children have spoken at their birth, yea some in their Mothers bellies; these are things purely supernatural, and from which nothing can be inferr'd.

The Fifth said, That Women have such a facility of speaking, that if two Children especially of different sexes were bred up together, 'tis likely the female would speak first, not only as the more forward but as the greater tatler. Which was the reason of the miscarriage of the King of *Egypt's* trial, which he made only with Boys. And yet this habit of Speech is such in men that in our age the Constable of *Castile's* Brother being born deaf cross'd the Rule, that persons deaf by birth are always dumb; (as also hapned to many of the same Family of *Velasco*). For he was taught to Speak, Write, Read and Understand Authors, by putting a cord about his neck and straitning or loosning the same to advertise him, when to open or shut his mouth by the example of his Teacher, that so he might express the things which were represented to him at the same time: nor was there other difference found between his speech and that of other men, but only that he did not regulate his voice, speaking commonly too high: which hath also sometimes been done by making the deaf man bite the Instrument upon which the sound they would have him hear was form'd, because the impression which the Brain receives thereby answers in some sort to the Sense of Hearing.

CONFERENCE CLVII.

Whether is better, to guard the Frontier, or carry the War into the Enemies Country.

Peace being the end of War, he manages War best that soonest attains that end. Now Peace is attain'd two ways; either by quelling the Enemies force; which seldom happens and is of long discussion between parties almost equal (as those that go to war commonly are, too great inequality presently
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subduing the weak to the strong) or else by rendring all his attempts ineffectual; and this is more easily done by expecting him firmly and resolutely, then by assaulting him at his own home, withall the inconveniences and incertainties that occur in remote expeditions. Moreover, every design ought to be render'd as infallible as is possible; yet so many unexpected difficulties arise in things which appear most easie, that we find by daily experience the Theory much different from the Practice. Which being presum'd certain, as indeed it is, none doubts but a Minister of State may better lay the plat-form of a design in a Country which is accessible to him and at his disposal; as also that both the Leaders and Souldiers may better give and execute Orders in a place where the Inhabitants are obedient and ready to contribute their care, pains, and money for promoting the projects which serve to the advancement of their party; then in places where they must depend upon the honesty of Guides, who are frequently deceivers or apt to be deceiv'd, and where all things are contrary. Besides, every one is more ardent and zealous for the preservation of his own Land, Wife and Children, yea and his own Life too, then for making designs upon the Life and Goods of others; in which case, besides the dubiousness of the event, the Souldiers are not sure that what they shall conquer shall remain their own; but they are certain that what they defend well will remain so, since it belongs to them already. Moreover, Histories inform us that of ten Enterprises made in an Enemies Country scarce one hath happily succeeded, nor one of ten Conquests been kept. Witness the late Invasions of the English and Spaniards in the Isles of *Rhee*, *S. Honorat*, and *S. Marguerite*, and more lately at *Leucate*. Add hereunto, that 'tis less chargeable to keep at home; and what is observ'd in private Duels is applicable to publick Wars: for oftentimes the more unskillful Combatant keeping his ground and expecting his Enemy, kills him. Besides, Defence carrying more justice with it then Invasion doth, it must also beget more confidence and boldness in the Defenders, and more diffidence and fear in the Invaders, who cannot fight with so good a Conscience for what is possest by, and therefore justly presum'd to belong to others, whatever subtilty may be us'd to set up and colour a false title.

The Second compar'd him that invades an Enemies Country, and him that expects him in his own, to two Gamesters, one whereof having begun to win will no longer venture any thing of his own, and the other begins the Game with his own money. For the Assailant hazards nothing of his own, since he makes his Enemies Country the seat of the War and of the hazard which follows it. And whether you place the benefit and end of this War in the conquest of the Enemies Country, or in a just defence only, 'tis always more commodious, profitable, and glorious to attaque him at home, then to expect him at your
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own doors. For, if you design to conquer, you must necessarily enter into his country to get possession; if only to defend your self, then (as wise men chuse rather to divert and prevent diseases than to repel them already form'd, and as a Fire is more easily quench'd in its first flame than when it hath seiz'd the roof and walls, so) 'tis easier to defend your own country by making a diversion upon that of the enemy than to expel in your own all the desolations that attend war, which you must suffer at home unless you remove it further. Besides, in forreign Counties the war almost pays its self, the Soldier lives as he list, enriches himself with the pillage of taken Towns, and so is less charge to his Prince. Yea, he becomes more valorous there too. For, as Antiperistasis redoubles the force of Natural Agents, so the approach of an enemy's country gives heart to the most cowardly, and renders others more disciplinable, as well knowing that they must look for help only from themselves. Hence Armies have prosper'd better in a strange Country than in their own. The Romans were always victorious out of *Italy*, but often beaten at home, and reduc'd to great extremities by the Gauls and Carthaginians; who likewise were always overcome in their own Country. Hence *Alexander* conquer'd more Kingdoms and Provinces by carrying his Arms into *Asia*, then his Father and all his Lieutenants won Towns in *Greece*; the English have been more fortunate in *France* then at home; and the Turks almost ever gain upon the Christians by assailing Christendom. Yea Reputation, by which Kings reign, and Terror which half gets a victory, are always on the Aggressor's side; whereas on the contrary nothing abates the courage more then to suffer the invaders to come to our houses; because the alacrity and promptitude of Soldiers is usually greatest when accompani'd with great hopes.

The third said, 'Tis impossible to determine any thing in this or any other political Questions, which are variable according to diversity of Circumstances; The frontier of one State may be so safe that there is nothing to be fear'd at home from the enemy, against whom therefore all the seditious and turbulent persons may be safely sent: Forreign War serving as a Sanctuary to bad Citizens, who fear the punishment of their crimes; in which respect it serves for a purgation and bleeding to the body Politick. Other States, there are which (like Recovering Persons, whose bodies are strong enough to support themselves, but not to assail other) no sooner take the field but discord and division arises at home, and so they incur the reproach of the Astrologer who fell into a ditch whilst he was gazing on the sky. Wherefore 'tis not more easie to resolve whether 'tis best to make war, neer-hand or afar off, without saying in what time, in what place, with what means and against what enemies, than to counsel a Tradesman whether he should keep or get, without knowing why and whether he hath money in

his purse or no. The Examples alledg'd on either side resemble the sound of those bells which accord with all Notes. Those that have prosper'd in conquering would possibly have got more if they had put themselves only upon the Defensive; and those that have been worsted in defending their own, perhaps did it too late, and (as it most frequently happens) when their forces were impair'd. But it may be said of the French and all other warlike Nations that they are much fitter to attacke their enemy afar off then to support his irruptions in their own country; because the first requires such an ardor and impetuosity as is natural to them; and the second hath need of much patience, in which we have always been surmounted by Strangers, till that grand Genius of the State which animates it at this day manifested that Conduct doth all both in war and peace.

CONFERENCE CLVIII.

Whence diversity of Opinion proceeds.

TIs no wonder if every cause produces a different effect, and that there is diversity not only between things of different kind and species, but also between each individual, so that two eyes are not perfectly alike. Which variety, had we ways of distinguishing, would appear to us everywhere else, as it doth (for example) to the Dog, who, of two Hares which we judg alike, knows which he started first. But that one and the same thing appears divers according to the diversity of those that judg of it, this seems as strange in the inquisition of its cause as 'tis common in practice. For since that the Intellect judges of things according to the report of the outward senses, without whose ministry nothing is introduc'd into it; and that these senses and their mediums being well-dispos'd agree all in their reports, the whiteness of this paper, the blackness of this ink, and the truth of all other objects being faithfully represented to us; Why should not all men, that hear one and the same proposition, and the reasons whereby it is backt and oppos'd, make the same judgment for, or against it, without being divided, as they are, into several opinions. The cause hereof I ascribe to the several disposition and habitude of the Organs which render the soul's operations different. A sucking child being at a Sermon, understands nothing at all of it; one six or seven years old carries away a confus'd knowledg of it, and thinks it enough to say that the Preacher spoke of God; the young man and the old man judg thereof according to their inclination, the cholerick hastily, the melancholy with more circumspection, and almost all severally. Again, if the matter be scholastical, the Peasant who understands it not, judges thereof with ad-

admiration, the Scholar esteems it, the illiterate Tradesman blames it, and prefers a point of morality; in brief every one judges of it after his own way. In the mean time 'tis one and the same Sermon, as one and the same liquor pour'd into different vessels, which give it the taste wherewith they are already imbru'd.

The second said, 'Tis true, Nothing is in the Intellect but what was before in the Senses, yet many times the Intellect is so prepossess'd with prejudice that all supervening reasons signifie nothing; and when some Passion, as Love or Hatred, biasseth it, there is no room for equal consideration. Hence condemned persons commonly accuse their Judges unjustly; though indeed a friend's recommendation makes them look upon causes with other eyes than they should do.

The third said, This variety of judgments proceeds not only from the diversity of the species introduc'd by the common sense into the Intellect, but from the different conjunction which the Intellect makes of those species; just as the same alphabet is written and read variously by several Writers, and though many speak the same language, yet both their pronunciation and phrase is different. Whence their expressions being so different, 'tis no wonder if the conclusions of their reasonings prove not the same.

The fourth said, He conceiv'd that there are some qualities in the soul which he derives not from the body. Otherwise we should not see some people extremely opinionative and obstinate, whose temper hath nothing of melancholy; nor others so light and mutable, though their constitution be not cholerick; and yet these two humors are commonly reputed the causes of stubbornness and inconstancy. But to what shall we ascribe it except to the soul alone that some men are naturally so given to devotion, that in an affair wherein religion is never so little concern'd they account nothing equitable against Ecclesiasts; and in the mean time there are others to whom what ever this sort of people propose is suspected. And who can think that the resolution of those that have been burnt for Heresie proceeded from the temperament of the body.

The fifth said, That Opinions are to be distinguish'd into Practical and Speculative. The first whereof, wherein we find our selves interess'd, and which we promote upon that account, 'tis probable follow the temper and conformation of the Organs. Thus the melancholy man, who fears even imaginary dangers, cannot be perswaded to prefer trading at sea before that at land, but is always fixt to hazard nothing. If he must choose a profession, he takes the Gown before the Sword, and then too he had rather be silent than advance any new proposition liable to rejection. But if his birth or fortune command him to the war; he is rather for corrupting the enemies forces than fighting them, and in case of the latter he chooses an ambuscade before a pitch battel. On the contrary, the hot cholerick person prefers a

course, whereby he may soonest compass his design, though with the hazard of his Life, (which he will not believe, or at least not fear) before the tedious progresses of other Employments, which afford not their prosecutor meat till his teeth be out. And the Sanguine easily agrees to this Advice, provided it requires no pains, or be sweetned with some pastime; but the Phlegmatick cares neither for one nor the other. On the other side, in things consisting onely in Contemplation, I see not why I should be rather of the Opinion, that the flux and reflux of the Sea is caus'd by the Moon than by the Sun. And hence it is that persons of different Tempers, Sexes, Climats, and Ages, agree more readily in a point of Philosophy, than in their particular Inclinations and kind of Life. Indeed the main Source of this Diversity of Opinion, is, the Vanity and Ambition of the Humane Mind, which judging it self as well stock'd with Capacity and sufficiency as any other, and above all things, loving Liberty, which seems disparag'd by consenting to an Opinion advanc'd by another; this Conceit, together with the dubiousness of all things not demonstrable, carries us to seek some new Light, which cannot be so small, but we love it more than that of another; as people commonly do their own Children. Hence arise the so different Opinions of the Ancients, about all matters of Philosophy and other Sciences, not excepting Divinity it self even amongst Catholicks; amongst whom we see *Scotus*, disagreeing with *Saint Thomas*, as *Paracelsus* doth in Physick with *Galen*, *Copernicus* with *Ptolomy* in Mathematicks, *Raymond Lully* and *Ramus* in Scholastick Philosophy with *Aristotle*, and in Civil Law *Cassius*, with *Labeo*, and the Sabinians with the *Proculicians*.

The Sixth said, 'Twere a greater wonder if all Men were of one Opinion, than that they imitate in this diversity all other things of the world: At least 'tis harder to assign the cause why one and the same Man is to day of one judgement, and to morrow of another, then to see as many several Sentences as Heads. But to me this variety seems to arise from the various conception of things. As appears by the example of *Julius Caesar*, who being purpos'd to destroy King *Deiotarus*, no sooner heard *Cicero* speak in his defence but he pardon'd him; not to speak of many other Effects, both of his and *Demosthenes's* Eloquence. Whence it comes to pass, that though the same Fact be related with the same Reasons, yet the Diversities found in the manner, and in all the senses, imprint in us different species; upon the report whereof we also make a different judgement.

The Seventh said, This Variety proceeds from the Principles of Knowledge, as appears in thole of Mathematicks, which being certain and known to all, cause every one to assent to their infallible Consequences. And so in a person seen at a distance, of whom having a confus'd Knowledge, one saith, 'Tis a Tree, another, a Beast or a Man; but when his nearer approach

approach makes him better known, all agree that 'tis *Peter* or *James*.

CONFERENCE CLIX.

Why there is more Wind at Sea than at Land.

THe experience of less Wind and more Rain on Land than at Sea, makes their Opinion questionable, who hold, Exhalations to be the matter of the former, and Vapours of the latter: unless we will say, that Winds, to whom the Poets rightly attribute the Empire of the Sea, drive the Clouds over the Land, where being less agitated, they resolve into Rain. But to continue my reasoning with the same Poets, I shall say, that having plac'd *Æolus's* Palace in the caverns near the sea, they have sufficiently proved, why the Sea is more troubled with them than the Land. For these Winds visibly issue from deep Caverns frequent on the Coasts of the Sea, whose continually agitated waves incessantly stir them up. 'Tis no wonder then if they display their violences on that side which is freest to them: Which is experienc'd in great Lakes adjacent to high Mountains; as in that of *Comum*, and *de la Garde* in *Italy*, whose waves and roarings resemble those of the Sea; and also in that of *Geneva*, which is troubled extraordinarily. Not but that Winds are generated in other Subterraneous places too, none of which is exempt from them; as appears in Wells and the mouths of Caves. But the openings of such places being commonly strait upwards, the Wind that come out of them is not so perceptible as that which issues out laterally from high Caverns upon the Sea-shore; and they differ, in that the Sea Wind is dryer and less corrupting, possibly by reason of the saltness of the water, upon which it passes.

The Second said, That the difference in Question proceeds from the vast extent of the Sea, which gives the Air once agitated, more liberty to continue its motion; which, on the contrary, is straitned and repress'd on Land by the occurse of Mountains, Trees, Houses, and other obstacles: By the same reason that the waves of a Pool or little Lake, are much less than those of the Ocean; besides, that one and the same Wind hath much greater effect in a smooth and liquid plain, which yields to it, than upon a rough solid Body, upon which burdens are not mov'd but with more force than there needs upon the water; as they experience who endeavour to draw a stranded Ship on the Land, which they saw move almost of it self whilst it was upon the water. The Mechanical Reason whereof is, that the water breaking into infinite points, scarce makes any resistance to its Agent; but the Earth press'd with the same load, resists it in infinite points.

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The Third said, He that defin'd Wind to be Agitated Air, rather spoke its Effect than Cause, which is some middle thing between a Vapor and an Exhalation, driven violently according to all the differences of place. For an Exhalation, which always mounts upwards, and the Vapor which refrigerated descends downwards, cannot separately be the matter of Wind. Hence as soon as the Vapor of a Cloud is resolv'd into Rain, the Wind ceaseth; the Exhalations not being sufficient to produce it alone, as neither the Vapor is. Otherwise, Winds should be greatest in hot weather, when Exhalations are most plentiful. Wherefore the Sea having in its Four Qualities the materials of these two Meteors, and being otherwise more capable of emitting them through its liquid substance, than the Earth is through its hard and solid surface, though both be equally heated as well by the Sun, as by Subterraneous Fires, Evaporations and Exhalations, are sooner and oftner made at Sea than at Land.

The Fourth said, That the thickest Air being oftentimes the calmest, and the clearest the most windy, 'tis doubtful whether Vapors and Exhalations produce Winds; which, besides, presupposeth actual heat in the Sea, which yet is never felt there, but only on Land. It seems therefore that the Element of Air being very symbolical to that of the Air by their agreement and moisture, they follow the motions one of the other. Hence the Air contiguous to the Sea, is agitated by it; whence ariseth a Wind, which again agitates the Sea; it being well known, that when there are no Waves there is no Wind. On the contrary, when the Wind is to change, the billows turn first. And ordinarily, the Winds change with the Tides.

The Fifth said, There are two sorts of Winds upon the Sea; Particular, which reign in our Seas, blowing indifferently from all Coasts; and General, which blow continually from the same quarter, without giving place to their Contraries. Such is the Oriental Wind in the Torrid Zone, which was call'd by the Latins, *Subsolannus*, and by Mariners at this day, South-East. For it conducts Ships so constantly over the whole extent of *Mer du Nord, & du Sud*, that without discontinuing Day or Night, it exempts the Sea-men from touching their sails, especially when they are near the *Æquinoctial*. Indeed in the *East Indies*, this Rule alters; for this Wind holds there but six moneths, leaving the other six free to its Antagonist. The Cause whereof, is ascrib'd to the repercussion of the capes and coasts of those Seas, as that first Wind is to the motion of the *Primum Mobile*, which, together with the inferior Spheres, draws the Air along with it in this place, where the circumference of its motion is largest. There is another general Wind, which blows between the Tropic, or twenty fourth Degree on this side the Line, and the thirtieth becoming Occidental with the like constancy that the abovesaid Oriental doth. This some attribute to a contrary motion, which all things have when those nearest them are hurry'd

ri'd violently; as the stream of water running impetuously in the midst, makes that near the shores recoil backwards.

The Sixth said, That as Vapours make Mists and Fogs, and Sulphureous Exhalations make igneous Meteors; so the Nitrous make Wind, which keeps the air from corruption as the Earth is kept from it by Nitre, and the Sea by Salt. Moreover, both the Wind and Nitre dry, and are the causes of fecundity; as is prov'd (on the behalf of Nitre) by the Nitrous sand of *Nilus*, whose greater or lesser overflow promises to the Egyptians a year proportionably fruitful; which is also said of the *Rhosne* abounding with Nitre. And as for the Wind, besides that all flatuous Meats provoke lust, 'tis said that the Mares of *Andalusia* conceive by the West-wind alone which also is styl'd the Father of Flowers. In Brief, if Wind be impetuous, the effects of Nitre in Gun-powder and *Aurum fulminans*, manifest that Nitre is no less. Now Nitre being mix'd with the Air, where it is volatile; with the Earth, where it is fix'd; and with the Sea, where it is barely dissolv'd; no wonder if it exhale more easily from the Sea then from the Land, and consequently if more winds be there. Whence the reason may be drawn not only of the Sea-winds but also of the tempests and commotions of that vast Element; a Tempest being nothing but the rarefaction of the Sea; Nitre, and the inflation of the Waters at Full Moon in *March* and *September*, only the fermentation of the same Nitre in the season proper for generation. As for that inflation happening at the time of the Dog-star, when the Etesian winds reign, it proceeds from the heat of the Air then inflam'd by the rays of the Sun, like the ebullition of Honey and Syrups impregnated with much Salt, as appears by their dissolution and the bitterness they acquire over the Fire.

The Seventh said, That the coldness of Vapors arising from waters giving more body and consistence to winds, makes them strike a more sensible blow then when they are destitute thereof; whence they are greater in Winter then in Summer, and in the Morning then at Noon. Thus the same quantity of water will cause more alteration in the body being drunk cold then warm, because the impresson of the latter is much less upon our bodies. And the Providence of the Author of Winds is remarkable too, in that they are mischievous at Land but useful at Sea; hurtful things being by a secret of his power as much diminish'd, as profitable are augmented.

The Eighth said, That not only Wind-mills but also the Wind-wagons invented lately in *Holland*, shew that wind well manag'd is no less profitable at Land then at Sea. Therefore I should refer the cause to the porosities, overtures, and caverns of the Earth, into which the wind entring is by that means less at Land; whereas the surface of the Sea giving it no such admission, 'tis left to its freer course; upon the same; whence when those pores of the Earth are shut up by frost, the wind becomes

becomes more impetuous then it is in Summer when they are open.

CONFERENCE CLIX.

*Whether it be easier to procure obedience by Gentleness
then by Terrour.*

THe most plausible vertues are not always the noblest: as they depend upon external things which encrease or diminish their value, so oftentimes they yield to those obscure and private vertues, whose beauty being only internal, without borrowing any recommendation from abroad, they are therefore the more to be esteem'd. Gentleness or Manfuetude is of this nature, though it make not so great a noise as Fortitude, which is irresistibile by the terror it impresses upon the opposers of its designs, yet oft-times it accomplishes its enterprises with the more facility in that it makes not use of any extraneous help, but only of what this vertue it self affords; which insinuating sweetly into their minds whom it would lead by the consideration of their own good, more easily procures obedience then fear doth; which indeed may constrain them to do what they would not voluntarily assent to, but is a violent motion, and so harder to be impress'd then that which is voluntary. For when once the reason is perswaded of the justice of the things enjoyned, there is no more obstacle in the Will, which then resigns it self to be lead by that light of the Understanding; much less in the inferior Powers, which move only by the orders of those upon which they totally depend.

The Second said, Did men leave themselves to the guidance of Reason more then of their Passions, it would be easier to procure obedience by Gentleness then by Terror, which then would be usefess; seeing 'tis not necessary to oblige such men by denunciation of penalties to their duty, who addict themselves to it voluntarily upon the knowledg they have of right Reason. But since very few follow this Rule, in comparifon of those that have none but that of their disorderly Appetites, therefore severity is more expedient then mildness for reducing them at any rate whatever to their duty. For their obedience though constrain'd is nevertheless exemplary, and draws others to do the like, and so maintains that mutual correspondence which gives subsistence not only to States but also to all other civil Societies, and which consists chiefly in a certain dependance between the parties destinated to obey and to command. So that as the latter ought to study to maintain the Authority and Superiority which they have, whether by Nature (as Fathers
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over their Children) or by Love (as Kings and Magistrates over their Subjects, and Masters over their Domesticks) so when those under them fail of what they are oblig'd to render to them, there is no surer nor easier way to bring them to it then Terror, which proposing a sensible penalty to them in case of miscarriage is incomparably more powerful to make them obey, then sweetness; which indeed hath some charms to win more rational spirits, but being accompany'd with softness and indulgence, becomes at length odious and contemptible by the disorder and confusion which follow impunity of crimes. Moreover, 'tis certain that as States are maintain'd by the exact observance of Laws, so their destruction ordinarily happens only by the relaxation which Superiors suffer of the punishments due to such as transgress them.

The Third said, That the Poets who feign men formerly dispers'd in divers parts of the Earth without Religion, Laws or Discipline, to have been gather'd together by the melodious consort of musical Instruments, with which *Orpheus*, (as they relate) attracted even Beasts and Rocks, seem to conclude rather for Gentleness then Terror, this latter causing those that use it to be hated as much as the former doth to be lov'd. But setting aside fabulous authorities, the most sedulous inquirers into the causes of the foundation of States attribute the same to the charms of their Eloquence of these men, who being found fittest to insinuate to them the advantages of living in society, reduc'd them thereunto by imposing Laws upon them, the dispensing wherewith they reserv'd themselves as well as the conduct of those that voluntarily submitted to their Government; which having taken its rise from Gentleness cannot better be preserv'd then by the same, if the Philosophers Maxime be true, That things are preserv'd by the same principles which serv'd to their establishment. And so 'tis easier to procure obedience by Gentleness then by Terror.

CONFERENCE CLX.

Whether Trading derogate from Gentility.

TIs the part of the slothful and such as live by the sweat of others to blame Industry. 'Twere tolerable indeed to reject out of the rank of liberal Arts such as have any thing of baseness or sordidness, but to do the like by an Employment capable alone to enrich States, furnish them with all necessaries, and maintain them in Amity and good Intelligence with their Neighbours, is too great a piece of Niceness, the result whereof is that then the Gentry must either remain poor or else live by robberies and other unlawful courses. For notwithstanding

the precaution of most places in adjudging almost the whole estate to the eldest sons of Gentlemen, (which would not be necessary if they were left in a condition of getting, as all other sorts of persons are) yet the cadets of either Sex cannot have so small a portion, but the succession which before was able to support the dignity of the name, at length either comes to nothing or so small that the principal Heirs are forc'd either to dye of hunger, or to sustain their lives by some exercise, the choice whereof is not so freely left to them as to their Predecessors. For the benefit alliances bring them is oftentimes not very considerable; the Daughters being by the same customs very ill provided, and that benefit commonly accompani'd with new expences. Indeed some Legislators have absolutely forbidden Traffick, as *Lycurgus*; others have only permitted it to the inferior people, as *Romulus*, which induc'd *Plato* to found his Commonwealth far from the Sea-ports, for fear it should be corrupted by the delights ordinarily introduc'd by strangers, and his Citizens getting their livelihood by Merchandize should learn to lye and deceive, the common vices of Merchants, which *Cicero* saith likewise of the Carthaginians, that being good of their own nature, they learn'd by the converse of Merchants to addict themselves to frauds and lyes, out of their great desire of getting. But as Trading begets dissimulation, so it makes men more prudent by the knowledge of several persons manners. Whence *Homer* in the beginning of his *Odyssey* makes this remark of *Ulysses*, that he had seen many Cities, which is proper to Merchants: but every body knows that one may lye, dissemble, and deceive without being a Merchant, nor ought the abuse of some hinder all from the use.

The Second said, That the reason why Trading is interdicted to Gentry, is, lest the sweetness of gain should retard them from the Wars for the service of the King and defence of the State, whereof they are the support and the right hand. And Gentlemen having no other exercise but Arms must needs be better skill'd therein then if their Minds and Bodies were shar'd amongst several Occupations; and upon occasion they are more ready and free from other employment to execute the orders they receive, then if they were in some long Voyage, or busied about examining an Account-Book; an error wherein, sometimes imports their whole estate. Besides, Souldiers more cheerfully obey him who they see leads a life far from all Trading. This was the practise of the Romans, among whom 'twas not lawful for a Citizen to exercise Merchandize; but only for freed Servants, or others of the low vulgar. Much more was it forbidden to the Senators, who for that reason had the Port of their Ship limited, lest they should Traffick under pretext of transporting their Fruits and Rents; all profit seeming to them dishonest. And the Thebans admitted no man to any Magistracy, unless he had discontinu'd Trading at least ten years before.

fore. The reason is given by *Aristotle*; because Merchandize is an enemy to Vertue. Hence all access to Honours hath been by the Laws interdicted to Merchants, or so much as to bear Arms; so that Gentility and Merchandize seem inconsistent. Add hereunto, that God forbids his people to have any Merchant amongst them; because, saith the Wiseman, the Merchant can hardly have his hands clean from sin: And so *Chrysostome* adventures to say, that a Merchant cannot please God, by reason of his perjuries and frauds; qualities directly contrary to true Gentility.

The Third said, That seeing this life needs Action more then Contemplation; therefore good Politicians invite, by all sorts of Honours and Priviledges, those that are able to contribute most to the benefit, quiet, and increase of the State. But, so are Merchants; who bring plenty of all kinds of Goods to the most desolate places, and enrich the more fruitful by distributing their commodities, which otherwise would be poor amidst their abundance. Nor are they oblig'd to Trade in Person, so that they are not hindred from paying the personal Service they owe to their King and Countrey; for whose good they are oft-times best advertis'd by their Forreign Correspondences, and give the certaintest Intelligence of an Enemies Designs: besides that, having travell'd into his Countrey in time of Peace, they the better know what way to mannage a War against him; and the money wherewith they abound more then Gentlemen, gives them large Credit amongst the Souldiers. The Roman Law that forbade Senators to Traffick, was extinct in the dayes of *Hortensius*, as he complains: whereby it appears to have been lawful not only for them, but also for the *Equites*, or Knights to negotiate either by themselves or by others; as at this day the Nobles of *Spain*, *England*, *Venice*, and especially those of *Florence* do. Thus *Cicero* speaks of *Lucius Pretius* an illustrious Roman Knight that Traffickt at *Panormus*, and of *Q. Mutius* of the same quality at *Syracuse*. That God forbade his people Traffick, 'twas probably to keep them from being corrupted by the Idolatry of other Nations; and 'tis no more to be drawn into consequence for us then abstinence from Swines Flesh and their other Ceremonies: But should all that hath been said against Merchants be admitted for good, it must be onely against Merchants by Retail, not against those that Trade in Gros, who have alwayes been excepted from the rank of others.

The Fourth said, That Utility is not more incompatible with Honesty then Trade is with Nobility, which nevertheless is different, according to the several sentiments of Nations, being rated by extraction amongst Christians by warlike exercises amongst the Turks, by learning amongst the Chineses; as also the Nobles live in the Countrey in *France* and *England*, but in Cities in *Spain* and *Italy*; from which circumstances Nobility receives several Estimations, according to the several opinions of Na-

ons. But in general, Commerce, as 'tis the exercise of the people, so it hath been more honor'd in popular States than in Monarchies, where the power of Sovereigns shines brightest in War (which is opposite to Merchandize) and the fear of Monopolies (which would easily prevail here) renders odious the trading of Grandees, who incur the peoples envy as soon as they undertake the employments belonging to them. Moreover, the gain of Merchants is contrary to the liberality of a Gentleman, whose donations are interpreted in Law more extensively, when there is question about them, than those of Yeomen. And our Saviour, so gentle towards other sinners, whipt the Tradesmen out of the Temple, calling them Robbers, and their Shops Dens of Thieves. As accordingly, Pagan Antiquity assign'd them for their Patron *Mercury*, the Patron of Thieves, and the most infamous of the Gods. And the Emperours forbade Merchandize, not only to Senators by the *Lex Clodia*, but also to Nobles by extraction, *L. Nobiliores. C. De Comerciis & Mercat.* to Officers *Leg. Ne quis C. de dignit.* and even to Souldiers, *L. Milites C. Loca, & L. eos C. ne milites negotientur.* And if some Nations, confounding Utility with Honesty, have authorized the Trading of Nobles, 'tis but as base Money is, upon some necessity, allow'd current in one Countrey, and rejected in all others. And their own Doctors agree, that the Splendor of such Nobility is much diminished by negotiation; the distinction of Gross and Retail, not changing the Species of the Question, any more than more and less do in all others. Nor is it material whether they negotiate by the intervention of others, since 'tis not lawful to do by another what we may not do our selves; besides, that such intervention draws in the Honor of a Gentleman to vouch anothers Fact. Lastly, the poverty intended to be avoided thereby, is oftentimes met with instead of Riches; and were it otherwise, yet Poverty commonly serves for a spur to Virtue. Hence ordinarily Cadets are more courageous than Elder Brothers; and the poor *Epaminondas* and *Phocion* were the more Warlike; but *Crassus* the Rich was overcome and slain by the Parthians.

CONFERENCE CLXI.

Why the French are so much incensed with the Lye.

TRUE and Good being reciprocal; hence to call a man Liar, is as much as to say, that he is of no Value; and because the paltry Fellow is unworthy of Honour, whereof the French is more covetous than any other Nation (as appears by the courage wherewith he runs upon hazard to the danger of his Life, testifying thereby that he prizes Life less than Honour, to which most other Nations need to be incited by infinite Artifices) hence

hence it comes to pass that the French are more sensible of the Lye than they.

The second said, That all Mankind make esteem of Piety towards God, and Courage towards men: the former having been a means us'd by the greatest Princes and Legislators to gain the minds of their people; so powerful, that some even with the appearance of it alone have produced strange effects, (witness the dotages of *Mahomet* in the East, and many others elsewhere.) The other, namely Courage, being the virtue most rever'd amongst men, and esteem'd by women, who commonly favour the most valiant. Now Lying is a Vice opposite to both these Vertues, implying Impiety towards God, and Cowardize towards men. For he that lyes cannot be ignorant, that God the Father of Truth knows, and will sooner or later punish his Crime, if he have power to do it, (as cannot be denied without manifest irreligion.) And since Truth comes of it self to the Tongues end, unless it be detained Captive by Fear, or some other servile consideration; hence a Lye presupposes Cowardize and Fear of him before whom it is spoken. So that it is no wonder if the reproach of these two crimes trouble us so much, the French Nation being the most glorious of the World.

The third said, That the Lye cannot but have something in it more hainous then the reproach of Coward and Impious, since these are repayed only with the Lye, but the Lye it self with blows; probably because Lying is a servile Vice, and the French are very jealous of preserving their Liberty. But we must distinguish between lying and telling a Lye; for in this latter case people are not readily offended, as in the former. Thus an Advocate pleading upon a Breviate, the matter whereof is fictitious, takes it not for an injury if the Adversaries Advocate is false; but replies only, that he will justifie it. The Philosopher maintaining an erroneous opinion, which he believes good, will not be angry at its being impugned of falshood. But when one is surpris'd in a Lye, which seems invented purposely to impose upon the Company, the discoverer of the falshood seems to reproach him not only of knavery but also of sottishness, in that he could not utter it dexterously enough to make it believ'd. As therefore Theft was not punished, but esteemed among the Lacedemonians, when it was well concealed, and received not chastisement except the Thief were taken in the fact; so a Lye seems to offend only when it is discovered; but if handsomly told, instead of being blamed, is authorized by Rhetorick and Poetry, (which are arts of handsomly feigning things that are not) by Complements, which are fair Disguisements; by dissimulations, common enough everywhere; by stratagems of War. Hence when we give the Lye to any one, we add, saving the respect of the Company; intimating thereby, that we intend not to reproach them of little judgment in letting pass so gross a
Falshood

falsehood for a truth. For I see not that the French are greater Lyars then other Nations, unless you will bring under Lying their reservedness and modesty in not telling their designs to all the world.

The Fourth said, That the French being the most civilized of the world, have reason to take for the greatest affront the Vice which most destroyes civil Life and Conversation; which being founded upon Communication, whereof Speech is the Interpreter: if there be no assurance in this, then Humane Society is destroyed. All other things are known for what they are by the species which they send to our senses (as the species of a Dog and a Horse never fail to represent them to us such as they are) our intentions and thoughts alone are committed to speech; which, if it ill represent them, is no more to be esteem'd then a false Looking-glass which represents objects quite other then what they are; or then a copy not at all resembling its original; or lastly, then a thing which is nothing less then what it is taken to be. Hence a Lyar seeing himself dis-believed, and every one upon their guard when he speaks or negotiates; he hath reason to be sharply offended with him that gives him such a repute: and because being accounted a Lyar, he that accuses him would not believe his bare affirming the contrary; therefore he gives him a box on the ear, as the most suitable reply that can be made to the Lye; which being the highest affront, the blow is the first revenge of it, which the uncover'd parts of the body (namely the hand and face) present to the offended person; which blow is esteem'd the greater out-rage, in that it testifies the highest contempt of the receiver, and is onely meant to provoke him to resentment: Therefore a thrust with a Sword at an enemy purposely to deliver ones self from the fear of him by killing him, is accounted much less injurious then an affront done purposely for the affronts sake. But, besides the foregoing reasons, custom (which oftentimes hath none) in *France* authorizes the greatness of the injury of the Lye.

The Fifth said, That the refiners of Honor are like those that sharpen the points of Needles so much till they break. The French, instead of interesting their Honour (as most other Nations do) onely in things of importance, and of fairly maintaining that they speak true when they are told that they Lye, are as much incens'd upon the sole pronounciation of these words, as if they were so many magical terms forcing the hand to give a blow, or draw the sword; and, which is strange, 'tis not enquir'd whether the thing be true or false, the Lye being judg'd alike offensive in both: yea, ordinarily they are the greatest Lyars that are most offended with the Lye: the reason whereof may be, That the reproach of true Vices offends us more then that of false and suppositious, and those of the minde more then those of the body, as being more reprehensible in us, in that 'tis our own fault that they are not amended: for a reproach made to one
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for a Vice he cannot remedy, serves more to shew the malice of the Reproacher than the fault of him that is blam'd. But 'tis not so with a Lye, which presupposes either ignorance or malice. Whence the terms of Sot and Ignorant are also most cutting even to those that are not so. Besides, a Lyar (unless he repel the injury; avowing himself the Disciple of the Father of Lyes, this Reproach is very odious to good men, especially to the French, who so affect that Title from all Antiquity, that our Ancestors have transferr'd it to Valour, (which they esteem'd the chief of the Vertues) saying, that such as have defended themselves well, have done *en gens de bien*, like good men.

The Sixth said, That the Lye is offensive only upon account of the intention; since most of our Discourses, Answers, and Replies (wherein consists one of the greatest pleasures of life, & without which our Converse would have no agreeableness, as appears by those that speak not to one another, or agree in every thing) are no other but fair givings of the Lye; yet are so far from being offensive, that they cause us to desire the company of such as know how to make handfom Reparties. Thus many of our Generals, whose venturousness upon the greatest hazards sufficiently testifies their desire of Praise, yet shew displeasure at the hearing of their own Commendations; a Dissimulation, which carries them sometimes so far, that when any History of these times publishes some brave Action perform'd by them, they scruple not to blame the Historian, who by concealing the like another time, may secure himself from such Complements, if he take them not in the right sense.

CONFERENCE CLXII.

Why every one thinks himself well enough provided with Wit; and some, better than others.

AS the Eye seeth it not it self, so the Intellect understandeth not it self; but judging only of the parts of all others finds something in them to discommend; and having a better conceit of its self, arrogates the preeminence in the comparison. For the reflexion of the Intellect upon it self is never sincere, but disguis'd and falsifi'd by the false reports and prejudices of Self-love, which makes us think our selves better then our Neighbours. Hence those that take not pains to consider their own Wit, care not to make a just comparison of it with that of others; since a right Comparison is between two things known; and those that can do it, do it through the clouds of Interest, which like Optical Glasses magnifie Objects, and make an Elephant of a Fly.

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The second said, 'Tis not universally true that every one is contented with his own wit; for there are many no less diffident then others are confident of themselves. Hence some eloquent Tongues, fit either for the Chair, or the Bar, are kept from both by timidity and distrust of their own abilities, and (as some great animals suffer themselves to be lead and govern'd by a Childe) so their good wits, not understanding their own strength, permit themselves to be rul'd by those that have worse. Thus we see there are Apprentices in all Trades and Professions more knowing then their Masters; and many times in that of War, a brave experienc'd Souldier obeyes a cowardly and ignorant Captain: And in Religious Houses, some excellent Spirits glorying not to repute themselves such, suffer themselves to be guided and ruled by those of an inferiour Degree. Yea, the most presumptuous are seldom satisfi'd with their own first conceptions, as appears by the frequent connexions and expunctions in the originals of their Writings, to which even after publishing they never cease to adde or diminish. Of which number are many, who making a review of their precedent actions, alwayes finde something therein to dislike. But as for others who have a better opinion of their own wit then that of others, this defect seems to proceed from the want of knowledge of themselves, so much recommended by the Delphian Oracle; such people resembling the old Hag who put her eyes up in a Box when she came home, and took them out onely when she went abroad; or those that have a Wallet upon their necks, whereof they never see but the forepart into which they put the affairs of their Neighbours; the other being behinde, into which they put all that concerns themselves. Which our Saviour also reprov'd in Hypocrites, who see not the beam in their own eyes, yet spy a mote in that of their Neighbour.

The Third said, That there being three sorts of Goods, namely, of the Minde, the Body, and Fortune; the two latter are so expos'd to the eyes of every one, 'tis impossible to deceive the Spectators in the judgement thereof. But 'tis not so with those of the minde, which not appearing to all are like secret Records of a Law Suit, the extract or copy whereof depends upon the honesty or dishonesty of the reporter; who being both Judge and Party, 'tis no wonder if he award the Cause to himself; as those that give their Voices to themselves excuse it by saying, That having sworn to choose the most capable, they judg'd themselves such: Whereunto the evil custom of commending one's self much contributes, by turning into Nature, and so perswading us of what we would make others believe. So also do flatterers, whom all the world delights to hear (whatever is pretended to the contrary) and who may speak more boldly of the gifts of the minde, because they are not perceptible of themselves, and so less subject to contradiction.

The Fourth said, That 'tis so far from being true, that every
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one esteems his own genius because he sees it not ; that on the contrary he esteems it more then others, because commonly he sees none but it ; not in its substance, but in its effects. For if we value a Friend whose presents we frequently behold before our eyes, how great reason must every one finde to prize his own spirit, whereof all the actions are in a manner present to him ? He beholds himself in himself morning and evening, sleeping and waking ; and finding not external objects enough to compare with the multitude of internal species which his pass'd actions furnish to him, he makes the conclusion to his own advantage. If he be a Poet, all his Senses are fill'd with his Rhimes ; or with his square Periods, if an Orator. The memory of his exploits incessantly returns to him, if he be a Souldier, and perhaps being reviv'd by some Sore or old Hurt, makes him easily presume that he is as good as a Captain ; or if he be a Captain that he could better perform the office of Field-Marshal then he that hath it. In brief, there is no profession wherein the minde findes not wherewith to content, yea, to admire it self, and withal to abate the value of others ; comparison being like a balance, one scale whereof cannot be rais'd without depressing the other.

The Fifth said, That the reason why every one is contented with his own Wit, is because we are never brought to acknowledge our own errors, unless by constraint or conviction. And the minde never fails of a subterfuge and a pretense to lay the fault other-where then upon it self. If haply some one acknowledges that he wanted fore-sight, judgment, and good mannagement in his affairs ; yet he will alwayes turn the fault from himself, and rather recurre to causes that are not, saying, That he was bewitch'd, or at least deceiv'd, even so far as to accuse the truth of the most general Maxims, when they prove not to agree with his own false Principles. Whereas we are forward enough to condemn others magisterially both in presence and absence.

The Sixth said, That what is receiv'd, being according to the form and capacity of the recipient, 'tis impossible for the mind to conceive any thing greater then it self : if it do, 'tis by negation, as the Eye sees night when it sees nothing, and as the most perfect Souls conceive the Deity, namely by conceiving that they cannot conceive it, which is no knowledge at all. Hence the Sky, Houses, Trees, and other great visible Objects enter into the Eye onely by a visual species proportional to the bigness of the pupil which diminishes them. So likewise the understanding or minde of Man, being to judge of that of another, abstracts such intentional species thereof as are correspondent to its own capacity, and such alone as it is able to comprehend. And as the continent is bigger then the thing contained ; so this intentional Species, which represents the image of anothers minde, being less then the minde which conceives it ; 'tis no wonder if that which is conceived appears less then that which conceives it.

For otherwise, since the understanding is conform'd to the thing which it understands, if it should conceive an Idea of a minde greater then it self is, it should become greater then it self, which is absurd. Besides, as things nearest us appear greatest, and nothing is nearer us then our selves, 'tis not to be marvell'd at if we pass judgement to our own advantage.

The Seventh said, That the reason of this difference is because the species which concern others are not so deeply engraven as those which the understanding incessantly traces in it self; whence it is that the dispositions of that first rank are not so well imprinted as the habits of the second. Now that the Species relating to others are more lightly engraven than those that concern our selves, appears by the example of the Graver, which passing but lightly over the Copper makes a little stroke almost imperceptible; whereas by its repassing several times upon the same place, (as is done by the frequent repetition of the same thoughts upon what regards our selves) it makes more remarkable lines. Perhaps also this pleasing Error is left to Man, to comfort him for the unequal share of all other Goods; which otherwise wouldbring him into Despair, or at least very much increase the unhappiness of his Life.

CONFERENCE CLXIII.

How Animals are bred of Putrefaction.

THE Vicissitude of finite things requiring their being in perpetual motion, the same is four-fold; namely, (1.) To Quantity, which is term'd Augmentation and Diminution; (2.) To Quality, which is call'd Alteration; (3.) To Place, which is styl'd Local Motion; (4.) To Substance, which is nam'd Generation and Corruption. This last is the drawing forth of the Natural by some Extraneous Heat, as that of the moist Ambient Air, which insinuating into the corrupting body, plays the part of an Agent therein; and not onely alters its qualities, but also either increases or diminishes its quantity; as is seen in the Fermentation of Medicaments, and in Leven which makes paste rise, in which motion the Local is likewise observ'd. Thus the matter being wrought and agitated by all sorts of motions, is dispos'd in a manner suitable for receiving some form, which necessarily ensues upon such disposition.

The Second said, That in Equivocal Generation; (which the Question relates to) Salt holds the place of the Masculine Seed; and the Humidity, it corrects that of the Feminine; as appears by a pot fill'd with common earth, which moistned only with Rain produceth Stones, Plants, and Snails: But after you have depriv'd it of its Salt, by washing it with hot water, (as the Salt-

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peter-men do) it remains barren: Nature employing its fixt Salt for the Formation of Stones; the volatile with its Mercury, for Plants; and the same with its Sulphur for Animals, whose diversity, possibly, comes from that of these Salts; amongst which, Nitre contributes marvellously to Fecundity. Hence Excrements, being almost wholly nitrous, so soon produce Beetles, Flies, Worms, and other Insects: Sweat, being of the same Nature, makes Lice; and Urine, Fleas; the slime of Marshes, which is nitrous, (as the turfs we use for fuel manifest) produces Frogs; Boats of Salt swarm with Rats, who conceive others by licking the Salt: Wheat also, being very nitrous, generates Field-mice, and other Insects: And all this in the unctuous moisture of its self, or which it renders such by its Heat, which reduces the same to a viscosness fit for retaining the form to be introduc'd; and as the Ebullition of Syrops and Must, is a spontaneous Motion proceeding from their salts, so the same being rais'd by the heat without, to a more eminent degree causes the progressive Motion in an Animal. The outward formal Cause is the Disposition of the Matter, which that double heat finding dispos'd for a certain Form, fashions and extends for that purpose. Thus the marrow of the Back-bone being near the Reins, which are full of Salt, may become a Serpent; a Woman's Hair laid in a Dunghil produceth Worms or little Serpents; Caterpillars retain the colour of the sap of the Tree through which the Humour that produces them pass'd, and imitate the several colours of the Flowers about which they are bred; as is seen in the mothy colours of the same Caterpillars especially when they become Butter-flies. The internal, formal, or formative Cause is an invisible Character graven in the said Salts, which determines every thing to its Species, answerable to that which is found in the Seed of each Plant and Animal, and which the Chymists hold cannot be extinguish'd in the salts of some Plants, affirming; that the ashes of Sage or Rosemary sown bring forth Sage and Rosemary. The Final Cause is the Perfection of the Compound; whereunto Nature always aspires; it being certain, that an Animal is more noble than a Body inanimate, whence some prefer a Fly above the Sun. Upon which account she changes Mixts into Plants, and these into Animals.

The 3^d said, That the Universal Spirit of the World acts in this case like a General of an Army, who, seeing an Enemy ready to fly, and none of his own party present to seize upon him, though his Employment be not to take Prisoners, but only to give Orders, yet for this time he condescends to play the part of a common Soldier: so the abovesaid Universal Spirit not seeing any Form dispos'd to keep its rank in the Order of Nature, and finding the matter fit to receive the form of a Rat, Mouse or Frog, presently supplies the same to it by its own sole approach. Hence such Insects as need fewest parts, are soonest and most easily generated of Putrefaction, perfecter Animals never.

The Fourth said, That Nothing being made of Nothing, some Matter is requir'd to every Generation, which being barely alter'd in Animals which produce their like, is corrupted in those which are generated of themselves; the internal Humidity which serv'd to conjoyn the dry parts together, being drawn out; whence Carcases become dust. And because Nature is never idle, therefore when She finds part of that Humidity full of a seminal Vertue and a Vital Spirit, and cannot make a Plant or an Animal of it like what it was before, then she forms imperfect Creatures. Which effect is not to be attributed to the Elements being full of souls, nor to that particular Intelligence which *Avicenna* saith is destined to the introduction of Forms, nor to Heaven, call'd by some, The Parent Forms; but to the establish'd order of Nature, That when Matter is indu'd with all the Dispositions requisite to such or such a Form, the same must be introduc'd into it; which constitutes not a different Species from the Animals generated of Seed; though the particular end of those bred of corruption seems to be the purgation of the Elements, all whose impurities they attract, and are nourisht therewith.

The fifth said, That these Generations must be attributed to the Sun, who transmits not only his Influence upon the surface of our Elements, but also his Influence and Vertue to the Center of the Earth, where it concocts, digests, prepares, and vivifies Metals, and makes mineral Waters boil. For, besides that such Generations happen chiefly when he approaches or makes himself most fell upon our Horizon; some have observ'd, That Rats, begotten of Corruption without the help of Male and Female, are distinguish'd from others; in that, being expos'd to the Sun after death, they have little or no bad smell, but are consum'd and become in a manner nothing; that Planet resuming what it had contributed to them: whereas the smell of other produc'd by ordinary generation is intolerable.

The Sixth said, That both in Univocal Generation (which is compar'd to one fire kindling another) and in that by Corruption (which hath some Analogy with fire excited by a Steel) the same difficulty occurs; namely, What imperceptible Chain and Link attracts Forms, and makes them necessarily descend into the Compound, to give it Being so soon as fit Dispositions concur therein; whether these Dispositions are awaken'd by the Seed, as when you sow a Plant in well-prepared ground, or whether they spring out of the earth without sowing, as many Plants do, which are more vigorous, and less need cultivation than others; by the Gardener's reason, that Mothers have more care of their own Children than Nurses have of those of others. Hence Rats bred of Corruption, are more sprightly, and longliv'd, and multiply more than others. As for the manner of their Generation, it must have some proportion with that of perfect

perfect Animals, which are as little understood; there being no Philosophy that can tell why a Horse begets rather a Colt than a Calf; nor why a Pear-tree rather produces a Pear than a Plum.

CONFERENCE CLXIII.

Of Zoophytes or Plant-Animals.

THe comprehensiveness of this Universe appears in that in the division of Entity and Substance, not onely each Member answers to as many things as are in Nature, but there are as many others as there can be several combinations made of the Members of this division. Thus in the division of Souls into vegetative, sensitive, and rational, there are found middle ones not onely between sense and reason, but also between Vegetation and Sense: Examples whereof may be seen in the Families of Animals and Vegetables. Some Plants have no Root as *Mistle* and *Mushrooms*; others nothing but Root, as *Trubs* and *Truffles*: some have onely leaves, as *Duckmeat*; others neither flowers nor seed, as *Ferne*; some want leaves, as *Venus-Nail*; others commonly put forth the Fruit before the Leaf, as the Fig-Tree; and lastly, some Flower without bearing Fruit, as the Flower-Cherry-Tree: Of Animals, some are bred of putrefaction, and of others, some remain a while without motion or life (to appearance) as the Silk-Worm in its bag, and Snails in Winter; others remain alwayes immoveable, as Oysters: And because this manner of being nourish'd and growing without any progressive motion is proper to Plants, and yet by opening and shutting their Shells they testifie some sense; therefore they are call'd Plant-animals, in which the Soul seems to be compounded, and to resemble changeable colours, which consist of two extrems, as Gray doth of White and Black, being wholly neither, but both together. So also a Zoöphyte is something less then an Animal, and more then a Plant.

The Second said, That Forms and particularly Souls are indivisible. Indeed one may be comprehended in another, as the Vegetative is in the Sensitive, and this in the Rational (which comprehends all eminently) but it cannot enter into the composition of another, much less be divided, informing a body that is half Plant and half Animal; otherwise by the same reason there might be others half Men and half Beasts, which is not imaginable, but under the form of a Monster. Moreover, such division would proceed to infinity, there being a Latitude and Degrees without end between one extrem and another; of one whereof that which partakes most, would constitute a new Species, or rather a new genius, which is absurd, and contrary to Philo-

Philosophy; which admits not multiplication of things without necessity.

The Third said, That by the same reason Plants and Animals being of the same species there can be no doubt but these two attributes might be found in the same Subject. For Vegetation and Sense being onely several operations of the same Soul, which acts differently, according as it findes the Organs of its Subject dispos'd; hence the multiplication of Souls is unnecessary, seeing they are all but one. And as in Brutes the sensitive faculty supervening to the vegetative in their generation, adds no new form to the former; so the vegetation of Plants is nothing less then the sensitive: the dispositions of the matter being the sole causes of this diversity. An Animal depriv'd of the use of some senses, is no less an Animal then another that hath all: why then is a Tree less an Animal, because it exercises fewer operations of its soul then Animals do? Nor is it a conclusive reason that Plants are wholly destitute of the faculties of sense, because the same are not perceptible to our Senses, which yet finde something to satisfy themselves in the sensitive Plant, growing (as *Scaliger* and others relate in *Zanolba*, a part of *Tartary*, where the Inhabitants sowe a Grain like that of our Melons, but somewhat longer; from which grows an Herb which they call *Borra-metz*, that is, a Lamb, whereof it hath the whole figure, especially the Feet, Hoofs, and Ears, yea, all the Head excepting the Horns; instead whereof it hath a tuft of Hair upon the Forehead. 'Tis cover'd with very soft Hair, employ'd by the Natives to make Caps of. Its Flesh resembles that of *Crevices*, and being wounded, sends forth blood, being also of a very sweet taste: It adheres to the earth by its root, which sends forth a Stem or Stalk which is inserted into its Navel. To all which wonders they adde, That it lives as long as there is any green Grass about it, and dyes when the same is wither'd either by time or purposely. And to make the comparison full, they say that of all devouring Animals Wolves alone desire to feed of it. We finde also some example of this double Life in the Wood of *Scotland*, which being humected in water is turn'd into Ducks: as also in the Leaves of another Tree like that of the Mulberry, which *Anthony Pigafet* reports to have two little feet, on which they run away as soon as one touches them, and live onely of Aire. Such likewise are the Mandrakes of upper *Hungary*, which grow in the exact shapes of Men and Women; The *Baraas* mention'd by *Josephus*, which shines in the night, and whose light cannot be stopt but by the menstrual blood of a woman. The Balsam-Tree which *Pliny* affirms to tremble at the approach of the Iron that is to make incision in it; and that other Tree which *Scaliger* saith grows about eight foot high in the Province *Pudiferam*, and upon the approach of a man or other Animal contracts its boughs, and extends the same again upon their departure, whence it took the name of *Arbor Pudica*: which con-

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striction and dilatation is also attributed to the Sponge. In all which effects we observe powers and faculties near of kin to those of Animals. The same uniformity of nature between Plants and Animals is prov'd also, in that, both the one and the other live and dye, have their nutrition, augmentation, and generation. If Animals have their time of being salacious, Plants have theirs of being in Sap. They have distinction of Sex, as appears particularly in the Cypress, Hemp, and the Palm, which beareth not fruit unless planted near the Male, or at least some branch thereof be fastned to it. They seem too to have some kinde of respiration; for besides that they love the free Aire, towards which they encline when planted near a high Wall, or under great Trees; their Root, which is their mouth, hath some discernment of taste, eschewing hurtful soils, and spreading freely into good ground, and not imbibing all sorts of liquors indifferently, but onely such as are convenient for them. Hence their parts have names common to those of Animals; as the Marrow, Flesh, Veins, Skin: In a word, they seem to want onely local-motion, which yet, besides the foregoing examples, is found in the *Herba Viva* of *Acofta* which folds up it leaves and flowers when it is toucht; as likewise Tulips do in the evening, and open the same again in the morning; Marigolds follow the Sun, and thence have gotten the Latin name *Solsequia*; but more manifestly the Sun-flower, and the white Carline Thistle, call'd the Almanack of Peasants, who therefore hang it at their doors, because it folds up its flowers when a Tempest is at hand. 'Tis notorious that the *Bon-Chretien* Pear-Tree, and the Mulberry-Tree languish in places not frequented by men; and on the contrary, testifie by their vigour and fertility that they delight in their conversation. Hereunto might be added the experience of Wood-Cleavers who finde that a wedge enters further at the first blow then for many following; as if the substance of the Tree clos'd it self upon the first feeling it hath of its enemy. But the bending of Hazle-rods towards Mines of Gold and Silver, seems to denote something more in them then in Animals themselves. Inbrief, the motion of creeping Herbs may be call'd progressive: amongst others, that of the Gourd and Cucumber which follow the neighbouring water, and shape their fruit in length to reach it.

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CONFERENCE CLXV.

Of Trubbs or Truffs, and Mushrooms.

AS there is some middle nature between a Plant and an Animal, partaking of both so; there is also between a plain Mixt Body and a Plant, to wit, those Exuberances which grow sometimes on Trees, as Agarick; sometimes only out of the Earth, as Mushrooms and other such fungous Productions, which are driven forth by the inward heat of the earth helpt by that of the Sun. The matter of them is a slime, or unctuous or viscous moisture fit to receive a futable Form, which is various according to the strength of Nature, and the Disposition of the places through which it is driven; as the Water of our Artificial Fountains puts on the shape of the pipe through which it passes. And as for Trubbs, 'tis *Cardan's* Opinion, That melted Snow sinking into the surface of the Earth, and finding fit matter there, produceth this Plant. Which the plenty of Spirits found in Snow, makes me willing to assent to; because they may serve for Seed to its Production.

The second said, That helik'd the common Opinion, that Trubbs proceed from Thunder; whose agitation of the Air, and so of the Earth, awakens the hidden Seed of this Plant, as well of many others that grow of themselves; or else perhaps the Rain that follows Thunder being full of Celestial Vertue, proper for this Production, is the Seed thereof. For the Providence of Nature sometimes supplies by an Universal Efficient the Defect of particular Causes destinated to the production of other Plants, which in most Trees and Herbs is the Seed, which this wants, as also all the ordinary parts of other Plants; because 'tis of the Nature of those Animals who have not their parts distinct one from another, having neither stalk, nor leaves, nor flower, nor root, unless you will call it all root; because it hath more appearance of than of any other part of a Plant: which perhaps is the cause of its excellent taste, which is neither sweet as most roots are, nor sour as most leaves are, nor of any other kind of taste observ'd in the other parts of Plants, but mix'd of all tastes together, being very pleasant, after coction hath matur'd what was terrestrial and aqueous in it. As for Mushrooms, both their Nature and Cause is different; but all proceed from an excrement which the Earth casts forth of it self, and which was bred therein by the perpetual transcolation of the Humidities of the earth; whence they are more or less hurtfull according to the greater or less malignity of such Humours, but always of bad juice futable to its Source and Material Cause.

The Third said, 'Tis the Rain of Autumn that makes the Mushroom; the too great cold of Winter, and that which yet remains

mains in the Spring not permitting that Excrement to come forth, but shutting it up (as 'tis the property of Cold) and the heat and drought of Summer consuming the Matter that produces them as fast as it comes out of the Earth. But in Autumn, when the Earth is cleft and chopt in many places by the foregoing heat of Summer, the Showers and rainy Season supply excrementitious matter proper for this Production. The same might be said of Trubs, if we saw not their generation to be made as 'twere in the turning of a hand, immediately after Thunder: whereof the clefts of the upper crust of the Earth are a manifest evidence; not in all soils, but only in barren and less cultivated; in which, culture would dissipate the matter before it could acquire the preparations requisite to this generation.

The Fourth said, That the story of *Martius Licinius* sometimes Prætor of *Rome* and Governour of *Spain*, who in *Carthago Nova*, biting a Trub or Tuber found in it a Roman penny of the value of seven English, shews that this lump is made of earth hardned together, as Stones and other mixt Bodies are, which grow naturally by the sole apposition of matter without being either sown or planted. For 'tis found in the earth without either root or fibres: yea it may be call'd an imperfection of the earth, because 'tis never found in good ground but only in gravelly places near woods and bushes, and hath no certain bigness; some being very small, and others of the bigness of the fist and of a pound weight; some, full of sand; others not, which are the best. They are also of divers colours, according to that of the Soil, namely Red, Black and White, of a very savory rellish, but hard of digestion, and windy. Their common shape is round, but *Pliny* mentions some horned ones brought from *Thrace*, which therefore he calls *Ceraunia*; he also addeth, that in some places (as particularly at *Asiylene*) the torrents produce them, and carry them along with their streams; that they last but a year, and are more tender in the Spring than at any other season. Some hold that they grow not at all, but are produc'd in an instant of their full bigness; and their reason is, because they have no organs of Nutrition, without which they cannot grow; and indeed they do not generate. This opinion would be the more probable, if what *Pliny* saith were true, namely, that there is no sign of cleft or chink in the earth which covers them. But experience shews the contrary, Swine (who are greedy of them) being lead by the smell they exhale through those clefts, to find them and root them out of the ground.

The Fifth said, That Mushrooms are to Plants, as Insects are to Animals; for both are generated of corruption, and that suddenly; both want distinct parts, and have somewhat of a hurtful or venomous quality (for the most part). But Mushrooms are either Medicinal, as Agarick; or Alimental; or absolutely

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poysonous; which two latter species oftentimes differ only according to the soil. For such as grow in Meadows are the safest, and the Orange-colour'd are as good and delicious in *Provence* and *Languedoc*, as they are poysonous in *France*, *Germany* and *Hungary*, where they are ordinarily employ'd to kill Flies, and where they cause visions. Such were those which kill'd the Emperour *Claudius* Father-in-law to *Nero*, who therefore term'd them *the food of the Gods*, because the Roman Emperours were deifi'd after their death. They are also sometimes discernable by the colour and smell: The blackish or livid, whose juice is yellowish and which smell like Copper, being deadly; but the white, the greyish, and those that are red underneath with a black juice and a pleasing smell, being alimential. The least to be suspected are those which grow by Art in dunged places, or Melon-beds enrich'd with Hogs-dung rotted for the space of two years. 'Tis said also that the good have a thicker stem than the bad, and also a circle or crown on the top. If any malignity remain in them, *Cato* advises to correct the same by setting a Colewort near them, which (he saith) draws to it self all the impurity of the earth; wherein, if soft, are bred Mushrooms; if hard, Trubs; but both without seed: just as Yellow-Gilly-flower and Pellitory grow spontaneously upon walls made with Lime and Sand; Silver-weed, in Brooks; Cresses, in Springs; the Earth containing in it self the imperceptible seeds of many animated bodies. To the Production whereof Nitre alone (by its above mention'd fecundity) suffices; for finding no seed to determine it to any other production, it spends it self in generating of Trubs. For besides their taste and most usual inward colour, (which is white or greyish) their flatuosity and aptness to provoke Lust (which two qualities are proper to Nitre) testify the same; as also doth their Nativity during the Thunder or Rain of Autumn, and of the end of the Spring; which seasons are full of Nitrous exhalations. The same may be said of Mushrooms, which commonly spring out of Nitrous substances, as dung and earth where Salt-Peter grows.

CONFERENCE CLXVI.

Which is to be preferred, Company or Solitude?

TIs hence forward lawful to doubt of every thing, since a Problem is made of an Axiom. For Man being a sociable Creature, renounces that quality when he seeks Solitude; in which not only Speech, Courtesie, and Civility, but all Sciences and Arts, yea almost all Virtues become useles to him, and leave him by little and little to put on Beast and bestial properties

ties, to wit Silence, Rudeness, Ignorance, and in one word Brutality it self; (though there is some society even amongst many irrational Creatures, as Cranes, Bees, Ants, and divers others.) Consider one of those solitary dumpish persons rightly styl'd by the Vulgar *Loups-garoux* (or Men-wolves) enemies of mankind; they are commonly of extravagant minds, whose dotages pass in their own weak judgment for divine thoughts beyond those of the rest of men; but when brought forth they serve for nothing but laughter, which is oftentimes the reason why their Authors keep them so very secret. Examples whereof are seen in all those melancholy Doters who build Castles in the Air. If they make profession of Arms, they are meer *Don Quixots*; if of Divinity, Heresiarchs; if of Physick, Empericks and people void of other skill saving that they have some incommunicable secret. On the other side, consider sociable humors, and you will find nothing in them but what is agreeable and pleasing. If they have any business in hand, they advise with others about it, and knowing that two eyes see not so many things at once as four may do, they polish their resolutions by the mutual collision of their own Opinions with those of others; and considering that the way to do well is to be reprehended by many, they submit themselves to their judgment. Moreover, make an induction of all good things, and you will find them all in Society; without it the World would be depopulated in less then one Age, whereas 'tis perpetuated by propagation of the Species. There is nothing to be got in solitude, though one should imitate the humor of an indefatigable Gamester of these times, who finding no body to keep him company, plays at Cards and Dice all alone in his Closet, which he saith is some divertisement to him: but the Trades-men, Labourer and Merchant gain nothing without Commerce, which cannot be but between many persons. Pleasure is not so much as imaginable, whilst a man is alone by himself. Your Hypochondriacks and other fools cannot conceive any delight but by their fancying themselves conversing with others. Then for Honour, it supposes one person honoured and another honoring; so it consists not with solitude, which consequently is an enemy to all sorts of Good. But to pursue the induction on the other side; we see that Balls, Comedies, Revels, Feasts, and all Ceremonies both Civil and Ecclesiastical are perform'd in company; which, the greater it is, adds the more splendor thereunto. Wherefore if you take away company, you at the same time deprive men of all the means of employing the Goods which they have gotten by their labours, and also of the honour they aim'd at in enjoying the same, the hopes whereof was the onely thing that sweetned their pains. Let a man be alone, and he needs no cloaths but to cover his nakedness, or keep off the cold; whereas the magnificence of Courts is the most glorious token of the splendor of a State.

The Second said, Though it be hard to praise solitude in so good company, yet it hath three sorts of goods in it, which are endeavour'd to be ascrib'd to Society: For, in case it had no other benefit but silence, of the observing whereof none ever repented (but of speaking often) the perfection of a Christian is found in it. For of the three manners of sinning, Solitude hath none to avoid but thoughts; and thoughts themselves arise only from the former frequentation of company: upon which account, those that have most sought Innocence, have retir'd from Companies and Towns. Thus did the Prophets in the old Law, and afterwards Hermites inhabited the Desarts of *Thebes*, and alwayes the strictest Religions have liv'd the most solitary. Then for the delight it affords, there is no pleasure like that of Reading, Meditation, and Contemplation, which are not consistent with Company: and man being more essentially reasonable than sociable, who doubts but a man reasons better in solitude than in the turmoil of company? Nay, not only the speculative Sciences are best polish'd by it, but also the civil and popular, as Eloquence and Poetry; the one was learnt by *Demosthenes* in his Closet, and on the Sea shores; the other is a great friend of solitude, and makes its followers seek it. On this account the Greeks built the Temples of the Muses in Woods and places remote from Towns; and night, the mother and companion of solitude, was by them styl'd *Eufrene*, Wife. This was also the reason why the Pythagoreans enjoyn'd five years silence before the hearing of their Philosophy: yea, those that have received most honour and contentment in conversation have most lov'd Retirement; witness *Augustus*, who long'd to disengage himself one day from publick affairs; *Dioclesian* and *Maximian* who went to seek it in *Slavonia*; and in the last age *Charles* the Fifth in *Portugal*. 'Twas not therefore without reason that the Roman people cry'd that onely *Vatias* alone knew how to live, because he retir'd from the City into a solitary and desert place. For though the Proscriptions and publick Calamities had occasion'd his retreat at that time; yet the contagion of company, the common depravation of manners, and the contentments attending peaceful solitude, are charms strong enough to attract any considering man; besides, that honour too follows it, being compar'd to the shadow, which flies its pursuers, and follows those that avoid it. Accordingly, all those that have affected solitude, as amongst the Pagans *Empedocles*, *Apollonius*, *Num*, the Gymnosophists, and our Druydes, have been most esteem'd by men for so doing. And they are weak mindes which cannot support themselves, but want the conversation of others; herein resembling Ivy and other climbing Plants, which onely creep upon the ground, if they be not propt up by some other; whereas great Oakes and Elmes maintain themselves alone against the outrages of the windes. So also the most generous Beasts are solitary, as the Lion and Elephant in Desarts; the Eagle in Rocks and high Mountains; contrary

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to Pullen and other timid Animals, which are call'd Gregarious. Hence it may be inferr'd, that Fear caus'd men to build Towns; and that (as *Aristotle* saith) onely the multitude of several faces deserves not the name of a company, which made *Diogenes* go about at noon in the Market with a Lanthorne to finde a man; and makes me conclude, that as the wise Man should take contentment only in himself, so he ought to seek onely his own company. For being never less alone then when he is so, solitude indeed hath its society, but society is inconsistent with solitude.

The Third said, That indifferent things are distinguish'd from good and bad, in that they are sometimes good and profitable, sometimes not; but the two latter are alwayes determin'd to one end. Now no body will maintain that company is either alwayes good or alwayes bad. It must therefore be indifferent, and like the water of rivulets in Gardens, which is converted into the nature of the Plants it irrigates. For, is there any Society more authorized by God then Marriage? and yet 'twere a bold proposition to prefer it before the contentment of a Religious life; but because this is not alwayes solitary, after the mode of Carthusians and Hermites, company is to be preferr'd or postpon'd to solitude, according to the several circumstances of the one and the other.

The Fourth said, That according to *Aristotles* saying, There are two sorts of solitary persons; the first, above the rest of mankind, as the Heroes and Demigods of Antiquity, who frequented not men because they found them unworthy of their conversation: the other sort are below men, and avoid converse, as incapable thereof, like those Peasants whom their rusticity keeps from appearing or speaking in company. But because the former are fewer then the latter, hence solitude is more commonly a sign of a mans defect then excellency, and consequently company is to be preferr'd before it.

CONFERENCE CLXVII.

Whether Birds, or four-footed Animals, or Fishes be most Intelligent.

THE Aire, having most affinity with the Spirits whereby all the functions of the soul and body are exercis'd, and both are conjoyn'd; it may seem sufficient to give the advantage to its Inhabitants the Birds, though they had not the testimonies upon which men value themselves above their fellows, to wit, more advantages of nature, and a greater apitude to disciplines then others. For they have the same priviledges of walking upon the earth that other Land-Animals have; yea, some of them, as the Plongeon or Ducker go upon the waters; and besides

sides, they have this particular Gift of Nature, that they cleave the Air with a motion so swift, that the Holy Scripture hath express'd the speed of Angels by assigning them wings. Nor can you imagine any action, without excepting even virtuous ones, which is not found in a Bird. The Swallow is skill'd in Architecture; the Halcyon is able to divine how far the Nile will overflow, and knows that out of Nature's respect to her, there will be no Tempest at Sea while she is building her Nest; the Goose is so safe a Guard, that it sometimes sav'd the Capitol to the shame of the Sentinels; the Wren serves for a guide and a scout to the Crocodile; the Crow and the Turtle are patterns of conjugal amity; so are the Storks of piety; and even the swarms of Bees, are models of Common-wealths; and the Pismires, when Age and Experience has render'd them more advis'd, acquire wings. The Silk-worm is nothing but a Caterpillar till its wings appear; and then fluttering about it, perpetuates its species with such prudence, that it doth not lay its Eggs in heaps, which would hinder their hatching, but disperses them in several places, in order to being more commodiously animated by the heat of the Sun. Then, as for Art, we see no Animals besides Men capable of speech (the first of Disciplines) but Birds. And the particular Examples of the Elephant, and a few other Beasts that have shewn some shadow of Judgement, are outdone by the Eagle which flew into the fire, wherein her Mistress's Body was burning, and many other Instances too numerous to be mention'd.

The Second said, That the little head of Birds, in comparison of the rest of their Body, their driness and abounding Choler permit them not to be so intelligent as other Animals; their chattering jargon as little deserving the name of a Language, as their other actions do that of Virtue. Moreover, their sleep being not so sound and deep, as that of Terrestrial Animals, which by sucking their Dams are more humid; and sleep being the restorer of Spirits, Birds cannot have such plenty as other Creatures. Whence they suffer themselves to be more easily taken than Land-Animals, whose Bodies being more symbolical with ours, they must also have greater aptitude for exercising some functions correspondent to those of our Mind. For the cavities of their head and brains more resemble ours, than those either of Birds or Fishes; particularly, that of the Ape, which consequently is the most intelligent of all Animals next Man; with whom all will agree, that no other Animal can dispute the pre-eminence of Judgement with the least shew of Reason; if any should, it would never gain the Cause, in regard Man must be the Judge.

The Third said, Man hath no more reason to award this Cause to himself, than to pretend to the advantage of flying better than Birds, or swimming better than Fishes, who exceed all Creatures in point of Health, even to a Proverb, which is a thing altogether

altogether necessary to the functions of the Soul. Moreover, they are of a very long Life, which begets Experience, as that doth Understanding. Their Health is manifested by their Fecundity; and since coldness is the Complexion of the wise, and Salt is reckon'd the Symbol of Wisdom, Fishes, the inhabitants of the Sea, and the coldest of all Creatures, must have a share thereof. Besides, if softness of Flesh be a sign of goodness of Witt every where else as 'tis in Man, (and Physiognomy teaches us to draw consequence from other Creatures to him) Fishes have this advantage above all the Inhabitants either of the Air or Earth; both which, were indeed made for Man, but the Sea was primarily made for Fishes; its other conveniencies being only accidental. Silence, the common distinction between the wise and the foolish, is natural to them; whereas the voices and chantings of Birds and other Animals, is oftentimes the occasion of their ruine. Yea, they are so subtle, that Fisher-men cannot take them but with a white line, of the colour of the water; otherwise, if it be gross and visible, they will not come near it. Diffidence, the Parent of safety, is more common to them than to all other Animals, and their vigilance is greater. Land-Animals have no sleight equall to that imperceptible charm, whereby the Torpedo chills the arm of the Fisher-man; or to that of the Cuttle-fish, which when she is in danger of being taken, moils the water with her Ink to keep her self from being seen; or to that of the Polypus, who becomes of the Colour of the Rock upon which it holds, to avoid being perceiv'd. And though the Element of Water so separates us from the commerce of its Inhabitants, that the hundreth part of what concerns them is unknown to us; yet there is none but observes, that Fishes need more sleights to secure themselves from the ambushes and hostilities of others, than the beasts of the field have, which are also more easily taken. The Fish call'd the Mullet, strikes off the bait of the hook with her tail, instead of being taken by it; and if she cannot do so, she is contented to bite it round about; and the Sea-wolf finding her self taken, shakes her head this way and that way with much pain, till she have cast out the hook again; and for the same purpose, the Sea-fox turnes her inside outwards. The Loubine and Sea-dog finding themselves surrounded with the Net, make a hole in the ground and sculk therein, till the Net be drawn over them; but the Dolphin rejoyces in the Net, because he may with ease fill himself with his fellow-prisoners; yet when he perceives he is drawing near the shore, he bites the Net, which if he cannot do quick enough, the Fisher-men knowing him a Friend to Man, pardon him the first time, and only thrusting a bul-rush through his skin let him go; if he be taken again (which seldom happens, as *Plutarch* saith, out of whom most of these Relations are taken) he is beaten. Yea, they are ingenious not only for themselves, but for others; for when the Gilt-head hath swallow'd the hook,

hook, his companions bite the line, and if one of them fall into one of the Melbes, they lend him their tails to bite and draw him through; and when the Barbles see one of their companions caught they get upon him and with the indented spine they have upon their backs cut it asunder. *Crassus's* Lamprey would take bread out of his hand, and was bewail'd by him when it dy'd: The story of *Arion*, and that of the Fish call'd *Manaro* in the Island of *Hispaniola*, which was delighted with praises and Musick carry'd nine or ten persons upon his back, and having been wounded by a Spaniard disappear'd; the Raye which *Olaus* writes defended a man from Dogs upon the shore of *Denmark*; and the Sea-Eele which the Indians carry behind their Boats to let him play about the Tortoises and other Fishes which they take; are abundant instances that Fishes are both sociable and docible. This also is justifi'd by the *Pinatere*, which pricks the Oyster to advertise it when its prey is within; by the Spongother, which performs the same office for the Sponge; and by the Whale's guide whom she suffers to sleep in her throat, and without whom she would dash against the shore; by the Pike, which keeps company with the Tench, whose sliminess serves to close his wounds; by the Tunnies, who always set their good eye toward the shore, and move well order'd in a cubick squadron; by the Sea-Urchins, which presaging a tempest, lade themselves with stones for fear of being carry'd away by the waves; and by all Fishes in general, which swim against the wind, lest it should open their scales, excepting one whose scales are set the contrary way.

CONFERENCE CLXVIII.

What is the cause of the Crisis of Diseases.

CRISIS (if you consider its derivation from a word which signifies either to *judge* or to *separate* or to *encounter*) agrees in some sort to every of those significations; for a Disease is judg'd by it, it separates the good humors from the bad, and that after a combat between Nature and the Disease. But 'tis commonly defin'd a mutation of a Disease either to Health or Death, for better or for worse. We must first consider in it, the term of its commencement, which is the Augmentation of the Malady, whence acute ones have their Crisis sooner than Chronical; the very acute being sometimes judg'd in four days, in which time very malignant Fevers sweep men away, but commonly within seven days; acute Diseases are judg'd by the 14th or 20th day, and sometimes not before the 40th. Chronical Diseases extend to the 120th; after which term they count no longer by days but by moneths and years. The term it ends at,

is either Health or Death, or the change of one Disease into another. The term through which it passes is the space of time employ'd by Nature in the coction, separation and excretion of the peccant Humours. The Agent or Motor is Nature, which must be assisted in imperfect Crises, not in such as are perfectly made. Lastly, we must consider what is mov'd, namely the Humors; for Crisis hath place only in humoral Diseases. A perfect Crisis judges the Malady perfect either to Health or Death, and hath had its indices of coction the fourth day for the Crisis on the seventh, the eleventh for that on the fourteenth, and the seventeenth for that on the twentieth; it must also be manifest either by evacuation or abscess (for those that mend without apparent cause relapse) and fall upon critical days, without any dangerous symptom: and after such evacuation the Patient must be manifestly better, especially if it be universal and sutable to his Nature, Age, and Malady. Long Diseases are judg'd by Abscesses; acute, by Evacuation. In young persons Fevers are judg'd commonly by Hemorrhage or some flux of blood; in old men, by that of the belly. Now besides those Critical and Indicative days there are others call'd Intercidents which judge imperfectly, and others also Medicinal, because in them purgatives may be administred; which days are sometimes Critical, but always unfaithful, and commonly mischievous; which will better appear by this general application. The first day is reckon'd from the hour of the first invasion felt by the Patient in acute Diseases, and from the time of his decumbiture in Chronical. Yet in women newly deliver'd we begin not to reckon from the time of parturition, unless it were precipitated, but from the time of the Fever; and this first day judges no other Disease but a *Febris Ephemera*, or one-day Fever. The second day is vacant and without effect. The third is Intercident, call'd by some *Provocant*, because it irritates and provokes Nature to make excretions before the time; for being odd, it causes some motion in the morbifick matter, but imperfectly, as not following the order of Nature mention'd hereafter; nevertheless 'tis Critical in very acute Maladies, and such as disorder the Laws of Nature. The fourth is an index of the seventh, and shews what is to be expected that day by either the Concoction or Crudity of the Urin and other excrements; no laudable Crisis hapning without Concoction precedent. Which holds good not only in continual Fevers, but also in the fits or accessions of Intermitting ones: for the fourth day being the middlemost between the first and the seventh, it foreshews the design and strength or weakness of Nature, and what she is able to do on the seventh. The fifth resembles the third, being likewise provocatory in Diseases wherein Nature hath made an unprofitable attempt on the third, which she then endeavours to repair; but unsuccessfully too, this Crisis being most commonly imperfect. The

sixth is also Intercident but ordinarily very badly critical: Whence *Galen* compares it to a cruel and faithless tyrant, which precipitates the Patient into evident danger of life, if it do not kill him. It hath place chiefly in cholerick Diseases, for in sanguine ones salutiferous Crises happen on this day, which is even; the Blood being observ'd to move on even days. On the contrary, the seventh resembles a just and gentle King or Magistrate; for neither precipitating nor deferring too long the judgment of the Patient, it gives him time of consideration, judging him after its Indices fully and perfectly, safely, manifestly and without danger. 'Tis call'd Radical, as being the root and foundation of all the other Critical Days, and the end of the first week. The eighth is of kin to the sixth, but not quite so dangerous. The ninth is the greatest Intercident and comes nearest to the nature of the Critical, though it be not of their number. The cause whereof is, its being compos'd of odd numbers, wherein we have said that moribund humors are commonly mov'd; or else because 'tis equally distant from 7 and 11. The tenth resembles the eighth in danger and other circumstances. The eleventh is an index of the fourteenth, to which it hath the same reference that the fourth hath to the seventh; saving that the second week is less active then the first, and the third then the second. The twelfth is not of any consideration: and *Galen* saith, he never observ'd any Crisis, good or bad, on it. The like of the thirteenth. The fourteenth follows the seventh in dignity, and judges those Diseases which the seventh did not, being the end of the second week, and in this consideration, odd. The fifteenth and sixteenth are not anywise remarkable. The seventeenth is an index of the twentieth, till which the intervening are insignificant, and this twentieth is taken by Physicians for the end of the third week, because they make the same begin from the fourteenth inclusively. From the 20th to the 40th, (which is the end of Crisis in acute diseases) every seventh day is critical. But after the 40th, Diseases are call'd Chronical, and have their Crisis every 20th day to 120, so much the more obscure as they are distant from the beginning. Of all which changes the Moon seems rather to be the cause then the other Planets, or the vertue of Numbers, as being more active by reason of her proximity and various apparitions.

The Second said, That the reason upon which Astrologers attribute Crisis to the Moon, *viz.* her moving by quaternaries and septenaries, (her notablest changes hapning every seventh day) is too general. For though she rules over Moistures or Humidities, and a Crisis is only in Humoral Diseases; yet she cannot introduce any change in the above-mentioned Critical Days rather then in others; because then she must have this power either from her self or from some other, and the severall Aspects of the Sun. Not from her self; for then no change would happen

happen in the Moon her self, nor consequently in us by her means, since things which are of themselves in some subject continue always the same. Not from the Sun; for then these alterations in Diseases should happen onely at certain postures of the Moon and not in all. Now, suppose *Alexander* fall sick to day, and *Aristotle* to morrow, yet neither of them shall have a Crisis but on the seventh day. Besides, the opposition of the Moon being less at the seventh then at the thirteenth day; the Crisis should be rather on the latter then on the former. And the same effect of the Septenary in the Conception, Life, Nutrition, and Actions of Animals, which is not observ'd hitherto; the stomach digesting not better on the seventh day, and the seed not being stronger that day in the matrix then on any other: and the eighth day wherein the Moon is further from the first then she was on the seventh, should cause the Crisis, and not the seventh. In brief, the septenaries of diseases rarely agree with the Septenaries of the Quarters of the Moon; whose motions being unequal according to the different elevation of her Epicycle, would render Crisis uncertain. Wherefore *Galen* not finding his reckoning hit with the Lunar Motion, feign'd a Medicinal Moneth consisting of six and twenty days and some hours; but he hath had no followers therein. *Fracastrorius* went a better way, attributing the cause of Crises to the motion of Melancholly, which is on the fourth day: but as the bilious humor moving alone on the third day without melancholly, doth nothing, so melancholly alone produceth not any Crisis on the fourth day. The fifth hath also the motion of Bile alone, and consequently is without effect. The sixth is quiet in reference to these humors, being the day of neithers motion: but on the seventh, these two Biles concurring together make a great critical agitation. But if the matter be not then sufficiently fermented and concocted, the Crisis will not come till the fourteenth, when the same motion of those two humors is again repeated.

The Third said, That this opinion of *Fracastrorius* makes Crises fall upon dayes not critical, as the tenth, thirteenth, sixteenth, nineteenth, and two and twentieth, contrary to all antiquity and daily experience: and is founded in an errour, namely, that one humor cannot putrifie in the body whilst the rest remain pure; seeing Quotidian Fevers are caus'd by Phlegm alone, Tertians by Choler alone, and Quartans by Melancholly alone; and that no other reason can be given of the regular motion of Crises, but of the motion of the Heavens.

CONFERENCE CLXIX.

What Bodily Exercise is the most healthful.

WHat motion is to the Aire and Water, yea, and to Fire too (which it maintains) that is it to our Bodies; Ease makes them heavy, and of the nature of the Earth, which of all the Elements alone delights therein: For the Body consisting of the Elements, it necessarily without motion falls into the corruption which Rest introduces into them: and the excrements remaining after nutrition, either recoil back into the masse of Blood, or else resting in that part of the body which is satiated with them, overcharge the same, and cause that plenitude which is so much suspected by *Hippocrates*. On the contrary, Motion awakens the natural heat, drives out the excrements collected by ease, strengthens the Members, and renders all the Faculties more vigorous; provided onely that it be us'd after evacuation of the grosser Excrements, and before meat, because then rest is necessary; otherwise the food in the Stomach will be subverted, and the motion of the outward parts will too soon attract from the inward the food undigested; whence many diseases arise. And this right use of Exercise is so necessary to health, that the Athenians purposely dedicated a place for exercises, call'd *Gymnasium*, to *Apollo* the God of Physick; for which word the Art which treats of exercises is call'd *Gymnastica*; and the Sorceries of *Medea* may be better understood of Exercises, which make young, and strengthen bodies formerly soft and effeminate, than of Herbs wherewith she stuffed the bodies of old men whom she had jugulated; an Art, without which *Plato* and *Aristotle* thought a Commonwealth could not be good, and to which chiefly is to be attributed the difference found between our modern Souldiers, and the Roman Legionaries; yea, between the good habitude of their bodies, and the weakness of ours, who have so intermitted their exercises that onely the names of many are left. Now, since motion, which to deserve the name of exercise must alter the respiration of the Animal, is violent to it, and of violent things we cannot take too little; I conceive that such exercise as holds the mean between rest and extream motions, is the best. As Riding, or going on Horseback, which giving us motion, diminishes the labour thereof, and stirs all the parts of the body; which happens not when onely one part of the same body is exercis'd, and the rest remain unmov'd.

The Second said, That Exercise, which is a voluntary motion and agitation of the Body with respiration increas'd (whereby 'tis distinguish'd from the labour of Artisans and Labourers, and from Actions accompany'd with no striving, as playing on Instru-

Instruments) was transferr'd to the use of Physick by one *Herodicus* according to *Plato* in the third Book of his Republick, and 'tis taken two wayes, either for that which is made by the proper motion of the Body, or for such motion as is external to it, as Swinging (the *Petaurum* of the Latins) Navigation; going in a Coach, or Litter: As for those made by the Body alone, they are of three sorts; Athletick, Military, and Ludicrous or Pastimes. The Athletick, though the ancientest, yet to me seem the most unprofitable, serving onely to harden the surface of the body and the extreame parts, as the Armes and Legs: such were Wrestling, (which is still in use among our Britains, and at *Constantinople* before the Grand Seignior's Gate amongst some Tartars whom they call *Pluyanders*) Acrochirism, which consisted onely in keeping the fingers interlac'd one within the other; Fifty-cuffs, call'd anciently *Pugilatus*, and imitated at this day by the Gondoliers at *Venice*; *Cæstus*, wherein the hands were arm'd with plates of Copper; and *Pancratia*, which was compounded of Wrestling and Pugilate. Of this sort were also, Running, commended by *Seneca* in his fifteenth Epistle for the Chief of Exercises, and by *Plato* in the eighth Book of his Republick; Leaping on high and in length, either on both Feet, or on one (as that of the Aleman) the hand and body being void, or else laden with counterpoises of Lead which they call'd Halteres (as our Morrice Dancers oftentimes wear leaden Pumps, that they may be the more nimble when the same are lay'd off) or with a Pole to balance themselves in leaping: whereunto may be added the Art of Vaulting. Military exercises belonging either to the ancient or modern way of Militating, and are perform'd either on foot or on horse-back. To the former belongs Fencing, anciently the Art of the Gladiators, and at this day much practis'd with Sword and Dagger: to which may be added managing the Pike, Halbard, and Quarter-staff, casting of Bullets, the Spanish sport of running at Bulls, and the hurling of the Zagaye or Lance in Turkey, and shooting with a Bowe or a Gun at a Mark. Military Exercises on Horse-back are fighting at Barriers, running at the Ring and Quintin: to which may be referr'd all sorts of hunting. The last kinde of Exercises which relate to sport are Dancing, the dangerous Tricks of Tumblers, who seems to practise the Cubistick Art of the Ancients; the Disk or Coiting, which seems common to them with us; and the Ball, of which among the Greeks there were four sorts, differing according to the greatness or smallness of the Ball and the Instruments wherewith they struck. Adde to these our modern pastimes of Pail-Mail, Tennis, &c. Next to which you may reckon Shouting, or the exercise of the Voice, which opens the Breast, excites Heat, and cur'd the infirmity of *Demosthenes's* tongue; whence *Aristotle* allows Children to cry, because it purges the Humidities of their Brains. But of all Exercises I think none equal to Walking; as that which comes nearest natural

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motions, is easie, consumes superfluities, helps respiration, strengthens the stomach, recreates the Senses and Spirits, and appeases the commotions of the Soul: upon which the Peripatetick Philosophers chose it as an exercise serviceable to the minde and body both together.

The Third said, That he was of *Galens* opinion, who compos'd a Book concerning the Exercise of the little Ball, which he prefers before all other for six principal reasons. First, Because it exercises and delights the minde as well as the body; which pleasure is the greater in that it is not dishonest; this kinde of play being of the rank of the honorable. Secondly, Because Hunting, which may be alledg'd to be of that rank, needs a great train of nets or hays, horses, dogs, birds, and other such equipage; whereas the Game of Ball, even as it was practis'd in *Galen's* time, when they play'd with the palm of the Hand without stick or racket, may be exercis'd by all sorts of persons; and this every one knows, that a Good is the better for being the more common. Thirdly, Because Hunting requires much leisure, of which only rich and idle persons are capable; whereas a Scholar or Tradesman may, without much prejudice to their ordinary Employment, divert themselves at this play: Which (in the Fourth place) exercises all the parts of the Body almost equally; which most other motions do not, some exercising only the upper, some only the lower parts, and that to excess: Which (in the Fifth place) happens not so commonly in this, wherein you may play as fast or as slow as you please; the excess which some commit therein, proceeding only from the irregularity of their Mind, from which the more discreet are free, retiring upon the first sweat, if they have no other intention. In the Sixth place, it hath no danger as Hunting hath, where the Boar's tooth, the Stag's horn, and the casualties of falling from the Horse, at least excessive toil and weariness, are more certain oftentimes than the pleasure expected from it; as Running also causeth breaking of the Veins; and Wrestling, dislocation of Members. Whereto it may be added, that the Body acquires dexterity by the Game of Ball.

The Fourth said, That that Exercise seems most healthful, which is suitable to every one's Nature. Walking is not for the lame, nor running for the Phthisical. Above all, every one's Custom is considerable, in which regard the Exercise of our profession leaves us less Exercise than those of others. Wherefore I conclude for Exercises which besides the motion of the Body, and the divertisement of the Mind, leave some profit behind them; as when a Man of Affairs gives his dispatches and resolutions as he is walking, and the Vine-dresser by exercising himself in digging his Vineyard, finds in the Evening, besides the good Stomack he hath gotten, the end of the talk which he had propos'd to himself.

CONFERENCE CLXX.

Whether Vertue consists in Mediocrity.

TIs the property of every thing destitute of Reason, to be carried to Extremities; the Stone to the Centre; Fire to the Circumference; the Earth imbibes as much water, and an Animal eats as much food as it can; the Spider weaves as long as it hath where-withall; the Nightingale sings oftentimes till she bursts; every Passion guided by it self alone, is carry'd to the utmost point. 'Tis reason alone that prescribes bounds to these Extremities, which are every where found vicious. On this account, *Dædalus* in the Fable enjoyn'd his Son *Icarus* not to take his flight neither too high, for fear lest the wax of his wings should melt at the approach of the fire, which he conceiv'd was in the Sphere of the Sun; nor yet too near the Sea, for fear of wetting them: But to take the middle way in the Air, which course all have held that have been happy. And as that Man is insupportable, whose Avarice spares his Wine at the first pint; so Thrift is too late, when you are come to the bottom of the vessel. The Prodigal by doing good to others, does hurt to himself; the Miser does no good to others, and much less to himself; he alone that keeps a measure in his Gifts, deserves the name of Vertuous, and makes his Liberality esteem'd. Rashness does oftentimes as much, and more mischief as Cowardise; but Valour, holding a mean between both, prevents it. The same may be shewn by Induction in all the Vertues, which have therefore been conceiv'd to consist in the middle. In consideration whereof, the Wise-man prays for neither plenty nor want, that he may eschew the inconveniences of both; but for a Mediocrity, to which the Ancients, to shew their esteem thereof, gave the attribute of Golden.

The Second said, That Mediocrity is an Invention of mean and irresolute Souls, who in expectation what side to take, would keep themselves indifferent to any choice; and so long as they do so, they shew their want of Masculine Virtue, which alone accomplishes great designs, though with great pains, which are the rate for which in old time the Gods sold every thing; nor is there a clearer market now-a-days, wherein we see none thrive that are neither Fish nor Flesh, and are alwayes to seek for a Master, but only such as have found a good one. Ask those who so much extoll Mediocrity, Whether they would make choice of an indifferent Friend, and do not esteem a zealous one above a luke-warm one; so hated both by God and Men, that the Scripture saith, God will spew the luke-warm out of his mouth, they being, in truth, no better than Hypocrites. Moreover, Charity, the sublimest Vertue, and which must survive Faith and Hope,
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(perfect Fruition admitting only Love) ought to be so extream, that it can never be too much; since we are oblig'd to endanger our selves for others, and to love God more than our selves, and our neighbours as much as our selves, whom we always love too much. Let us see now, whether Justice loves Extremities best; concerning which matter, we find it said, that the highest Justice is the highest Injustice. Then for Chastity, Is it fit for a Woman (think you) to lend one part of her honor to a Friend, and to keep the other? In brief, Do we not see that a too circumspect Captain deserves not the Name of valiant, but quits it for that of prudent? And in the practice of Prudence, he who balances too long, and takes not a speedy Resolution to pursue the same yet more courageously, is abandon'd by all the World. Moreover, the Laws of the *Athenians* punish'd those that would swim between two waters, taking no side in a publick Sedition; as judging it better to fail in the choice of the one or the other of such parties, than to take none at all. If you have to do with a Priest about a Case of Conscience, is any thing more insupportable than to find an unresolv'd Mind? The same may be said of an Ambiguous Lawyer and Physitian, who send back their Clients and Patients more dissatisfi'd than they came. He that seeks Employment under Grandees, must not boast of Mediocrity in his abilities to serve; Diligence will not admit division, much less fidelity; nothing pleases but what is extream: Which possibly hath brought Hyperboles into such credit at Court, and made nothing more usual in commendations, than the word Extreamly.

The Third said, That since a Defect and an Excess is incident to all Humane Actions, Reason requires that we assign the middle place to Virtue, which is defin'd by *Aristotle*, An Elective Habit consisting in a Rational Mediocrity: And if any be found that seem to be only in Excess, as Humidity in an extream Abasing of our selves; Magnanimity in Courage rais'd above the greatest things; yet their several circumstances, especially those of their End, serve to qualifie and determine them. This Chastity which seems uncapable in excess (since a Virgin cannot be too chaste) yet was vicious in the Vestals, because they had an Evil End in Paganism, as it is virtuous in our Nunns.

The Fourth said, That Virtue being high and sublime, this argues that it consists in extremity; as also do all the Theological Virtues; Charity, as is above declar'd; Faith, the least doubtings wherein are criminal; and Hope, which never wavers. So likewise do the Cardinal Virtues, amongst which the inflexible Justice of *Cato* and *Aristides*, far surpasseth in dignity the accommodations and wayes of Accord of Arbitrators, which alwayes need a supream Authority to be authoriz'd and executed. Hence a severe Judge of these times having remitted a little of his ordinary severity, to comply with the Humors of the Age, was said, To have become a Man; as if he had been Divine before.

fore. As for Temperance, Chastity which is a Species thereof, is more laudable and better merits the name of Vertue in a Virgin than in a Wife; and the abstinence of *S. Nicholas* who is said to have fasted from the Nurse's Breast, or that of *S. Simon Stylites* was much more vertuous than ordinary Fastings. In brief, Prudence, though it teach us to keep the middle every where, yet is despis'd when accounted indifferent. Moreover, by the Reason of Contraries, Vertue must consist in extremities, because Vice does so; and if Vertue should consist in the middle (which partakes of the nature of the extreams) it should be composed of two extream Vices; which is absurd. So the Earth, the vilest part of the World, is in the midst; and Heaven, the noblest, at the extremities, which are the circumferences. Otherwise we might with some probability render the same reason that a Satyre of these times did, why there are so few vertuous persons now-a-days; Because, saith he, Envious Antiquity plac'd Vertue in the middle which is a point, and a point is impossible to be found.

The Fifth said, That we must distinguish Moral vertues from Theological. The former consist in mediocrity, but not the later; and are therefore call'd supernatural as not only attaining but surpassing the bounds of Nature; yet every moderate moral action is not vertuous, nor every extream vicious. For some are always Vice how little soever you take of them; as Adultery, Homicide, and Theft; others, always Vertue in whatever extremity they be found; as Temperance and Fortitude. And because Action, wherein Vertue consists, is of particular things, this is best verifi'd by examples. Thus Liberality is a mean between Avarice and Prodigality; the Avarous being excessive in receiving and defective in giving; the Prodigal, on the contrary, excessive in giving and defective in receiving. Magnificence hath the same respect to great expences that Liberality hath to less. The regular desire of moderate Honors hath for its extreams, Contempt of Honor and Ambition; Magnificence hath the like, in reference to great honors. Mansuetude or Clemency is between Choler which is offended with every thing, and Stupidity which is offended with nothing; Veracity, between Boasting and Dissimulation; Facetiousness, between Bouffonry and Rusticity; Amity, between Flattery, Morosity and Pratling; Modesty between Fear and Impudence. Indignation to see the wicked abuse Fortune, between Envy which is troubled at the prosperity both of good and bad, and Malevolence which rejoices at the harm of both; Sufferance, between Softness and Insensibility; Prudence, between Stupidity and Craft. In short, all Vertues will be found thus, and have their extreams, although their names are not always easie to express.

CONFERENCE CLXXI.

Whether the Imagination be able to produce and cure Diseases.

AS Health is a natural Disposition fit for performing the several operations of the Bodie's Organs, and consisting in the due temper of the Similar parts, the Symmetry of the Organical, and the union of both together; so a Disease is a disposition contrary to nature, hindering the same Functions by destroying the Temperament of the first Qualities, the proportion and laudable conformation of the Organs, and the Union of both; whence arise three sorts of Diseases, *viz.* Intemperies, ill Conformation, and Solution of Continuity. Now the Question is, Whether the Imagination can of it self hinder the ordinary Functions of the Similar parts, by destroying the harmony and temper of the four first Qualities, which is the principle of their actions; as also those of the Organical parts, by changing the natural Figure, Magnitude, Number and Situation of these Parts, and the action of both by the dissolution and divorce of them asunder. Diseases of bare Intemperature, which is either simple or with matter, the Imagination may produce by moving the Spirits and Humors; which it hath power to do. For the Spirits being aerious and naturally very hot, when they are sent by a strong Imagination into some part, they may so heat it as by the excess of their heat to destroy the temper of such part; as Anger sometimes heats the Body into a Fever. And as the too great concurrence of these Spirits makes hot intemperatures, so their absence from other parts causes cold Diseases; as crudities and indigestions, familiar to such as addict themselves to Study and Meditation after Meat; the Spirits which should serve for Concoction being carry'd from the Stomack to the Brain. In like manner, the Imagination having dominion over the Humors, which it moves by mediation of the Spirits; as Joy, Shame, and Anger bring blood and heat into the Face and outward parts; and Fear and Sadness give them a contrary motion; it appears that it hath power to produce Maladies of Intemperies with matter by the fluxion or congestion of the Humors into some part, and out of their natural seat. But if the Phanſie can disorder the work of Conformation in another body then its own (as that of an Infant, whose marks and defects wherewith he is born, are effects of his Mothers Phanſie) much more may it cause the same disorder in its own Body, whereunto it is more nearly conjoyn'd. Wherefore, since it can destroy the temper of the Similar parts and the harmony of the Organs, it may also cause Diseases, and by the same means cure

cure them too : for if contraries be cur'd by their contraries, then it may cure a cold distemper by producing a hot one ; and if it hath power to cause by motion of the humors an obstruction in some part, it may by the same means return them to their natural place, and cure such obstruction. 'Twas to the Phantasie that the cure of those Splenetick persons is to be attributed, who were cur'd by the touch of the great Toe of *Pyrrhus's* left Foot ; and we see many Cures wrought by Amulets, Periapts, and other like Remedies ; which having no vertue in themselves to produce such an effect, the same must be referr'd to some other cause. Now none hath more empire then the Imagination over the Spirits and other Humours, wherein almost all Diseases consist.

The Second said, That the Imagination being a simple Cognoscitive Power cannot of it self produce the effects that are ascrib'd to it. For all Cognition is Passion, and to know is to suffer and receive the Species of the thing that is to be known, whose impression made upon the Organs of Sense is by them carry'd to the Imagination, which judges thereof upon their report. Moreover, there is this notable difference between the Sensitive or Cognoscitive Powers, and the Vegetative or Motive which are destitute of all Cognition, that the latter are active out of themselves and operate upon the Members, which the Motive Faculty moves with full power, and upon the aliments which the Vegetative Faculties (as the Nutritive and Auditive) alter and turn into the nature of the parts. But the Sensitive Faculties and all other Cognoscitive Powers have no real sensible action. They are active indeed so far as they are powers issuing from very perfect Forms, but their actions are immanent and produce nothing beyond themselves, and consequently can have no influence abroad. So that the Imagination cannot immediately and of its own nature produce either a Disease or Health in the Body, but only by means of the Motive Power or Sensitive Appetite, the Passions whereof are acknowledg'd by Physicians to be the external causes of Diseases. If the Phantasie could produce any thing, it should be by help of the Species it is impregnated withall ; which being extracted from things, some think that they eminently contain the vertues of the objects from whence they issue and whereof they are Pictures, and that hence it is that the Teeth are set on edge upon the hearing of grating sounds, that the sight of a Potion purges many, and that of salt things makes the Stomack rise in others, and that the thought of the Plague oftentimes propagates it more then the corruption of the Air. Nevertheless these effects proceed only from the various motion of Heat and the Spirits caus'd by the Appetite and the Motive Power, which are distinct from the Imagination. For if the Species had the same power with the objects from which they issue, they would not be perfective but destructive of their Organs ; the Species of Heat would burn

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the Brain, that of Cold would cool it, both would destroy it, which is contrary to experience. For though Heat and Cold are contraries in Nature, yet they are not so in the Understanding, but rather friendly; the one contributing to the knowledg of the other; and the end of Intentional Species is not to alter, but onely to represent the objects whereof they are copies.

The Third said, That *Aristotle* hath built his *Physiognomy* upon the great connection and sympathy of the Soul with the Body, which is such, that the one causeth considerable changes in the other: To which purpose the Soul employes no other more effectual instrument then the Imagination. Which power of the Soul upon the Body is evinc'd by the mighty effects of the Passions, especially of Fear, Love, and Anger; Fear having kill'd many, as particularly *St. Valier* before the stroke of the Executioner: On which account it is also that Mirth is commended for one of the best preservatives from the Plague. And we see that Fear and Sadness are no less the causes then the infallible signs of the Disease call'd Melancholy. The same is further verified by the strange Histories of those, who being become sick by Fancy, could not be cur'd but by curing the Fancy first; the Remedy being to be of the same kinde with the Disease. Thus he who fancy'd he had no head, could not be restor'd to his right sense till the Physician clapping a leaden Cap upon him, left him to complain a while of the Head-ache. And another, who having study'd Physick a little, and took up a conceit that he had a prodigious excrescence in his *Intestinum Rectum*, could not be cur'd till the Chirurgeon had made semblance of cauterizing it. Another Gentleman who durst not piss for fear of causing an universal Deluge, was cur'd of his conceit by the Countrey peoples crying out, Fire, and desiring him to quench it. In like manner another believing himself dead would not eat, and had dy'd in good earnest, had not his Nephew (who was reported dead) come into his Chamber in a winding Sheet, and fallen to eat before his Uncle, who thereupon did the like. And to go no further, the tying of the Codpiece-point is accounted an effect of the Fancy, and is cur'd by curing the Fancy alone. So likewise a Lord of Quality falling sick accidentally in a poor Village, and complaining less of his Malady then that he should dye without a Physician: no other expedient was found but to cloath his Cook in the Curates Gown; upon which he presently became half cur'd: but causing the Curtains to be undrawn that he might the better see to thank his Doctor, he discover'd the deceit, and fell sick again more dangerously then before: his imagination thus producing the effects both of sickness and recovery.

CONFERENCE CLXXII.

Of Fascination, or Bewitching.

Fascination or Bewitching is the doing of hurt to one by sight, without Contact mediate or immediate; to deny which, is to deny common experience, the verdict of all Antiquity, of the Learned, and of the Holy Scripture it self. The manner of it is vulgarly thought to be this, namely, when one, maliciously, and with a dangerous eye beholding some fair Child, (whose tenderness of body makes it more subject to hurt than a stronger person) hurts it by commending it; which Sorcery is thought to be render'd ineffectual by making Children wear about their Necks some preservatives, ridiculous indeed, yet much in use, particularly amongst the Spaniards; such as the figure of a thumb between the two fore-fingers in the form observ'd in making a fig for one; 'tis also a practice to make such a fig when they rise in the morning, and to spit three times in the bosom. Now this kinde of Fascination the Poet extends even to Beasts, in the common Verse,

Nescio quis teneros oculus mihi fascinat agnos.

Some refer it to Antipathy, as they do the Basilisk's killing at a distance, and the hoarseness caus'd by sight of a Wolf. *Plutarch* in the fifth Book of his *Symposiacks* saith, That some hurt their Parents and Friends with their Eyes alone; and he relates a story of one *Entelidas*, who (like a second *Narcissus*) perceiving himself handsome in a Fountain, thereupon lost both his health and his beauty: whence he concludes, that such Fascination proceeds not alwayes from Envy, but he refers the cause to the perverse custom some get of doing mischief, which being turn'd into nature, becomes as necessary to them as 'tis to a bowl to roll. Others think it an effect purely natural; as a Blear Eye infects the beholder with the same evil; and *Plutarch* saith, He saw certain ancient people call'd *Thibii*, who by their aspect hurt not onely Children, but perfect men: the visual rayes being render'd more active by the evil habit of those that have intencion to hurt out of envy, which is discern'd commonly by frequent beholding the prosperity of a hated person; whence comes the word *Invidere*. An example whereof is seen in the little Bird call'd a Witwal, which becomes sick by the sight of one that hath the Jaundies; whereof the Bird being presently conscious shuts its eyes upon such a persons approach. For the poison is communicated onely to such as are fit to receive it, even at further distance then fire reacheth *Babylonian Naptha*. And they hold that Envy, or some other passion, increases its activity, the
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soul promoting the operations of the body; as the imagination excites love, and eager Dogs sometimes become blinde through the violence wherewith they pursue their Game. This opinion is backt by the observation of menstrous women, whose aspect alone taints a Looking-glass; and also by the effects proceeding from the passion of Love, the cause whereof is attributed to the Eyes, which are sometimes so disorder'd by erotical Folly, that they see not the objects before them, which cannot be attributed to beauty alone, considering that the fairest women have oftentimes least power to attract Lovers by their looks; whence some are found more dangerous to behold then others. Besides, *Plutarch*, *Aristotle*, and *Heliodorus*, who confirm this Fascination, (which is deriv'd from the word *Βασανισμὸς* to Envy) in *Dent. 28. 56*. This word is us'd and translated by *St. Austin*, Fascination; and the Chaldeans call'd it an evil-Eye, as elsewhere that Eye of the envious Hireling is so term'd. But *St. Paul* speaks plainly of it, *Gal. 3. 1*. asking the Galatians, *Who hath bewitched or fascinated you not to obey the Truth?* Which *St. Anselm* interprets thus, *Who hath hurt you by a livid and envious beholding of your perfection, or (like Enchanters) hath deluded you and made you see one thing for another?* And *Tertullian* saith, That Fascination, which so followeth Praise, that the one is taken for the other, is a work of the Devil, and sometimes also a punishment of God upon such as forget themselves through vanity.

The Second said, That Fascination in the vulgar sense, is not onely possible but natural, though the cause be occult; as also are magnetical and electrical attractions. Thus maleficated persons infect by insensible transpiration what they wear about themselves: whereunto the eye's structure and temper renders it the fittest part of the body; whence, besides Diseases of the eyes, we see Tears easily draw others from those that behold them shed. *Pliny* relates that the Tribalians and Illyrians when angry, kill'd people by their aspect alone. And *Olaus*, That the same is done at this day in some Northern Nations. 'Tis read of *Tiberius* that his eyes sparkled in the night, insomuch that a Souldier dy'd by beholding him. And *Pyrrhus* so terrifi'd another, who came to dispatch him, that onely by looking upon him, he render'd him unable to touch him: For, whether vision be by Emission (as the Platonists hold) the Rayes will carry with them the qualities of the Eye that emits them; or by Reception (as *Aristotle* will have it) the colours resulting from the impression of the qualities of a visible object will not be destitute of the same qualities; or partly by emission, and partly by reception (according to *Galen*) the rencontre of both sorts of Rayes cannot but be of great efficacy, especially when animated by the Passions of Choler, which enflames them, or of Envy, which envenoms them.

The Third said, That there are two sorts of Fascination, the one natural, performed by natural means, as venomous and malign-

lignant qualities, which are sent from one body to another, and infect the same by their malignity; the other supernatural and diabolical, perform'd by secret means, whereby the vulgar believe that Witches can make sick whom they please by touching, beholding, and speaking to them; which three wayes they employ to bewitch those to whom they desire mischief. The first sort of Fascination is possible, and is founded upon the Antipathy and Contrariety which is found between almost all Bodies; so that even the shadows of some Trees are noxious to some Animals, as that of the Yew to Man, and that of the Ash to Serpents. The Fig-Tree appeases the madness of the Bull when he is ty'd to it, by emission of certain vaporous spirits, which entring into him temper and reduce him to moderation: and from the same reason meat hang'd on a Fig-Tree becomes more tender and delicate, to wit, by attenuating its grosser parts. For the heat of every living body incessantly raising, and sending forth vapors and spirits, when these spirits meet others like themselves, they serve them instead of a recruit, and increase the good disposition of the body wherein they are. And 'tis this way that old women prejudice the health of Children, whilst their vapid spirits are imbib'd by the tender skin of the Infants, and so corrupting the humors, disorder their natural functions. Hence also consumptive persons give their disease to such as breathe near them; and so likewise all contagious and occult maladies are communicated by one morbid subject, to another dispos'd to receive the same affection. But the latter sort of Fascination, whereby common people think that not onely men and Animals may be kill'd, but also plants dry'd up, streams stop'd, stones broken in pieces, and the like; is no-wise in the power of nature, whatever the Arabians say, who ascribe all these effects to imagination, whose power they equal to that of Intelligences, who are able to move the whole Universe. For if it doth nothing of it self in its proper body, where it simply receives the species of things, it must do less without its precinct. Moreover, 'tis impossible for a sound man to make another sick, because he cannot give what himself hath not; they, in whom by an extraordinary corruption the blood, seed, or other humors have acquir'd a venomous quality, being necessarily sick. So that 'tis a pure work of Devils, who knowing the properties of things, apply the same really to the parts of the body without our privy, whilst they amuze our senses with other objects, as the aspect of another person, or some such insignificant thing. Besides that, children being apt to lose their flesh upon unapparent causes, such a change may be purely natural, whilst it is by mistake charg'd upon a strangers praises of the Infant, who must necessarily grow worse, because it cannot become better.

CONFERENCE CLXXIII.

Of Amulets ; and whether Diseases are curable by Words, Tickets, or other things hang'd at the Neck, or apply'd to the body of the Diseased.

THis Question depends upon the Precedent ; for if 'tis possible to make a person sick by the Aspect alone, it may seem also possible to cure him by Contact alone. In the examining of the matter, we must distinguish, as elsewhere also, supernatural cures from those which come to pass according to the course of nature. Of the former sort are all the Miracles of the Holy Scripture, and Ecclesiastical History, those which Gods power manifests in all times by his Saints, and the cure which he hath reserv'd to our Kings by their sole Touch. Some cure may likewise happen naturally by the pronouncing of words, when the Patients Fancy is so strong that it hath power enough over his body to introduce some notable change therein; whence that Physician cures most, in whom most confide. Thus I have seen some persons eas'd of the Tooth-ache, upon sticking a knife in a Tree, and pronouncing some barbarous words. But it falls out oftentimes, that the effect of one cause is attributed to another. Such was the cure of a Gentleman of the Ligue, whom the late King *Henry* the IV. surprized in the Town of *Loges* as he was shivering with a Quartain Ague, and the King in Railery sent him a Receipt against his Ague; the sight whereof presently cur'd him, through the fear he had of that unexpected approach. So also many remedies act by some occult property, as *Pæony* hung about Childrens necks against the Epilepsy; and Quick-silver apply'd upon the Breast, or hung in a Quill, is believ'd a preservative against the Pestilence: all precious stones are thought to have some vertue against some indisposition of the body or minde: The Eagle-stone apply'd to the Arm retains the child in the Womb; and to the knee, facilitates Delivery: Coral and the Jasper stop Blood: the Nephitick Stone is conceiv'd to void the Gravel of the Kidneyes; the hinder foot of a Hare carry'd in the Pocket cures the Sciatica of the same side from which it was taken. For, Remedies whose sole application cures by their penetrating and sensible vertue are not of this rank. Thus, if Quick-silver apply'd cures the Pox by causing a Flux at the mouth, it must not be term'd an Amulet; nor Cantharides, when apply'd, as a vesicatory, they cause Urine; nor Epithemes apply'd to the Heart or Liver: but herbs, and other things laid to the Patients wrist may be so styl'd, when they have no manifest qualities proper against an Ague. The Question therefore is, Whether such Applications, Suspensions, and Wearings, have any Natural Effect; I conceive, they have

have not. For a Natural Action requires not only some Mathematical or Physical Contact, but also a proportion between the Cause and its Effect. Now what proportion can there be between a Prayer or other Speech (most commonly insignificant) and the Cure of a Disease, much less between a little Ticket, or other suspended Body; and an Ague? what is said of the weapon-salve, being either fabulous or diabolical, and alwayes superstitious; as the Phylacteries of the Jews were. Although this Error is so ancient that the Greek *Athletæ* were wont to arm themselves with such things against sluggishness, of which trifles, their Adversaries also made use to overcome them in Wrastring; and at this day, some wear certain Characters about them, that they may win at play. In like manner, the Romans hung Amulets about their Children's necks, which they call'd *Præfscini*, and *Fascini*, and made of Jet; as the Spaniards make them at present. To which, to attribute any power upon the account of their Form, Number, or other regard beside their Matter, is an Error as great in Philosophy, as it would be impiety and contempt of the Church to extend his conclusion to *Agnus Dei's*, Reliques, and other sacred things, whose so continual Effect cannot be question'd but by the prophane and heretical.

The Second said, That by the Doctrine lately publish'd in the Treatise of *Talismans*, it appears, that not only Matter, but also Figure, Number, and other correspondences with the Celestial Bodies have some efficacy; which to question, because we know not the manifest Cause, would be too great presumption. Yea, I would not call all such Effects Supernatural, since there are so many things feasible, whereof we know not the Cause. And as to the Supernatural Effects of Amulets, they are of two sorts: For either they are perform'd by the favour and blessing of God, who redoubles, yea, heightens to a seemingly impossible degree, the Effects of Natural Causes, or else changes them: Or they are effected by help of the Evil Spirit, who is the Ape of Divine Actions. As then, in consequence of the Sacraments, God's Graces are conferr'd upon Christians, so the Devil agrees with the Sorcerer or Magician, that as often as he shall make such a sign, or speak such a word, such an Effect shall follow; whence 'tis no wonder if the Devil, though inclin'd solely to Evil, sometimes does good, as healing a Disease by applying true Natural Agents to Patients, thereby to accustom the Sorcerer to give credit to his words. Thus an Italian having sold a familiar Spirit, bethought himself to put a great Spider in a box, and yet he that bought it found the same use and benefit of it which he desir'd.

The Third said, That without recurring to good or bad Angels, whose powerful Effects cannot be question'd but by Miscreants, we find something in the ordinary course of natural things that makes for Amulets, the Antiquity whereof is testifi'd by that saying of a Roman, who being sick, and ask'd

how he did, answer'd his Friend, thus: You may see how ill I am by this Ticket, which I have suffer'd to be put about my Neck: intimating that he must needs be very sick to suffer it, since he gave no credit to it. And yet Confidence is a necessary condition for the making Amulets efficacious. For as the belief of sickness oftentimes makes people sick indeed; so an Opinion that they shall be cur'd by such an Action, Writing, or Word, is capable to work a Cure in those whose Minds have great power over their Bodies: Which Opinion, being founded only upon the Word, Writing, or the applying of an Herb to the Patient's Wrist, or other such Concept, the same cannot be term'd other than an Amulet. Besides, 'twere a great rashness to conclude, that there is no Connexion or necessary Consequence between Words and Effects; since the same is found by Experience: And Words are the signes and images of things, and consequently, have some proportion between them. Whence possibly, they that hunt the Hyana cry continually, I do not see her, till she be enter'd into the toil, which she doth boldly upon Confidence of that Speech; and when they cry, I do see her, she endeavors to fly and get out of the Net, but intangles her self further therein: And in old time Gardners curs'd Parsley as they sow'd it, to make it spring up the sooner. Hence also the very naming of filthy things, especially when we are eating, turns our Stomacks; and the mention of heinous Crimes makes us frown. And lest this should be attributed to Phantasie alone, which is prov'd before not to be active, but only cognoscitive, we find that Serpents are charmed by words; and *Hesiod* hath a Verse to drive away *Cantharides*; and Shepherds affirm, that according to the diversity of certain Words, breeding Mares bring forth either Males or Females.

CONFERENCE CLXXIV.

Whether Fruition diminishes Love.

THe Ignorance of the Definition of Love, seems to have occasion'd this Question. For since the Passions are distinguish'd only by the various apprehension of Good and Evil; Hope, respecting good absent; Love, that which is present; (whence 'tis seldom without some inward joy, and Lovers would not be freed from their Passion, though they complain of it) to question, Whether we love what we possess, is to question, Whether Love be Love. Besides, Love being not of things unknown, it follows that the more we know, the more we love that which is amiable (as we do by possessing it) for we cannot judge of that which we possess not, but by the report of others, which is commonly lyable to fallacy, according to the several interests of the Reporters: Which will appear better by the comparison

comparison of one that prefers a Picture before what it represents. For what proportion there is between the Picture of a Mistress, and the Mistress her self; the same is found between such Mistress whilst she permits her Servant no privacy, and her self when she is married to him; the Actions of the one being but the shadow and Picture of those of the other, which are discover'd in their simplicity by fruition. We may say therefore, that the Passion before Enjoyment, is Desire; but Possession alone is capable to produce true Love. Besides, the perfection of each thing compleats it, and places it in its highest point, instead of destroying it; so likewise Enjoyment, which is the perfection of Love, and the sole Butt it aims at, doth not extinguish it. As one delightful meal may appease present hunger, but with-all it incites us rather to desire another than to disgust it.

The Second said, Did we not converse with things altogether imperfect, Possession would encrease Love, because it would see new perfections in the thing belov'd: But on the contrary, common Experience teaches us the imperfection of what, before Enjoyment, we accounted highly of; and so our Love of it comes to be diminish'd. Besides, difficult things being the fairest, and contrarily brave things, whose acquisition is easie, contempt'd, (witness the Orders of Knight-hood and other Honors, which have been made rare, only that they might be the more amiable) it follows that we less love what we have in our power, than what we have not; Humane weakness being soon weary of every thing, and naturally carry'd to change: But we cannot be weary of things not in our power, and, consequently, we must esteem them more than what we possess, the familiarity whereof, is apt to breed Contempt of it in us: Besides that, the Mind is prone to seek what it wants, and to esteem the condition of another above its own. Thus the Ox would fain gallop like the Horse, who on the other side envies his labour at the Plough; and every one takes more pleasure in speaking of what he least understands, and about the profession of others, than about his own. Yea, Experience shews us, that Lovers relinquish both the thing and name of Servants, as soon as they are marry'd. Whence a late Poet speaking of his Mistress, said, He knew no way to moderate the excessive Love he had for her, but by marrying her.

The Third said, That true Love must be distinguish'd from false; this latter decreasing by fruition, whereas the former is encreas'd by it; as also we must distinguish of Subjects that are lov'd. Those that deserve not to be so, are like coarse Pictures which require to be beheld at a distance and in a certain station, because nearness discovers their defects; whereas the nearer an excellent and well drawn piece is beheld, the more it is esteem'd. Besides, a difference must be made between what is practis'd and what ought to be practis'd. The defects of the person lo-

ving are not to be imputed to the thing loved; and therefore the Question should not be whether Enjoyment diminishes, but whether it ought to diminish Love; as indeed it neither ought nor doth in things truly amiable; for the more they are known, the more they endear themselves. As therefore the more the Sun ripens a Grape, the sweeter it is: and yet one in a Fever thinks it bitter and prefers Verjuice before it; which nevertheless, makes us not conclude Verjuice the sweeter of the two: So the disgust of a Lover is not to be imputed to the thing lov'd, but is indeed an argument of his own imperfection.

The Fourth said, If the diminution of Love upon enjoyment were a sign of weakness of judgment, Women would not be (as they are) more constant than Men after the same: as we see, more Men desert the Love of Women, than on the contrary. Witness the story of *Demophoon* after enjoyment of the King of *Thrace's* Daughter, who fell into despair upon his departure, as *Medea* did upon that of *Jason*, and *Dido* upon that of her *Aeneas*. The cause whereof seems not imputable to feminine Pudor, as if having yielded themselves to one man they could not keep their honour unless they keep their affection: but the reason is, because Men are more perfect than Women and find more causes in them for change. Yet I conceive that the augmentation or diminution of Love ariseth not from enjoyment; as appears by Friendship, which is contracted only after long converse, and the eating of many bushels of Salt together (as the Proverb speaks) so far is a thorough knowledg, such as Enjoyment gives us, from diminishing it. Not to mention the examples of many married couples, who if occasion were offer'd, would not stick to imitate the noble contention of *Gracchus* and *Cornelia*, and chuse to dye one for the other.

The Fifth said, That if Fruition diminishes Love, it must be the fault either of the Lover, or the thing lov'd. Not the first; for he is always the same person, and fruition renders his object more sensible, and consequently more amiable to him. Nor the latter; since the very imperfections of the thing lov'd seem so many perfections to him that loves it,

Balbinumque suæ delectat polypus Agnæ.

Thus also the imperfections of Children diminish not their Parents love, but by the help of compassion augment the same; Grandfathers commonly love their Childrens Children more tenderly than their own; and amongst their own, the youngest. Which holds not only in this kind of work, but in all others; bad Painters having no less kindness for their own pieces than *Apelles* could have for his.

The Sixth said, That the Question may be determin'd by distinguishing the sorts of Love. Impetuous Love, such as is found in Youth and the Poets describe, swells (like Torrents)

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by resistance, and languishes by liberty. Regular and sober Love, such as is found in ripe years, towards deserving subjects, and especially divine things, increases (like Rivers) by the accession of new Notions, as so many new Springs, till it end in a boundless Ocean. Either sort receives augmentation or diminution according to the diversity of the minds affected therewith; the weak, as less capable of understanding the inconveniences of this impetuous passion, (which mastering all the rest, deprives them of the use of Reason, and renders them unprofitable to other actions of life) continue longer before they come to themselves and quit this trouble. Hence Women, and of them the least judicious, are conceiv'd to retain this passion longest, even after possession of what they lov'd. The contrary happens in the other love, wherein the more we enjoy, the more we are inflam'd to further pursuits of knowledg.

CONFERENCE CLXXV.

*Whether 'twere better to know all that men now know,
or all that they ignore.*

None doubts but there are still things to be known, and consequently Sciences to be attained. But if we will stand to the wiseman's sentence, That all known Sciences are vanity (that is to say, Nothing), the Question will soon be voided, there being no comparison between Nothing and Something. Moreover, there being no Science without Demonstration, and very few or no Demonstrations in any Discipline, which themselves are founded upon Principles not demonstrable, which nevertheless ought to be known; it follows that there is no Science, and that we know but one thing with *Pythagoras*, to wit, That we know nothing. And *Pyrrho* went further; not allowing that men know themselves ignorant, but that they must be contented to doubt of it, yea and to doubt of their very doubting. Accordingly we see that no reason is ever so strong but some other may be found that thwarts it; and in all Disciplines the most skillful are the most unresolv'd and furthest from that Scholastick temerity; which boasts of knowing every thing, and never doubts of any thing; like those young Captains that make head upon every occasion, whereas your veterans are more sober. So likewise the most skillful Physicians are always least hasty in their Judgments and Prescriptions; and Lawyers the more practise and experience they have, the more contrary presidents they find in the same case. If you ascend to Divinity there you will find more ignorance than any where else; yea Ignorance is the first degree, and one of the conditions requir'd to

to it, which was the reason why *S. Paul* so much blames Philosophy, and our Lord chose the simplest and most ignorant, such as poor Fishers, not Doctors of the Law nor Scribes and Pharisees, who were the most learned of his Country. And at this day when matters of Religion seem most refin'd, there's none so rash but acknowledges that one single moment of the Vision of God gives more knowledg then the whole *Sorbonne* hath, and that there is no more comparison between what all the men of the world together know of God, and what Beatitude will teach of him, then there is between finite and infinite, that is, none at all. Whereby it appears that the knowledg of men is infinitely exceeded by what they ignore. I shall instance further in the Mechanick Arts, wherein if you compare the things our Artificers are ignorant of with those they know, the most excellent amongst them will confesse himself very unskilful and ignorant; whereof the sole ancient Inventions now lost may serve for a proof. For in some Roman Monuments lately discover'd there have been found Lamps which burnt twelve or fifteen hundred years, and were not extinguish'd but upon letting in of the Air; particularly in the Tomb of *Tullia Cicero's* Daughter at *Padua*. The invention of a perpetual Motion which animated *Archimedes* Sphear, dy'd with him; that of malleable Glasse, with its Inventor, who was wretchedly slain by *Tiberius*; that of melting Stones or making artificial ones, or at least of transporting and managing them, whereby the Romans built those great Piles of Amphitheaters, and other Works inimitable by us, is not known at this day; yea, to go no further, the goodness of building with most of the materials of the Ancients is perish'd with them. So that 'tis no wonder that at this day many of their Histories are accounted Fables; such as the teaching of an Elephant to Dance upon the Rope, which *Suetonius* affirms was seen in a Spectacle given to the Roman People; the care and industry of Men being much diminish'd in this lee of times, wherein they desire to obtain every thing without pains. For the new Inventions of later Ages, as the Compass, Guns, Printing, Telescopes, and some others, were before Chance produc'd them, or at least gave some hints to their Inventors, in respect of us in the same Nothing wherein are all other possible things not yet effected. So that 'tis easie to conceive that there are infinite such secrets, or more excellent (as the Philosopher's Stone, the Quadrature of the Circle, the Fountain without end, and many other things whereof we have only confus'd notions) which he that should know would be as much higher then all other men, as the Intelligences are above them. For Demons, whether good or bad produce none of their Marvels but by this Science of things to us unknown; whence we oft-times term that miraculous which is purely natural. As may appear by the few Secrets found in the hands of men, which make them admir'd by all others, and anciently advanc'd them to the rank of Gods.

The

The Second said, This Opinion (that what we ignore is better then what we know) is founded upon the malignant envious nature of some who slight what is their own, and esteem only what is anothers, meerly because they want it: as those that ascend up a Ladder, trample on the step that upholds them, still aspiring to that which is above them, but only to trample on it also next. So he that knows not some new thing, despises all he knows already, to learn it; and having learn'd it, despises it also. For 'tis likely our first Parents who had knowledge of all things, preserv'd the memory of what deserv'd it best; yea, that for so many Ages as the World hath lasted, men have retain'd the most profitable Sciences and Inventions that Art or Chance hath taught them. If they have let some be lost, 'tis because they found them unprofitable. And as *Solomon* saith, we shall see nothing in the future but what hath been already: Should the World last as long again as it hath done, it would be but a continual repetition of the same things. Nothing is spoken, but it hath been spoken formerly. The terms of all Sciences have been so often mixt, that as few or no new words are produc'd in any Language, so there cannot be many productions of Wit but what are repetitions of old ones, cloth'd in a new mode. For, to instance in the Liberal Sciences; is it possible to Read, Write, and Speak either in Prose or Verse better then men do at present? Can the Demonstrations of the Mathematicks become more certain by time then they are now? Will it be more true to morrow then 'tis to day, that the whole is bigger then its part? Have the Chymists and other pretended reformers of Physick, succeeded better then others? Can the Laws be better understood then they are? And for Divinity; is it possible to know more of it in this world then is known at present? whilst experience teaches us that the multitude of Books doth not less perplex then profit us, both in this and all other Sciences? But, suppose this old Errour had some likelihood, to examine the certainty of it we must compare what we know with what we ignore; because both the terms of the Proportion sought, ought to be known. Now we are conscious indeed of what we know, but it implies a contradiction that we should know what we know not. Wherefore if we should quit the Sciences and Arts known and practis'd by men for what we know not, we should have the same fortune with *Aesop's* Dog, who let go his morsel of flesh for the shadow of it which appear'd greater in the water, where indeed there was nothing at all. The truth is, those that have employ'd most time, labour, and money in the search of Secrets, confess that they have met with nothing but smoak. Whence if there be any curious Artificer, he is always unprosperous, because he never attains his purpose.

The Third said, That from what hath been said of the difference of the knowledge of *Demons* and ours, the resolution of

of the question is apparent. For since our knowledge is much short of theirs, it follows that we have more things to learn than we know; the having a habit, not being necessary for knowing its privation. Thus one born deaf and blinde, yet knows that he wants more knowledge through his defect of Hearing and Sight, then he hath by his remaining senses: and though I see not Night because it is not visible, nevertheless I consider by it the beauty of the absent day. Yea, he that hath no Science, commonly values it higher then the Learned themselves do.

CONFERENCE CLXXVI.

Whether Musick doth more hurt or good.

OUR Soul being a proportion, loves what partakes thereof; whence the Rules of Architecture ill-observ'd, and the Gestures of Clowns displease the Eye, and disorderly sounds hurt the Ear. For though there is proportion in the Senses of Touching, Smelling, and Tasting (which is the reason why cold hands are so pained upon immediately approaching a hot Fire; and moderate smells and rellishes please us better then excessive) yet onely two senses are well capable of judging of this proportion; namely, the sight, and the hearing. And the same respect that there is between Beauty and Deformity, in reference to the Sight, is found also between Harmony and Discord in regard of the Hearing. Wherefore Musick being the Art of Harmony, they who love it not, are as extravagant as they that make no difference between a fair and an ugly face, proportion being the chief difference of both. Hence some are not contented to account this Art as a Rule and Touchstone whereby to discern well temper'd spirits from others, but have ventur'd to assert the hatred thereof a mark of reprobation. Moreover, the most ancient Contests, were about the prerogative of Musick, every one pretending to be master thereof. Witness that of the Muses with the Syrens, of these with *Thamyris*, of *Apollo* with *Marsyas*, *Linus*, and *Pan*, (who punisht *Midas's* in judiciousness with Asses Ears) and that of *Nero* with all the Musicians of his time. Yea, it cures some Diseases, (as the biting of the Tarantula and Melancholly) and asswages the raving of *Dæmoniacks*, (as we read in the story of *Saul*.) The crying of new-born Children is quieted by the jingling of Keyes or a Bafin, and when they are become bigger they are diverted with the singing of their Nurfes. Youth particularly delights in Musick; whence the Cretians made their Laws to be more easily learnt by their young people by causing them to sing them; and we see the Rules of Grammar are for the same reason contriv'd into Verse. *Cains Gracchus,*

ebus, when a man made use thereof to regulate the tone of his voice, never making an Oration but with his Servant behinde him; who twanging a Musical Instrument, took him down when he was too high, and rais'd him when he was too low. And *Achilles* in *Homer* diverted himself with his Harp when he was at leasure from his Military Employments. Artificers sweeten the tediousness of their labour with Songs. Shepherds chear themselves with it, and it makes Maids spin more nimbly. *Theodulphus* the Bishop redeemed himself out of prison with a Hymne which he compos'd, beginning *Gloria, laus, & honor*. The story is known of *Arion* cast into the Sea by Pyrats, and carry'd safely to shore by a Dolphin, whom he ravish'd with his Voice and Harp, which was first instituted to honour the Gods. The Indians perform'd their Worship by Dancing to Songs, *Cybele's* Priests with Cymbals, the *Curetes* with Drums and Trumpets; the Romans sung Spondaick Verses, whilst they offer'd their Sacrifices; and *David* danc'd before the Ark, all his Psalms being fitted to the Harp, and other harmonious Instruments of that time. And in this, see what power Organs have to enflame the zeal of the devout, and how melodious voices are with it; so that the chief difference of Divine Service is in the Singing. And as for publick or private Feasts and Ceremonies, nothing renders them more compleat then Musick; whence the Verse,

Convivii citharam quam Dii fecere sodalem;

'Twas the custome to present a Lute to the Guests; and to him that could not play, a branch of Bayes, which oblig'd him to a Song. But above all, the use of Musick is effectual in War, whence the Spartans march'd to the sound of Flutes in a kinde of Dance, to the end that by the motion of their Souldiers they might discern the valliant from the poltrons. The Pythagoreans themselves were lull'd asleep with the Harp, to appease the troubles of their minde. In short, Musick accompanies us to the Graves, where people sing Elegies for the deceased. Thus the Phœnicians added Flutes to their mournings, and the Romans had their *Siticines* who sung at their Funerals. For Musick excites both sadness and mirth. And just as Physick either quiets or purges the humors of our bodies, so doth Musick the Passions of the minde. *Plato* conceiving that it was given to man not only to tickle his ears, but also to maintain the Harmony of the Soul with the Body, and to awake our sleeping vertues. Thus of divers modes, the Dorick makes prudent and chaste, the Phrygian excites to War and Religion, the Lydian abates pride and turns it into lamentations, the Ionick excites to honest pleasures and recreations. Hence *Ægysthus* could never corrupt the chastity of *Clytemnestra*, *Agamemnons* Wife, till he us'd the help of the Poet and Musician *Demodocus*; and the Emperour *Theodosius* being ready to destroy the City of *Antioch* was diverted

ted and wrought to mercy by the melodious Sonnets of little Children, instructed thereunto by *Flavianus* their Bishop. Yea, the Prophet *Elisha* recommended this Art, when he commanded a Harp to be played on before him, and then Propheci'd to *Joram* the overthrow of the Moabites. And *Michaia* did the like in the presence of *Ahab* King of *Samaria*, refusing to prophesie till one had played before him upon a Musical Instrument. The relation of *Saxo Grammaticus* in the 12th. Book of his Danish History, concerning *Henry* the 2d. King of *Denmark*, who being told of the excellent Musick of the Violin, desir'd to see the effects of it; which were such, that at first it put him into a deep melancholly, and afterwards chearing him up again, rais'd his spirit to such a degree of rage, that he slew four of his Guard, and at last it return'd him to his first temper; serving onely to shew the excellence of Musick when it is rightly us'd.

The Second said, That Musick effeminates mens courage, whilst it sweetens; like that of Wine taken to excess, intoxicates them, and transports them out of themselves: which hurtful effect gave just cause to the fable of the Syrenes, who allur'd Pilots by their melodious voices, to split against the Rocks. But above all, it excites to filthy pleasures, and blinds the eyes of the Understanding, as *Mercury* did those of *Argus*. And its great delectation, through the dissipation of the Animal spirits which the sweetness of the sound attracts by the ear, leaves us less refresh'd then wearied, and incapable of setting about any serious matter. Its easing the Sciatica (as 'tis reported) is common to it with every thing that causes great attention, whereby the spirits, and with them the humors being suspended, the fluxion must consequently cease; and the Rabbins attribute the driving away *Saul's* evil spirit, not to the Harmony alone of *David's* Harp, but to the vertue of the Characters of the Divine Name written upon it. What did the Sybarites get by training their Horses to the Pipe, but this, that the Crotonians causing Minstrels to play at the joyning of a Battel, render'd their Horses useles to the Fight, because they did nothing but Dance. Moreover, *Orpheus* one of the most ancient Musicians was torn to pieces by women, because he debauch'd their Husbands. Whence also *Antisthenes* said that *Ismenias* was either a Fool, or a bad Citizen, because he could play so well upon the Flute; and *Philip* was angry with *Alexander* for singing too well; and *Antigonus* his Governour broke his Harp. Therefore the Egyptians banish'd Musicians as corrupters of Youth, and the Lacedemonians were so afraid lest they should grow into credit amongst them that they expelled *Timotheus* out of their City for adding a string to his Lute. *Aristotle* also places this Art amongst the Ludicrous, and blames Painters for representing the gods singing and playing upon Instruments; whose goodliest effect is to break silence, and waste time, leaving no permanent action after it, more then the play of Cards, Dice, and Tennis doth; which last is much more

more profitable for health, and is accounted as honourable to be perfectly skill'd in by persons of quality, as 'tis shameful to be an excellent Musician. In fine, we read not that our Lord ever Sung, nor yet *Adam* in the state of Original Righteousness; but one *Jubal*, the first Bigamer and second Murderer of the world, is said to have been the inventor of it.

CONFERENCE CLXXVII.

Whether Barrenness is most commonly the fault of Husbands or of Wives.

AS Fruitfulness is a power whereby every living thing is able to produce its like, so Barrenness is an impotence in it to re-produce itself by the way of Generation; by means whereof mortal individuals acquire immortality in their Species: to which purpose nature hath furnish'd every one with necessary Organs. The generation of perfect Animals requires three things; diversity of Sex; matter or seed, which flows from both Male and Female, and contains in it self the Idea and Character of the parts from which it issues; and lastly, conjunction of both together, without which nothing is produc'd. And though the defect of Generation may be sometimes on the mans part as well as on the womans; yet she is more subject to sterility, which is an impotence proper to a woman, who, after the knowledge of a man in an age and time convenient, cannot conceive. For those that conceive not after the 50th. year, or before the 12th. are not term'd barren: Conceptions beyond the former, or before the latter term, being supernatural or extraordinary; as those of the *Manandri* and *Calingi*, and that of one mention'd by *Savonarola*, whom he saw big with Childe at nine years of Age; as also the miraculous conception of *Elizabeth* after she was seventy years old. The cause of Barrenness is ascrib'd by some to the disproportion between the seeds; whence she that is barren with her first Husband, is fruitful with her second. Those of the woman are either internal or external. The internal depend partly upon the seed and menstrual Blood, and partly upon the temper of the Womb, and the habit of the body. The seed of a woman, as well as that of man, must be of a laudable temper, quantity, and consistence, and provided of spirits enough. If the maternal blood, which concurs likewise to generation, be too plentiful or too little, no effect follows, any more then if it were corrupted or wanted other requisite conditions. The Womb (which is like the soil to corn) may be hurt either in its temper, or its conformation, or in the solution of continuity; all which disorders hinder gravitation. As for the habit of body, we observe that fat women are barren, either

because the matter of Seed, which is the purer portion of the Blood, is turn'd into fat; or because the Epiploon of fat Women pressing upon the Orifice of the Womb, hinders the Seed from entering into the bottom of it. Nor are Women too lean fit for Children, by reason of their dryness, and the tenuity of their Womb, although they are far more fit than fat Women; but this leanness is to be understood of so great an extenuation, that it leaveth the parts dedicated to Generation, destitute of their vigour and due temperature. Neither are the very tall, or very low much fitter; but those that are of a moderate Corpulency and Stature, whose Breasts are firm, and their lower parts larger than their upper. Now since Conception is an Action proper to the Womb, which quickens the Genitures, the Woman ought rather to be said the Cause thereof than the Man, and (by the reason of contraries) the Defect thereof must likewise be charg'd upon her.

The Second said, That to blame Women for being more frequently barren than Men, is to deprive them of their chief Glory, which is Fruitfulness. For Nature form'd them chiefly for propagation, as the Conformation of their Bodies seems to prove, in which the parts serving to that purpose, as the Womb and Breasts, have direct communications not only between themselves, but also with the noblest parts of the Body. Whence the Civilians reckon not Prægnation amongst Diseases, (notwithstanding all its inconveniences) but, with Physicians, as a sign of health and good disposition. Whereof *Ulpian* l. 14. ff. de *edilit. edicto*, gives this Reason, Because their greatest and peculiar Office is to receive and preserve the fruit. And therefore Woman, having been in Nature's first intention design'd for Generation, she must be also much more fit for it, (because Nature never fails of her end) than Man, who being born for Command, Labour, Contemplation, and other more sublime Employments, is design'd for Generation, but in the more remote intention of Nature. For not to speak of the desire of Coition, which might renew the old quarrel that cost *Tiresias* his Eyes, Women seem far more desirous to be Mothers, than Men do to be Fathers; and Nature gives no desires in vain. Besides, Man is naturally Hot and Dry; a Temper less proper for Generation; and he increases the same by Hunting, Warr, Exercises, and other violent Labours; not to speak of business and study; On the contrary, Women living alwayes at ease, have a Constitution both of Body and Mind more calm, and, consequently, more fit for this Action, or rather Passion. As therefore 'tis more easie to suffer than to act; so Women must find less difficulty in Generation; and, consequently, have less impediment to propagate than Men. I say nothing of Excesses in Dyet, wherein Men are alwayes more licentious; yet 'tis the Excess of Wine that some alledge as the chief Cause, why some Northern Countries are at this day almost desart, whereas

whereas anciently they were so populous, that Historians call'd the North the Shop of Men, and the Magazine of Nations. Witness the frequent Colonies issu'd from thence, and the great inundations they have upon other parts of the world. And possibly, the reason why the Hebrew Law oblig'd a Man to marry the Relict of his issueless Brother, was, because it suppos'd the defect to proceed from the Husband, and not from the Wife; otherwise, why should the Sister of a Wife deceas'd with issue succeed in her stead too? But this Sex is reckon'd alwayes fit for ingendering, and, indeed, is ever ready for it (as the other is not); which is the reason (as a late Lady said) why Men make sute to Women, rather than these to them. Perhaps also upon the same account, barrenness under the Old Law was accounted by Women so great a reproach; because being very rare, 'tis a kind of a monstrous thing in their Sex to be barren. Moreover, we hear many Women complain to the Judges, which is one of the principal Causes of unfruitfulness. But Histories afford scarce above three or four Women, of whose inability their Husbands complain'd. And to speak truth, as fertility is imputed to the field, and not to the grain, so it must also be to the Woman alone, who is the field of Nature, and not to the Man.

The Third said, That besides the Internal Causes of fruitfulness and barrenness, there are also External ones which depend upon the Air, Dyet, Exercises, Passions, and the abuse of the other things call'd Not-natural. The Air by the continual alteration it causeth in the Body, (which attracts the same by Respiration and Transpiration) sometimes occasioneth either fruitfulness or sterility, according to the variety of its Substance, Temper, and Qualities; two whereof, *viz.* Excessive Heat, and Cold, are great Enemies to Generation; the one melting, the other congealing the Humors; but the excess of Heat least hinders it, especially in Women; the coldness of whose Temper, is corrected by the warmth, and increas'd by the coldness of the Air; whence they are more amorous in Summer than in Winter: Whereas the greater heat of Men is weakned by that of Summer, and augmented by the coldness of Winter; during which, therefore they are more prone to Love. So Dyet too, contributes much to render our Bodies fruitful or barren, not only altering, but making them of the same Temper with it self. Thus the waters of *Nilus* are so fertile, that they make the Egyptian Women bring forth three or four Children at once, by reason of the Salt-Nitre wherewith that River is impregnated; and, where in Chymists place the principle of Fecundity, because Ashes and Earth depriv'd of their Nitre, produce nothing. But cold waters, even such as have the Virtue to petrifie, render Women (especially) barren, as most Women in *Spain* are, through their frequent use of Ice and cold waters; though some lay the fault upon the rarity and tenuity of their Bodies, and the excess of Heat; which also is the reason why the African and Southern people

people are not so fruitful as those of the North. Dyet, hot and moist, easie of digestion, nutritive and full of good juice, conduceth much to render Women fruitful. On the contrary, the frequent use of food hot and dry, gross, and of bad juice, may render them barren, as Leeks and Garlick do; and amongst other Plants, Mint, which was therefore forbidden to be eaten, or planted in time of war; wherein 'tis needful to repair by Fecundity, the loss of Men it causeth. In like manner, want of Exercise, by the heaping up of superfluous Humors, and too violent and continual Exercises, by desiccating the parts, oftentimes occasion sterility. Amongst the Passions, Sadness is the greatest Enemy to Generation; whence *Hesiod* forbids marry'd people to see one another after a Funeral, but only at their coming from a Bath, or from places of Mirth. In fine, what ever is capable to impair the goodness of the Temper, is contrary to Fruitfulness and Generation, which above all other Natural Actions requires an exact harmony of the qualities, and a perfect disposition of the noble parts, which supply Matter and Spirits fit for this Action. And although Men and Women are alike expos'd to External Causes, yet Women being less vigorous, are sooner wrought upon by them. For, to Internal Causes, which are the most considerable, Women are, undoubtedly, more subject; since beside Seed, which they supply as well as Man, (who to deserve the name of fruitful, ought only to supply the same in requisite quantity, quality, and consistence, and place it in convenient Receptacles) the Woman must also afford Blood, and also a place for receiving and preserving both the Seeds and Blood, namely, her Womb, the least disorder whereof, is sufficient to marr the whole work of Generation. Wherefore since she contributes most to Generation, and there are more Causes in her concurring thereunto; if it take not Effect, she is more in fault than the Man, who hath not so many several concurrences in the business.

The Fourth said, That the Causes of sterility being either Natural or Adventitious, and equal in the Man and the Woman, nothing can be determin'd upon this Question. For in either Sex, there are both universal and particular deficiencies of right Temper, and as many Effeminate Men as Viragoes, (the one not less unfit for Generation than the other, as *Aristotle* saith) Castration is practis'd in both, and disorderly living is equal as well in Male as Female in these dayes. For if Men exceed in drinking, Maids and Women are as bad in Gluttony and Lickerishness. If there be any difference, 'tis from the diversity of Climate; Women being found more fruitful in hot Countries, and less in cold, but Men contrarily; the intemperies of either Sex being corrected by an opposite constitution of Air. Hence such Women as have been long barren, sometimes become fruitful by change of Air, Places, manner of Life, and especially of Age, by which the temperament of the Body being sensibly alter'd,

it acquires the Fruitfulness it wanted, by acquiring the Qualities and Conditions necessary to Generation. Many likewise upon the same reason, become fruitful after the use of Mineral Waters or Baths, and being thereby deliver'd from several Diseases, to which barren Women are more subject than such as have Children, whom Parturition rids of abundance of Excrements peculiar to that Sex, and occasioning many disorders in the barren.

The Fifth said, That the observation made by *Bodin* in his Republick, and several other famous Authors, [that the number of Women much exceeds that of Men] seems to void the Question; Nature having thereby sufficiently given us to understand, That fewer men are as fruitful as more women. Which observation is verifi'd, not only in the East and other Countries, where plurality of Wives hath places; but also in *France*, where there is no Province wherein Virgins remain not unmarried for want of Husbands. Moreover, one man may beget abundance of Children in the space of nine moneths, during which a woman breeds but one or two; and therefore Man seems more fruitful than Woman, who beginning to be capable of Generation but two years before Man doth (*viz.* at 12 years old at the soonest) ends 23 years sooner than he; for men generate at 70 years of age and more, but women end at 50. During which time also they are subject to far more infirmities and maladies than men; who have not above four or five, whereof women are not capable; but women have fifty or threescore peculiar to themselves.

CONFERENCE CLXXVIII.

*Whether Complaisance proceeds from Magnanimity or
Poorness of Spirit.*

Complaisance is a habit opposite to Roughness; the first being a Species of Civility, the latter of Rusticity. Now since we are complaisant either in good or bad things, to be so must be commendable or blameable according to the nature of the object. But because no body doubts that we ought to be complaisant in virtuous actions, and that they are as culpable who connive at vice as they that commit it; It remains to consider of Complaisance in indifferent things, as 'tis in common practise amongst men; and as *Juvenal* represents it in a person that falls a weeping as soon as he sees his friends tears, and when he smiles laughs aloud; and if you say, you are very hot, he sweats; if cold, he runs to his Fur-gown. Now the Question is, whether such a man hath more of courage or baseness; I conceive he shews himself a very pitiful fellow. For this de-
por-

portment differs not from that servile Vice, Flattery, which is near akin to Lying, and easily turns from an indifferent to a vicious action. Thus Courtiers varnish vices with the name of such virtues as have most conformity therewith, calling Avarice, Frugality; Lasciviousness, Love; Obstinacy, Constancy; and so in other cases, till they render themselves ridiculous even to those they praise; who how vain soever they may be, yet cannot hear their own praises without blushing at them, being conscious that they displease all the hearers. Indeed when I am complaisant to any one, 'tis for fear to offend him; and fear was never an effect of Magnanimity. To which all that can be excepted, is, that it belongs also to Prudence to fear formidable things. But Fortitude and Courage are never employ'd in the practise of this virtue, which therefore is very much suspected, and oft-times serves for an excuse of cowardice. Hence old men, whom their cold blood makes less courageous, are esteem'd the most prudent; and if they be not the most complaisant, 'tis to be imputed to the fullness attending that age, as jollity doth youth. Moreover, as Courage leads us to act without fear of danger what we conceive good and just; so it teaches us to call things by their proper names, as *Philip's* Souldiers did. On the contrary, Complaisance teaches people to admire beauty in a deformed woman, to commend a bad Poets Verses, and desire a copy of them from him; to give fair words to such as we will not or cannot do any kindness to; in brief, to dissemble all things and to disguise our words, contrary to the frequent express prohibition of God in holy Scripture, which calls it having a heart and a heart: so that no person of sound judgment can think such demeanor consistent with true Courage.

The Second said, That there is as much difference between Rusticity and Complaisance or Civility, as between a Beast and a Man; the former leaving us to the guidance of our Appetites and Senses, and to say and do whatever they dictate to us; the latter over-ruling them by that power of Reason, which after the contest remains victorious over the body and sensuality. A cholerick man suffering himself to be transported by his Passion, utters whatever the violence thereof suggests to him; whereas one of a more sedate temper masters his anger, although he have as good reason for it; and by this prudent action he reduces his friend stray'd out of the roade of reason; as he that instead of retorting the ill language his friend gave him, ask'd him what the Diamond upon his finger cost him. Which put the other into such confusion, that having answer'd the question, he ran to embrace him and ask'd his pardon. Whereby it appears how much more courage is requisite to surmount ones self thus, (which is an effect of Complaisance) then to obey the swing of choler, as vulgar people do: For Complaisance forces our nature and constrains us to speak, and do things contrary to our first inclinations, and consequently is of more difficulty than

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'tis to obey them. *Plutarch* relates how one *Telerns* answer'd his brother, who ask'd him how it came pass that he was less belov'd then himself, who had been made one of the Lacedemonian *Ephori*, whereas he was treated with great contempt? The reason is (said he) because you are not complaisant, and cannot bear any injury. As therefore it requires greater courage to bear then to revenge an injury (as 'tis observ'd in the life of *Socrates*, who hindred his Scholars from revenging an affront which was done to him) so 'tis more difficult to be complaisant then rude. And as the same Author saith, Complaisance consisteth in speaking pleasing things, and in doing good offices; both which require a good resolute Spirit, for our Gallants falsely account it courage to run into the Field upon the least slip of an ambiguous word: Which perverse phantastry hath cost many a brave mans life, who for want of not having attain'd to that high point of Magnanimity which teaches us not to place the point of Honor in every trifle, but only where it ought to be, have really lost the life both of body and soul for an imaginary folly which carry'd them away with the torrent of the popular error of this Age.

The Third said, That we may as well place Continence in infamous places, as reckon Complaisance an effect of Courage; the respect being alike of both. For all the actions of a complaisant person are so many marks not only of respect, but also of a servile fear, such as was that of *Alexander's* Courtiers, who held their necks awry and hung down their heads in imitation of their Master, who was forc'd to do so by reason of a wound; and those of *Dionysius*, who stumbled at every step, because this Tyrant was pur-blind. So when some person begins a tedious old story, I pray, who shews most courage, he that tells the relator 'tis an old one, or he that suffers himself to be tir'd with it? Besides, that there is nothing more dangerous then this Complaisance. Certainly a Confessor that is complaisant to his Penitents, and a Preacher that is so to his Auditory, will damn both; and so also a General that yields to every advice, and resists not such as deserve it, will infallibly ruine his Army. A Physitian of this temper, that to comply with his Patient neither bleeds nor purges him because of his unwillingness thereunto, will be the cause of his death; as the Apothecary diminishes the vertue of the Medicine whilst he strives to make it agreeable to the taste, and a pitiful Surgeon makes the sore. A Lawyer that uses the same course with his Client, thrusts him into many needless and unhappy Sutes. In brief, there is nothing so dangerous, nor which argues more weakness then Complaisance, which like too sweet Sauces makes us nauseate it, and leaves us as far to seek for Counsel as before: Whereas plain and vigorous Counsel oftentimes saves the State from shipwreck.

The Fourth said, If you consider all the kinds of Complai-

fance, they have need of constraint, which employs more force and courage then is requisite for following ones inclination. Thus, he that is more thirsty then his neighbour and yet tenders the first glass to him, does this violence to himself out of complaisance, which likewise obliges him to put his hand last to the dish though his Stomack be never so sharp; if he meet with an occasion of anger, he only smiles to himself, and with dissimulation gives the upper hand to his inferior. On the contrary, a rough-hewn person had rather go to the Gallies then commend Verses which to him seem not good, and (as *Plato* said to *Dio-genes*) eat nothing ever but Coleworts, than comply with the Ceremonies and Modes of great persons. Thus he that spares his disarmed enemy, shows greater courage then if, leaving himself to be guided of his hatred, he should slay him, which yet is no more then a testimony of his having overcome him; whereas in sparing him he overcomes himself, which is the greatest victory a man can obtain. To conclude, Praise is the reward of Vertue, and because it follows complaisance, as scorn and contempt doth rustick opinionastry: this is an evident sign that the latter is less vertuous because less commendable then the other.

CONFERENCE CLXXIX.

Touching the means of re-establing Commerce.

MAn being born sociable, and society not possible without Commerce, the same seemeth one of the main Concernments of mankind, who are generally troubled, when the same is either interrupted by War with strangers, or extinguish'd by the negligence of Natives; whereby it appears to be of two sorts in general, viz. between those of one State, and with Strangers. Now this difference is so essential, that each of them hath its contrary Maxims. Forreign Trade is exercis'd commonly by the truck or exchange of one Merchandize for another, (the transportation of Gold and Silver being prohibited by the Laws of the State, as also some Merchandizes, call'd Contre-band are) or in case the Forreign Merchants like not the permutation of commodities, they make their payment by Letters of Exchange, which was come to be taken up upon the prohibition of transporting money. On the contrary, Natives of the same Country commonly make all their Bargains for money, either ready or upon Credit till a set time. And as the Prince endeavours to promote and facilitate Trade amongst his Subjects for their accommodation, so he ought to be circumspect to hinder Strangers from carrying away the Materials, and (especially unwrought) Commodities about which his own Subjects should be employ'd.

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The Second said, That the dignity of Merchandize is prov'd from its Antiquity and Utility. As to the former, we read in Holy Writ of Ismaelite Merchants, who bought *Joseph* as they were going from *Galaad* into *Egypt* to Trade; and in the Poets of *Jason*, whom they feign to have voyag'd with his Ship *Argos* for conquest of the *Golden Fleece*, insinuating thereby that Travelling and Trading by Sea and Land is the way to grow rich. As to the latter, all Arts would be unprofitable to men without distribution of their works, which is done by Merchandize, whereby that becomes useful and known in one place, which was useless and unknown elsewhere; and the Proverb is confuted, that every Land beareth not all things; since a Countrey of Trade abounds with every thing, and the four parts of the world are brought together by Commerce. 'Tis Merchandize that enricheth States, all which acknowledge Money; which ariseth by it, the sinew of War, and the key of all political Enterprizes. 'Tis that which supplyes Princes with Metals, Jewels, Marble, and other magnificences, whereby the splendor of their Persons, Courts, and Palaces is advanc'd; and both in Peace and War 'tis the surest foundation for Impositions, which maintain the expence of either. 'Tis that which supports the necessities of Souldiers, and supplyes them with provisions both for war and sustenance; whence among the Eastern Nations, the Pedlers and Victuallers are the most considerable Officers of their numerous Armies. In short, Commerce affords Lawyers the subjects of their Pleadings, Sentences, and Arrests; and not onely Sugar, Cinamon, Cloves, and other Spices for our Tables, but also most Drugs for Physick, as Rhubarb, Agarick, Sena, Cassia, Tamarinds, Guaiacum, Musk, Ambergreece, and whatever is rare; besides, Books to all these Professions; and to God himself, Incense to perfume his Altars. Nor is this employment more profitable then delightful in reference to the variety of places, persons, and things; a divertisement which alone sufficeth to induce Travellers to adventure the dangers which accompany them. As for the dignity of it, I shall onely adde to what hath been said in a former Conference concerning the same, That they, who despise Merchandizing as if it had something of base and abject in it, are more worthy of pity for their grosse error, then of an answer. Do they know better wherein Dignity consists then those ancient Roman Senators, who freighted and maintain'd Trading Ships; the gain whereof was their best revenue? and are so many other States and Republick ever the less noble for Trading? Is there more honour in the idleness of a half Gentleman, who for want of other employment useth no other Trade in time of Peace but to assist one of his Neighbours against another in a quarrel of his own making, then in the care and vigilance of a good Merchant which redounds to the benefit both of the publick and himself. Besides, the diligent Merchant raises his Family, whereas the idle Gentleman destroys

his; being driven at last either to go in a pittiful garb, or else to be cloath'd upon the credit the Merchant gives him. Since therefore 'tis the duty of good Legislators to countenance what is most profitable to the State, and on the contrary to depress and expel whatever brings damage to the same. Methinks 'twere fit some new marks of esteem were added to the essential honour of Merchandizing; as either Titles of Honour or Priviledges, which would invite the mindes of our youth to that good employment, who are otherwise apt to be drawn aside by popular error to looseness and debauchery, and thereby commonly deviate from the way their predecessors trac'd out to them. Whence a Merchant that hath got a good estate, instead of leaving his Son to succeed his Credit, lets it fall, and puts him to some new profession, to which he was not born, as to the former.

The Third alledg'd as an argument of the utility of Commerce, that Cities destitute of it can neither increase nor grow rich; whence the sub-division made of the estates of families soon impoverishes the Citizens, unless they supply that defect by their industry, as many rich Nations do. Thus *England* was for a long time enrich'd by the free trade it enjoy'd with all the neighbouring States, who were at Wars one with another. Thus most States of *Italy*, especially *Venice*, *Genua*, and *Florence* have been augmented by Traffick. But no place more evidently sets forth the excellent profit of Commerce then *Holland*, where, as their best Authors acknowledge, and experience shews the countrey, which almost their industry alone hath made habitable, hath nothing but Trade and Commerce, whereby they have enrich'd it. For the Soil is not onely bad, as being almost all Sandy; or all Marshy, especially at *Amsterdam*; the water is unwholesome, and the Air thick and noxious; not to mention their Turffe firing, which fills the head with vapours. So that though they have all the elements contrary to them, yet they scruple not to dispute the Sovereignty with the King of *Spain*, having made War upon him for four and twenty years together with more gain then loss: which they could not have done without the great treasures they draw from Commerce.

The Fourth said, That since Trade consists in Negotiations, things sold or exchange'd, and their value, the persons must be honest that exercise it, the Commodity understood, and the price certain; otherwise 'tis not Trafficking, but meer cheating; whence of all forms of Justice, none ought to be more compendious, and equitable, and conscientious then that concerning Merchandizing, which would be no less ruin'd by false judicatures, and long suits then by injury and open force. The way therefore to re-establish Commerce is to re-establish fair dealing, to remove frauds and sophistication of commodities, whereby he that thinks he buyes one thing, buyes another of worse value; and above all, to fix and make immovable the standard of current

money; for want whereof no man knows what he hath.

The Fifth said, That the first condition requisite to Traffick, is the safety of wayes. The second, that of payment, which is remitted to a set term. The Third, The capacity of the Merchant, which keeps him both from being deceived in the worth of Commodities, and in the sorts of ready payment, though this kinde of payment be less us'd amongst whole sale Merchants, which is the true way of Merchandizing, that of Retail deserving the name less, and being alwayes accounted more fordid. Moreover, 'tis the former that enricheth States, supplying what they want, and carrying abroad what they abound with. 'Tis the nurse of Arts and Manufactures, as appears in the Cities of *Lions*, *Tours*, and divers others, where some one Merchant employes three or four hundred Artificers in Silk, Wool, and other such works. Amongst which Merchants those that best know how to practise the Maxims of buying and selling cheaper then others, that is, who content themselves with least profit both in buying and selling, drive the greatest trade, and consequently thrive most: whereas they that endeavour to grow rich in a day, discredit themselves for the rest of their lives. I think also 'twere fit to remedy the evil custom of some who set so high a rate upon their Commodities, that they frighten those that otherwise resolv'd to buy, or else affront them with half the just price. And if after the manner of some Countreys, the prices of all wares were regulated, much more would be vented, and the time taken up in bargaining would be employ'd in other parts of Traffick; besides that, by this means we might send even any childe for any commodity whatever; in the consideration of the set price and the assurance of not overbuying would make customers buy the sooner, their first consultation being concerning what money the thing will cost them: whereas now many forbear meerly out of shame to higggle and beat the bargain.

The Sixth said, That indeed the sole wealth of a State is Traffick, there being onely two sorts of goods, moveable and immoveable. The latter increase and diminish onely by War, which is troublesome means and a kinde of game, wherein he that wins one time loses another: whereas moveables are us'd and consum'd though they be of Iron: whence onely Traffick remains for increase: but 'tis not sufficient to know the dignity and profit a thing brings; to put it well in practice, all its obstacles must be remov'd; as in the first place the idleness of the Inhabitants, which is natural to such as live in a good Soil; whence the Proverb, *Bona terra, Mala Gens*. Yea, in some people, as in the Irish, 'tis contradicted by ill custom; for that people being nourisht in sloathfulness, chuse rather to cover their whole Bodies with a Mantle, then take the pains to cut it into Cloathes. Secondly, the want of Materials and Instruments proper for Trade, as Merchandizes, Ships, and other means: besides the defect

defect of safe Ports. Thirdly, The danger of transportation by reason of Thieves at Land, and Pirates at Sea. Fourthly, the want of Companies, both for undertaking great negotiations, and for assurances, as 'tis in *Holland* and elsewhere, where they have found wayes to assure even the lives of persons under good cautions. Fifthly, the false dealing of this age, directly opposite to the fair dealing of Merchants, which is incompatible with brangling. Lastly, that great process not yet ended between the King of *Poland* and the Dantickers, about the impost he would lay upon the Baltick Sea, shows apparently that impositions also are a notable hinderance of Trade: All which obstacles and inconveniences may be thus remedy'd in *France*. The first needs not much to be spoken of, more French living by their industry in Forreign Countries then Forreigners here, which is a certain evidence that our Nation is none of the sloathfullest. But 'twere to be wisht that the Youth design'd to the honest exercise of Merchandize were not less careful to learn the Map and the Countrey, then our Gentry is so for the war. Nor do I think the Tongues, especially the Latin, less necessary for them then for Lawyers and Physicians; since these may in case of necessity learn their Art in their own mother Tongue: But Merchants cannot make themselves understood in strange Countreys but by the Latin Tongue, which serves to interpret all others; and for want of which 'tis in the power of an Interpreter to deceive them. Neither do we want wares that are both as common and as good as elsewhere, as Wheat, Wool, Hemp, and what ever is made thereof, as Cordage and Linen; Salt, Wood, and other such things; much less materials to build and equippe Ships: and we have the best Havens of the world. The inconvenience of Robbers and Pyrates is much more considerable; but the former may be remedied in Cities, by an exact knowledg of all the Houses in each Street; by many clear lights set together, which will cost less then Lanthorns, whereof there is seldom any benefit; by a Night-Watch plac'd in each Street, and by other means to be mention'd in due place. In the Countrey it may be redress'd, if Merchants Travel together in Caravans, and get the assistance of the Provosts or Sheriffs, who are bound to secure the High-Wayes, and as well by Land as by Sea, by the erection of Companies.

The seventh said, That the only way indeed of improving Commerce, is to establish Companies. For both Nature and Art teach us, that as heavy burthens cannot be mov'd by little strength; so Affairs of great importance, which need a great stock and attendance in several places, cannot be manag'd by one single person; who also sufficeth not alone to remedy soon enough the inconveniences foreseen and unforeseen, which necessarily happen in all enterprises. Whence the first loss that befalls a solitary Merchant, dejects, and almost breaks him, because he hath not where-with to recover himself; whereas in Companies, a loss is equal-

equally distributed, and more easily supported by all the Associates; amongst whom, if the timorousness of one proposes the safest means; the Courage and Experience brings a Temperament thereunto; and seeing every one contributes his counsel no less than his endeavors in the common cause, it is in the less danger by reason of the many that mind it. Moreover, Companies are best able to sollicite and procure the recovery of prizes unjustly taken at Sea, obtain Letters of Mart, and put them in execution. But as these Companies are absolutely necessary, and neighbouring States furnish us Examples thereof; so care must be taken that they do not degenerate into Monopolies, and set excessive prizes upon Commodities.

The Eighth said, That beside what hath been remark'd, the conjunction of Rivers so frequently propos'd and not yet executed, (through want of Spirits constant enough to accomplish their designs) would much facilitate Commerce; the transporting of Commodities sucking up the main of the profit, by reason of the Exactions of Inns, which laugh at the regulated Rates of Provisions, for want of an Eye to keep them up. All which might be remedied by an able Company, by appointing places of baiting and lodging for their Factors, to be kept by some of the Associates, who being thereby interested in some portion of the profit, would look more narrowly to the security of the Highways; for want of which care, the most famous Messengers are often rob'd. It would be of great use also to have good and certain Intelligence of the Affairs of the world in general, especially of the inclining to ruine, delays and failings of Bankrupts, who oftentimes break in one place whilst their Factors are taking up Commodities in others; as also of the besieging and taking of Cities by an Enemy, or their danger of being so; in which Case the Merchant will hasten to withdraw his stock from thence, and hinder others from sending thither to trade; there being no Sympathy between War and Merchandize. But above all, in this Occurrence 'tis necessary for him to know the certain prizes of the Commodity he intends to deal in: Which hath gain'd great Credit to this Assembly, by the printed Bills it hath sometimes sent abroad, containing the currant prizes of all Wares for every week, in imitation of the City of *Amsterdam*. For by this means, the Merchant needs only discount the charges of transportation, and make a Reduction of Weights and Measures, to see his evident profit; yet alwayes carefully observing to draw a line with some imaginary sum for hazards and contingences which may happen unexpectedly; it being impossible, what-ever care be us'd, to regulate exactly the gain of Merchandize, as depending, partly, on Chance, and, partly, on the Will and Phansie of Men; so that a Commodity, which, for being to day in fashion, or otherwise in credit, would yield twenty in the hundred profit to the Owner, sometimes leaves him a loser, or he is forc'd to keep it long in his Ware-house.

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CONFERENCE CLXXIX.

What are the most common Causes of Law-suits ; and why they are more now than heretofore.

Plato designing a Common-wealth, whose Citizens might live in good intelligence, justly excludes out of it the words of Mine and Thine; conceiving, that so long as there was any thing to be divided, there would ever be Male-content; because Self-love (the root from whence the too great desire of keeping and acquiring arises) acts variously in Men; by main force and strong hand in time of War, and in Peace by Law-suits. Now the desire of Getting, having never been so great as at this day, nor so much countenanc'd and rewarded, (since in consideration of wealth most Offices are dispos'd of) 'tis no wonder if Law-suits be more numerous at this day than in times past.

The Second said, That Community of Goods, feign'd by the Poets, and exemplif'd in the Primitive Church, (bating the Charity which produc'd it) would cause as many mischiefs, and, consequently, Law-suits, as there are at present. For every one would endeavour to appropriate what should be common, and despise it if not able to compass it; as we see common Causes are neglected, and commonly lost, for private interest. Whence appears the impertinence of some Legislators, and of the *Nicolaitans*, who, that the Children might be lov'd the more, would have Wives common; for common Wives and Children would be own'd by no Body; and if such Women as belong but to two or three, keep them always in jealousy, and many times ingage them in a Law-suit, what would those do that belong'd to all the world? Wherefore, I conceive, that if contrary Effects have contrary Causes, 'tis Plenty, and its Daughter, Pride, that causeth Law-suits; and Poverty and Humility makes Peace and Agreements. Which the French *Democritus* intimates, where he introduces an old man reconciling two Adversaries, but 'tis after they are both undone. Thus also the Circle of Humane Life represents Labour holding Wealth by the Hand, Wealth holding Pride, Pride holding Contention, which causeth Poverty; this, Humility; which again produces Labour; that, Wealth; and so round again. For of fifty Law-suits, not one would begin between the parties, (or at least it would soon be determin'd) if either would humble themselves as much one to the other, as they do to their Judges; yea, oftentimes to their Council. Wherefore Vanity being greater in this Age than ever it was, (although with less reason in most) 'tis no wonder if our times abound more with Law-suits than the former.

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The Third said, That such as are at their ease have no mind to Law-suits; and therefore 'tis not Plenty that begets them, but Necessity, yet not an absolute one; for he that hath nothing cannot go to Law; but such, that the one cannot pay what he owes, and the other cannot be without it: In every other Case, Accommodements are possible. 'Tis from this Source that so many Seisures and Sentences proceed, which the indebted would never suffer, had they wherewithall to pay, considering that the whole charges must fall upon themselves. Now as there were never so many rich, so there were never so many poor, as there are at this day in *France*; because every body labours out of the vanity above-mention'd, to disable themselves every day more and more, laughing at the Constitutions which are made to reduce us to frugality, and ascribing all inconveniences both publick and private to any other Cause but themselves.

The Fourth said, That though the Ages past having had the same vicissitudes of Peace and War, and of Poverty and Riches, yet had they not so many Law-suits as there are at present; and therefore some other Cause thereof must be sought, which possibly is this; That the Spirits of Men are become more refin'd and subtle in the several Ages of the world, and consequently, advanc'd to a higher pitch of maliciousness, whence many difficulties and contests arise in such matters, wherein the goodness and simplicity of our Ancestors found none at all. Nor hath the multitude and diversity of Laws been a small occasion of this bad event. For (besides the Roman Laws which lay long in oblivion, and were restor'd to light by *Veruber*, in the year 1127. and the Canons compil'd by *Gratian*, (whence came the judicial formalities) our Customs and our Ordinances; and amongst others, those made since *Charls VIII.* with long preambles and reasonings in imitation of *Justinian*, have stirr'd up more Law-suits, than there were in a thousand years before. So that hath been good work for such as were minded to draw profit thereby, to make so confus'd and intricate an Art of the Law, that there is almost no Case wherein they cannot find some trick to multiply a Suit, and render it immortal) Moral Reason (the foundation of the Law) admits a thousand different faces, not only in circumstances of Fact, but also in matter of Law; whence there are few Laws but have their contraries.

The Fifth said, That the multiplicity of our Law-suits is to be attributed to the humor of the French Nation, which is desirous of change, and naturally subtle and eloquent. Whence a Latine Poet stills *France* the Nurse of Lawyers. Likewise the improvement of Learning in this last Age, hath contributed much thereunto: And the sight of great Estates gotten by the Law, hath induc'd many Parents to put their Children to that profession, as the readiest way to advancement. Such as could not be Counsellors, have been made Attornies, Solliciters, Sergeants, and this great number of people employ their inventions to get a
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livelyhood, which they cannot do without Law-suits. And therefore 'tis no wonder if they advise, continue, multiply, and eternise them as much as they can; egging on the Plaintiff by the motive of Profit, and the Defendant by that of Self-preservation; and refusing to the more simple their writings and other such helps as might bring them to accord.

The Sixth said, That Law-suits increase or diminish according to the diversities of proportions kept in the Administration of Justice. For some measure them by the Law of Nature, (whereby all Men are born equal) and proceed by Arithmetical Proportion. Thus the *Medes* turn'd Justice into Equality; whereas (as *Xenophon* told *Cyrus*, reproving him for awarding the coats to his Companions, according to their stature, and not according to the right and propriety) the *Persians* made Justice equal. This Arithmetical Proportion was observ'd by *Draco*, *Solon*, *Lycurgus*, and all popular States; where every thing was put to the balance. Such also was the Law of Retaliation among the Jews; Eye for Eye, and Tooth for Tooth. But this equality having so many inconveniences, that many times the highest Justice is the highest Injustice; *Plato* made Justice arbitrary without any other Laws but those drawn from the proportion of the great to the small, and other circumstances, which he call'd Equity, or Geometrical Proportion. Yet this Justice being also too vagous, and left to the discretion of Magistrates, who are subject to corruption; therefore *Aristotle* chose a middle way between those two Extrems, regulating Commutative Justice, which judgeth of the right of private Men by Arithmetical Proportion; and Distributive, which is for publick Affairs, by Geometrical Proportion. And our usage hath approv'd an Harmonical proportion; the Supream Magistrate using both Law and Equity, and tempering the too great strictness of the former, and the much liberty of the other; which course is observ'd in good Monarchies, where the Chief Courts being above the Law, and yet having Equity in their Power, make an agreeable Temperament of Justice with Reason, being impower'd to reverse the Sentences of Subordinate Judges, who are ty'd to the Letter of the Law; as the Royal Authority is above both. Whence it results, that there are few Law-suits where Arithmetical Justice, that is, the inflexible rigor of the Law is exercis'd; somewhat more, where Geometrical Proportion hath place, because 'tis requisite to use Reasons; which being alwayes the same, cannot be alter'd, as it happens in Harmonical Proportion, in which the point of right (which is indivisible in it self) being variously balanc'd between Law and Equity, and drawn from each side according to the interest of the parties, the Decisions of some Cases cannot be wholly suited to others, by reason of the diversity of circumstances. But as Diametrical Proportions having no connexion of their quantities together, though they quiet private Contests, yet they cause a dangerous reflux into the body
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of the State, by the indignation of the Nobles against the Commonalty, and the People's Envy against the Nobility; so Harmonical Proportion, such as ours, is much more prejudicial to private persons, which it entertains in Suits, than to the State, wherein it employes turbulent Spirits to discharge their Choler upon paper against their Adversaries. But in Answer to the Question, Why we have more Law-suits now-a-days than formerly, I believe the Reason is, because the common-people have got too much Knowledge of the Laws and Statutes, and Legal Pleadings; for whilst these remain'd in Latin and were not understood, Men were not so apt to commence Litigious Suits one against another.

CONFERENCE CLXXX.

*Whether more hurt or good hath proceeded from
sharing the parts of Physick between Physitians,
Apothecaries, and Chirurgions.*

THIS Question being of the greatest moment of any that hath been discuss'd in this Company, requireth also most caution; because there is none of us knows how soon he may come to be at the Mercy of some one of that Profession which his Sentence shall disoblige. Now all the parts of Physick were practis'd of old by one person; yea, in *Aegypt* it was no set Profession, but the Priests of *Memphis* were bound to write in the Temples of *Vulcan* and *Isis* such Remedies as any Man came and declar'd to them, that himself had found benefit by; to the end others might use the same. So likewise the Greeks writ in Parchment, and hung at the Porch of the Temples of *Apollo* and *Æsculapius*, those Receipts that had cur'd them; which the Priests took from thence to pronounce to others, as if they had been Oracles; authorizing Medicine by Religion. Afterwards, this Science augmenting by degrees, (as all things do) some were found that reduc'd those Experiences to an Art; the ancientest of whom was *Æsculapius* the Son of *Apollo* and *Ariadne*, to whom in time succeeded another *Æsculapius*, the third of that name; who (as *Cicero*, *Lib. 3. de Natur. Deor.*) was the first Tooth-drawer, and undertook first to loosen the belly, leaving for his Successors his Children, *Podalirius* and *Machaon*, who were at the siege of *Troy*, the former of whom profess'd the curing of Inward Diseases, the other of Outward by manual operation; from which time, the Art of Physick began to be divided into Pharmacy and Chirurgery, which were practis'd joyntly by *Chiron*, who took his Name from the dexterity of his hand in operations, and was feign'd a Centaure, because he was always on Horse-back to relieve remote Patients. And for that the operations of Chirurgery are more apparent than those of the

other parts of Physick; *Plato* saith, that the ancient Physick was only Chirurgery. *Hippocrates*, who first spoke worthily of Medicinal Matters, exercis'd the three parts of Physick conjunctly; and so it was practis'd till *Galen's* time, to wit, 600. years after. Moreover, 'Tis an Argument, That Chirurgery was exercis'd by the Physicians, That they were expell'd *Rome*, because one of them had cut off a Roman Citizen's leg with bad success. So also *Darius's* foot dislocated by a fall from his Horse, and restor'd by *Democedes* a Crotonian Physician, then his Prisoner at *Sardis*, (after the vain attempts of his Egyptian Physician) is an evidence that he was both a Chirurgion and a Physician. But since, Physicians have done like the heirs of Merchants, they have thought fit to avoid the pains, and enjoy both the honor and the profit; they have reserv'd solely to themselves the authority and power of prescribing, and left to the Apothecarie's honesty and skill, the choice, dispensation, preparation, and composition of medicaments; and to the Chirurgion, all manual operations: Nay, many of these too, out of heedlessness, have left to Barbers and Stews-keepers the Art of trimming the Hair; to others, the dexterity of drawing Teeth; and again, to others the Reduction of Luxations and Fractures; all Appendances of Physick. Now to determine, Whether this Division hath done more good or hurt, seems to me to depend upon the capacity of those employ'd in this Art.. For if the Physician hath not skill enough, or strength of Body to attend all those functions, he ought not to undertake them. But he that judges himself able to discharge them all, will be very heedfull, when he sees the whole honor or blame must fall to himself alone; whereas the division of success amongst many, makes each person more negligent: Besides that, every one can answer better for his own deed, than for another's; and agrees better with himself, than with a second or third; between whom 'tis seldom but some Clash happens, and that to the detriment of the Patient. Lastly, the Physician represents the Intellectual Faculty, the Chirurgion the Animal, and the Apothecary the Vital; so that to divide them, is as much as to separate the Liver, Heart, and Brain of one and the same Man; and Theory being never well understood without practice, 'tis no wonder if their dis-union hath occasion'd the setting up many Ignorants and Empericks.

The Second said, If Man's Life be short, in respect of the Art of Physick (according to the saying of *Hippocrates* the Prince thereof) then 'tis the way to shorten it more, even by two thirds, to assign it three Arts and Exercises, each of which requires the whole Man. The Egyptians were of another Judgment, not only distinguishing Physicians from Operators and Preparers of Medicaments, but also having particular Physicians for each considerable part of Man; as for the Eye, Ear, &c. which render them more expert; because we do nothing well, but what we do

do often ; and what difference there is between one that exercises more Arts, and him that is contented with one, appears by comparing Country-Apothecaries and Chirurgians, who practise all three parts of Physick, and those of great Cities. Moreover, the alliance between the Body and the Soul is such, that while the one is employ'd about some work, the other cannot intend its cogitations else-where, as it ought to do in this Case. And therefore to require a Physician to let blood, set a bone, or prepare a medicine, is all one as to expect that a General should both give Orders, and perform the Office of a common Souldier. For if the Mind that is at rest be esteem'd the more wise and capable of reasoning, (whence our Judges sit, Physicians consult, and the Greeks would have adoration perform'd in that posture) what good advice can be expected from a Physician who is always out of breath with his preparations and operations? Besides, 'tis not seemly for a Physician to visit his Patient with his Hands smelling and dy'd with drugs, and the confidence of the Patient in him being much conducive to the Cure, it cannot but be better trusting to three persons than to one. And indeed, supposing a Physician were so wicked as to have ill intentions against his Patient's Life, (which yet is hard to imagine, and there are very few Examples of such) it would be harder for him to execute them when others prepare his remedies, than when he prepares them himself. As likewise the Apothecary may play the Villain more securely, when he hath not the inspection of the Physician over him. Wherefore 'tis best that Physick remain distributed into three Professions, which, like an Harmonious Trade, assist and uphold each other ; the Physician being as the Head, and the other two as his two Hands. All the business, is, that this Harmony and Proportion be so well observ'd, that the Hands think not themselves to be the Head ; which happens but too frequently, to the great dishonor of Physick, and damage of the sick.

CONFERENCE CLXXXI.

Whether there be any Real Evil besides Pain.

Things have either an absolute Essence, or a Relative ; the former are Real, as to be a Man ; the latter which have no Being but from the Respect they have to our Phantasie, depend upon the same, as to be glad or troubled at certain News. These two Heads contain all Entities ; but because the weakness of Humane Judgement often confounds them, taking an imaginary thing for a real, hence the inquisition of their difference hath furnish'd the Schools with various Questions. That of the *Stoicks* was so far from admitting any other Real Evil besides Pain, that
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it allow'd not Pain it self to be an Evil. On the contrary, *Epicurus* held, there was no other Evil but Pain; nor any other Good but Pleasure, its opposite. Indeed by adjoyning Vertue to that Pleasure, and assigning the pre-eminence to the pleasure of the Mind, it will be easie to make Good and Pleasure convertible: whence it will also follow that Evil and Pain must be reciprocal.

The Third said, That Evil being the Privation of Good, and Privation no real Entity; to enquire whether there be any real Evil, is the same as to ask whether a Privation be a Habit. But to comply with the terms of the Question, which seems to be, Whether there be any other sufferings of that kind which the Vulgar calls Evils, causing sensible displeasure in us as necessarily as bodily Pain doth? In answer whereunto, I say; First that there is both a spiritual and a corporeal grief or pain; of either of which some persons are more or less sensible than others. Secondly, That all people desire pleasure as a good, and shun pain as an evil (for even the inflictions of some Religious persons upon themselves, are done in hope of a future good) and lastly, that both the one and the other are excited by several and oft-times contrary ways and means. For as the bitterness of *Succory*, hurts and displeases some but is agreeable to others; so also the same accident may cause pleasure in some minds and sadness in others; this variety proceeding from the different temper of Minds. Besides, corporeal and spiritual pain differ, in that every one is a capable judge of the former, but not of the latter; whence, as *Aristotle* saith, all run after pleasures of the Body, because they ignore those of the Soul; and so likewise most only reckon their bodily pains true Evils, because they have no experience of griefs of the Mind. But he that well weighs how infinitely the Intellect excels the Body, easily finds that the evils that attaque the same are also far greater; since 'tis that by which the Body is render'd susceptible both of pain and pleasure, and receives impressions of both upon the countenance; wherein particularly the Eye is term'd the Mirror of the Soul, for no other reason but because it represents her Passions and Affections. And to shew how much grief and displeasure of Mind surpasseth that of the Body, we see some redeem the loss of their Honour with that of their Lives, which cannot be without suffering the pain of death.

The Third said, 'Tis not the Question, whether the griefs of the Body or the Mind be greatest; since every one judges variously thereof according to his humor. As the Miser prefers his profit before the pains of Hunger and Thirst; and the Ambitious person ventures his life in the Field rather than endure the Lye. But the Question is, Whether there be any reality in the Evils which the Mind of man undergoes besides Pain, of which alone we see all other Animals are sensible; Nature teaching Man thereby that she hath left it to his own conduct, how much
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his natural condition is worse then theirs, whilst he is not only lyable to the same bodily evils, but becomes ingenious to his own hurt, and an expert Artificer of his own bad fortune. An instance whereof we have in the Swine that was eating his food peaceably in a Tempest, whilst all the Passengers fearing every moment to split against the Rocks, dy'd as often of apprehension as they thought of that sad fate. Which fear ended with the Swine's meat, and the Ship's arrival at a safe Port; where it appear'd that that vile Animal had felt none of that trouble which the Tempest had caus'd in the more unhappy men; and consequently that their Imagination was the sole cause of it. The like may be said of all other afflictions which men give themselves, call'd therefore deservedly by the Wise-man, *Vanity and vexations of spirit*. For most of the inductions and consequences which the Mind draws from events prove false, and nevertheless they give us real sorrows: we see frequently that a great Estate left by a Father to his Children makes them debauch'd and worthless, and degenerate from the vertue of their Parent, who having receiv'd no inheritance from his own was constrain'd to labour, and by that means attain'd Riches and Honour: Whence it appears that the trouble of a Father leaving a small Estate to his Children at his death hath no foundation in the thing but only in his abus'd Imagination, and consequently cannot be a real Evil, and yet this is the most general Evil of all with the Vulgar. Thus two men, lodging under the same roof lost both their Wives not long ago: one of them was so afflicted therewith that he dy'd of sorrow; the other receiving the consolatory visits of his friends, could not so well dissemble his joy but that it was perceiv'd; and yet their loss was equal. So that the sadness of the one, and the joy of the other depended only upon the different reflection they made upon this accident. Thus also the same affront that made one of *Socrates's* Disciples draw his sword, made the Philosopher himself laugh at the fortifness of his enemy: and every thing which the Vulgar calls Good or Evil, (Pain excepted) is a Medal, which hath its right side and its reverse.

CONFERENCE CLXXXII.

*Whether Man be the most diseas'd of all Creatures,
and why?*

A Disease being a preternatural disposition hurting the Functions, every living Body capable of action may become sick by some cause impeding its actions. Hence not only Men but also Animals, and even Plants have their Diseases, which
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Theophrastus diligently describes. Amongst Beasts, though some are subject to particular Diseases, as the Dog to Madness, the Swine to Leprosie, the Goat and Lyon to Fevers; yet there is none so invaded with all sorts of Maladies as Man, who is not exempt from any; the least of his similiary parts that is nourish'd being subject to twelve sorts of Diseases, namely, when they attract their aliment, either not at all, or but weakly, or otherwise then they should, or when they are defective either in retaining or concocting it, or in voiding superfluities. But if such part have sense too, it may have fifteen; if motion also, eighteen: And if it not only be nourish'd it self but labours also for the publick, 'tis lyable to twelve more, according to the three ways that its Functions may be offended, in attraction, retention, concoction and expulsion. The Eye alone is subject to almost 200 infirmities; and, as if there were not ancient Diseases enough, we see daily new ones unknown to former Ages. Now the reason hereof lyes in the nature of Man, who being the most perfectly temper'd and best compounded of all Animals (because design'd to the greatest actions) is therefore apt upon the least occasion to lose that evenness of proportion, which as it requires a great train and concurrence of many things, so also there needs but a little thing to subvert it by defect of the least of those requisites. Indeed, there are but two causes of Diseases, to wit, Internal and External; and man is alike subject to both; to the former, by reason of his hot and moist temper which is prone to putrefaction, and the more upon account of his variety of Food; whereas other Animals never change their Diet; which is the most probable cause of their health and good constitution: For diversity of aliments incommodes Nature, weakens the natural heat, produces Crudities, the Sources of most Diseases; which also are frequently caus'd in Men by the internal Passions of Anger, Fear, and Joy. The most ordinary external causes are the evil qualities of the Air, pestilential vapours and malignant influences, whereof Man's body is the more susceptible, by reason of the tenderness of his Flesh, and the porosity of his skin; which on the contrary, in other Animals, is hard and cover'd with Hair, Feathers and Scales, and renders them less subject to the impressions of external bodies, as also to Wounds, Contusions, Fractures, and other solutions of continuity.

The Second said, That such perfections or defects of things as we know most exactly, seem to us the greatest; as the excellences and defects of Pictures are not well observ'd but by those that are skill'd therein; and he that is unacquainted with some certain Nation cannot know its Vices so as they that converse with it do. Now Beasts being unable to signifie to us the differences of their pains and the other circumstances of their diseases, hence we judge them to have fewer, although the contrary appears in the Horse, in whom observant Farriers re-

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mark a great number of Diseases, to which we are not subject. So that other Animals may have as many, or more than Men, who being less concern'd therein, less understand them. 'Tis true, the parts of Animals resemble ours, saving what serve to distinguish their outward shape; as appears by the Dissection of Apes, whereby *Galen* learnt Anatomy; and no difference is found between the Ventricles of a Man's and a Calf's brain. If their blood and other humors differ, so do those of one Man from those of another. Moreover, Beasts have the same inward Causes, Fear, Anger, and the other Passions; in short, all the other Non-natural things, and not at their discretion as Man hath. If a Dog hath the harder skin, yet man is less lyable to blows, and the injury of the Air. In fine, who knows but it may be with these Animals as 'tis with rusticks, who, though Men as well as we, and subject to the same inconveniences, yet all their Diseases are reduc'd to a few Heads; since the true and spurious Pleurisie, the Asthma, the Cough, the Palsie, and other Maladies, whereof we make so many branches, are all reckon'd by them only for a hot or a cold Rheume.

The Third said, The nearer Nature promotes Bodies to their utmost perfection, the more frail she renders them. And as in Mixts, Glass, which is her utmost atchievement, is weaker and brittler than Stones; so in Animals, Man the most excellent and perfect, is the most frail and weak, by reason of the part wherein he abounds more than they, and which advances him, to wit, the Brain, the root of most Diseases. And as the most noxious Meteors, are form'd in the coldest Region of the Air, so those that have a moist Brain are soft and less vigorous, as Women and Children; whence amongst the old *Spartans*, and at this day amongst the *Æthiopians*, (as *Alvarez* reports) 'tis a shame to blow the Nose or spit, because it signifies Effeminacy; and the *Thracians*, (as *Pliny* records) freed themselves from many Diseases, by cutting the Nerves behind the Ear, whereby all fluxions from the Brain were stopt. On the contrary, Animals having a dry and less Brain, sleep in the open Air without inconvenience.

The Fourth said, That as Man exercises the greatest variety of Actions, so he is liable to most Diseases. Animals which reason not, have no *Delirium*; those that speak not, are not subject to be dumb. But the truth is, Men consider not remote things further than their interest reaches. Hence more Diseases are observ'd in the Bee and Silk-worm, than in the Elephant. Unless we had rather say, that there being so great a variety of dispositions and tempers requir'd to the Health of all the parts, humors, and faculties of a humane body, it happens very rarely that they are all as they should be. As 'tis harder to make good Musick with a Lute, or other many string'd Instruments, than with one that hath fewer strings and accords, as Animals have in respect of Man.

CONFERENCE CLXXXIII.

Of the Greenness of Plants.

Colours being the illuminated surface of Mixt Bodies, alter according to their various mixture; and because the less a body is distant from its simplicity, it partakes the more of light; hence as soon as water becomes consistent and solid, it puts on Whiteness, which is so near akin to Light, that the latter cannot be painted but with the former. For this reason new-sprung Plants, issuing out of the Womb of their Elements, retain a White Colour; till having thrust their stem out of the Earth, the nourishment they attract adding to their composition, they assume a new Colour, which suitably to the Temper of the Compound, (whose upper part is heated by the Sun-beams, and lower part nourish'd with the juice and vapors of the Earth) becomes Green, upon the same reason that Blew and Yellow make a Green; the Blew proceeding from condens'd Moisture, (as appears in deep Seas) and the Yellow from the Sun-beams. Hence a Plant depriv'd of the Sun's aspect, looseth its verdure, and remaining Colour-less by the privation, which is always Harbinger to some ensuing Generation, it appears white; as we use to make Succory and Thistles white by burying them, or covering them in a Vessel whereinto no Air can enter. Greenness therefore is the first mixture of the Sun-beams with corrupted humidity, (as putrid waters wax green) and the first assay of the Vegetative Soul, and consequently, an evidence of their Life; as, on the contrary, Yellowness shews that the Sun hath dry'd up the humidity wherein the life resided, and left only the Colour of Feuille-morte. But when this humidity is so unctuous and adherent to the compact and solid body of a Plant that it cannot be exhal'd, (as Oyle is not evaporated by the Sun) than the outward Cold shutting the Pores, retains the Greenness longer and brighter, whilst other Herbs and Trees are despoil'd of their verdure. And therefore 'tis no wonder if the leavs of such Plants, as the Laurel, Holly, Box, Ivy, and many others, feel no injury from great Cold and great Heat.

The Second said, That the production of Vegetables proceeding from the resolution of Minerals, (as appears, not only in the order of Generations, which proceed from simple to organick bodies, but also in the sympathy of the Oak with Copper, of the Beech with the Load-stone, of the Hazel with Gold and Silver) 'tis probable that Vitriol, (the commonest of Minerals, and found in most grounds) gives Plants their Verdure; which many of them also testifie by their acidity. For I cannot attribute the Cause to Light, which is indifferent to all Colours, and hath none in it self; the Gold Colour of the Sun not inhering

ing in him, but proceeding from the reflexion of bodies he irradiates. But if we are to find some mixture of Yellow and Blew to make this Green, I should rather assign the Yellow to the Earth, which is most commonly of that Colour; as the Air and Heaven are Blew. And perhaps too, this Greenness is but a sign of imperfect Generation, since 'tis lost when Plants are mature; and we find it again in mouldy Bread, which is in a tendency to corruption.

The Third said, That all Bodies must have some Colour or other, and a Plant being the first living thing, ought to have the most agreeable, as being equally temper'd of the two Extreams, Black and White; for at its first issuing out of the Earth, whilst it is yet full of earthy humidity, it is of a dark Green, which becomes lighter as the Plant shoots higher; till at length the more volatile particles are excluded in a Flower which borrows its Colour from the various qualities of the sap; then comes out the fruit, which keeps its verdure till the Sun have fully concocted its juice.

The Fourth said, That 'tis not possible to give the reason of Colours, since we see Tulips change theirs almost every year; and there are Black, White, Red, and other colour'd grapes, equally sweet, and good for Wine; as also Apples, Pears, and other fruit. Nor is Greenness inseparable from the leaves of Plants; for we have not only red Coleworts, but also Roots, and some leaves of Rapes, Purple, Violet, and of other Colours. All that can be said in this matter, is, That Colour is nothing but a resultance of the External Light from the Surface, whose Particles are so, or so modifi'd and posited. Hence Blew appears Green by Candle-light; the necks of Doves seem of divers Colours by diversity of situation; and Wool appears whiter when compacted together, than whilst it was in flocks; whereas Water, which hath no Colour, shews white when Particles are divided by Air, and reduc'd into Snow. So also when Humidity is digested by Heat, (which is inseparable from Light) it puts on the first of Colours, which is Blew; (of which Colour thickned Air appears to us) and the predominant earthiness of Plants, makes that Blew incline to a darker degree, thence ariseth Green; which is the general Colour of all Plants. The Temperament contributes least to this Colour; for we see *Sempervivum*, which is cold, of the same Colour with Leeks and the Aloë-Plant, which are Hot. Just as Sugar and Salt are both White, and yet differ much in Taste and other qualities; so are Chalk and Snow; Honey and Gall are Yellow, the juice of Aloes and that of Liqueurice black. Yea, in Animals too, the diversity of their Colour, Hair, and Plumes is deceitful; whence came the Proverb, Of every Hair a good Grey-hound. And whereas Physicians reckon the Colour of the Hair a sign of the Temper, 'tis not always true; since we see persons of the same Hair totally different in Manners and Humors; and others of different Hair,

perfectly agreeing in temper; wherein consequently we must not seek the reason of colours.

CONFERENCE CLXXXIV.

Of the Cold of the middle Region of the Air.

THE common Opinion attributes the coldness of the middle Region to the Antiperistasis of the heat of the upper and lower Regions, which streightning the cold on either side leave it no other place but the middle, whither the vapors rais'd by the Sun-beams ascending, and no higher by reason of their weight and the thinness of the air there; it comes to pass that the neighbourhood of these vapors returning to their natural cold, encreases that of the middle Region. But many inconveniences invalidate this Opinion. First, if this Element were hot and moist, as is suppos'd, it would shew some effects thereof; but 'tis quite contrary. For he were a fool that should go into the Air to warm himself; and the Air hath so little humidity, that it dries all Bodies. Secondly, many Mountains surpassing the middle Region of the Air, and retaining figures describ'd in the ashes of a Sacrifice for a whole year, which shew that in all that time no Wind or Rain was rais'd there to deface them; it would follow that such Mountains reflecting the Sun-beams by their solidity, should cause heat in the middle Region of the Air, and yet they are commonly cover'd with Snow. Lastly, this Antiperistasis being only in Summer, not in Winter when the cold of the lower Region symbolises with that of the middle, this reason should then cease; and yet 'tis in Wintertime that cold Meteors manifest themselves. Wherefore we must recur to some other cause; which *Cardan* takes to be the natural coldness of the Air, not regarding the combination of the four first qualities. For if cold be natural to the Air, it will be easie to conclude, that it must be coldest in the middle, which is less alter'd by the contrary quality of heat; being most distant from the Element of Fire (if there be any) and from the heat which necessarily follows the motion of the heavenly Spheres.

The Second said, That Cold being no positive Quality, but a bare negation, it follows that Bodies destitute of Heat are necessarily cold. Now the Air cannot have heat or any other quality, because 'tis to serve for a medium not only to all sublunary Bodies, but also to the heavenly influences, whose nature would be perverted and alter'd by the qualities of the Air; as a colour'd medium imparts its colours to objects. It happens therefore that vapours cool not but are cooled by the Air, so that they become colder in the middle Region then whilst they were

were in their natural seats. Yea they are so far from rendring the Air cold that they abate its sharpness, which is never greater then in clear weather; cloudy and misty weather being always more warm and accompany'd with less piercing cold. For being rais'd rather by the subterraneous heat then by that of the Sun, they warm our air (which reaches not above a league from the Earth); then being gradually deserted by the heat which carry'd them up they meet in those higher spaces which are void of all heat, and begin immediately to condense and congeal them. What people talk of the higher Region of the Air is very doubtful, because the Element of Fire being but an Opinion cannot counter-balance the report of *Acosta*, who affirms that divers Spaniards were kill'd by the cold in their passage upon the Mountains of *Peru* which he judges the highest of the World and within the upper region.

The Third said, That if we were to be try'd by experience alone, the Earth (which in Winter is hot at the Centre, and in Summer on its Surface) would not be judg'd cold and dry (as it is) no more then the Water always cold and moist, since the Sun's heat warms it, and the saltness of the Sea renders it heating and drying. But accidental qualities must be carefully distinguish'd from essential; because these latter are hard to be discern'd when any impediment interposes. As the sight cannot judge of the straitness of the stick in the water but by having recourse to reason; which teaches us that all light Elements are also hot. Now the lightness of the air is indisputable; and its heat is prov'd by its subtlety, whereby it penetrates bodies unpassable by light it self. Yet this heat is easily turn'd into cold; because the air being a tenuious body and not compact, retains its qualities no longer then they are maintain'd therein by their ordinary causes. So that 'tis no wonder if not being hot in the highest degree (as Fire is) but in a remiss and inferior degree, it easily becomes susceptible of a more powerful contrary quality. For the Sun-beams, which some hold to be the true Element of Fire, heat not unless they be united by reflection; and this reflection being limited cannot reach beyond our first Region; the higher Regions must necessarily remain cold; unless upon further inquiry it be thought that the motion of the air carry'd about with the Sphear of the Moon and the Element of Fire plac'd under the same, are capable to heat it.

The Fourth said, That if we may judge of those higher Regions of the Air by those of the Earth and Water which we frequent, each of these Elements hath three sensible differences; its Surface, Middle and Centre. Those that frequent Mines, tell us that the heat which succeeds the exterior cold of our earth penetrates not above a quarter of a league in depth; about the end of which space, cold begins to be felt again, and encreases more and more towards the Centre. In like manner 'tis probable that the Water follows the qualities as well as the declivity

clivity of the Earth. That it is hot at the bottom (whither therefore the Fish retire in Winter) proceeds from the nearness of that middle Region of the Earth. So that it being proper to these Elements to have different qualities in their middle from those of their extremities, the same may be true also of the Air; possibly because a perfect identity of temperature would not have been convenient for the generation of Mixts, to which end all the Elements were destinated. And it being the property of cold to close and re-unite the looseness and dissipation of the Air, it was therefore highly necessary to be predominant in the middle Region thereof.

CONFERENCE CLXXXV.

Of the Generation of Males and Females.

Distinction of Sex is not essential, but consists only in the parts serving to Generation; Nevertheless *Aristotle* makes Male and Female differ, as Perfect and Imperfect; and saith, That Nature's intention is always to make a Male; and that only upon the default of some requisite condition she produces a Female, whom therefore he calls a Mistake of Nature, or a Monster. *Galen* likewise acknowledging no other difference styles Man a Woman turn'd outwards, because Woman hath the same Organs with Man, only wants heat and strength to put them forth. Now indeed this heat and strength is manifestly greater in Males than Females even from the first conception; for the former are compleatly form'd by the 30th day, the latter not before the 40th; the former move in the third moneth, the latter not till the fourth; those are born in the ninth moneth, these some days after; and besides live not if born in the seventh moneth, as Males do, whose periods are therefore reckon'd by Septenaries, and those of Females by Novenaries. After birth, we see the actions of Males are perform'd with more strength and vigor than those of Females, who are actually colder and suffer more inconveniences from cold. They are never ambidexters, because they have not heat enough to supply agility to both sides; and their right side is peculiarly destinated to the Generation of Females, because the Spermatick Vessel on that side derives blood from the hollow Vein which is hottest by reason of the proximity of that Vein to the Liver; whereas the left Spermatick draws from the Emulgent, which carrying Seroſe humors together with the Blood, 'tis no wonder if the Seed of that side be crude and cold, and consequently fitter for generating Females than Males: Hence *Hippocrates* saith, that if as Peasants tye a Bull's left Testicle when they desire a Bull-calf, and the right when a Cow-calf,

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the same be practis'd by Man, the like effect will follow. Whereby 'tis manifest that whatever makes the Seed more hot and vigorous both in Male and Female, furthurs the Generation of Males, and contrarily; and, consequently that the Morning, when 'tis best concocted, is more proper then the Evening, for begetting Boys; and the Winter then the Summer (at least on the man's part.)

The Second said, That as to the production of Males rather then Females, or on the contrary, no certain cause hath hitherto been assign'd thereof; since we see that the same man, in all likelihood without alteration of his temper, hath only Girles by his first Wife, and only Boys by the second, and on the contrary; and some that could get no Children at all in their youth have had only Boys in their old Age. Others have Males first, others Females, and others have them alternatively. Whereof no other reason can be assign'd by Chance, or rather the Divine Pleasure alone, in the impenetrable Secrets whereof to seek for a cause, were high temerity. If heat and strength caus'd the difference, young marry'd people would not have Girles first, as it happens most often; and decrepit old men should never get Boys, as daily experience shews they do. Moreover, some men depriv'd of one of their Testicles, have nevertheless begotten both Sons and Daughters; which could not be, if the faculty of begetting Children of one determinate Sex were affix'd to either of those parts. And as from a false Principle nothing can be drawn but false Consequences, so also is it in the opinion of *Aristotle*, That Woman is but an occasional Creature. For then Nature should produce far greater abundance of Males then of Females, or else she would erre oftner then hit right (which is inconsistent with her wisdom), and yet in all places more Girles and Women are found then Men; as appears in that we every where see plenty of Maids that want Husbands, and in Countries wherein Polygamy is lawful, there are Women enough to supply ten or a dozen Wives to each Man. And indeed, Nature's design is mainly for preserving the Species; as that of every individual is to preserve it self; and the bare degree of heat or cold in the Seed being but an accident of an accident cannot effect a formal change in the substance. Only defective heat may occasion an effeminate man, and abundant heat a Virago. Besides this Opinion destroys the common and true one, viz. That Generation is one of those actions which proceeds from a just proportion and temperature of the humors; whence excessive or feverish heat destroys the Seed in stead of furthering Generation, and is an enemy to all the other functions. Wherefore 'tis best to say that the same difference which is observ'd between the Seeds of Plants, is also found in that of Animals, though not discernable therein but by the effects: and as the exactest prying cannot observe in the kernel of an Almond or Pine any difference of the Trunk, Leaves and Fruit of

of those Trees, although these parts be *potentially* contain'd therein, so also the Seed of an Animal contains in it self even the least differences of Sex, albeit imperceptibly to the eye. Which the Rabbins being unable otherwise to comprehend, conceiv'd that our first Parent was created an Hermaphrodite, because both Sexes came from him, his own and that of *Eve*.

The Third said, That the sole ignorance of things occasions the ascribing of them to Chance, which hath no power over the wise, because they understand the reasons thereof. As for universal causes, as the Divine is, they concur indeed with particular ones; but as they are becoming in the mouths of Divines and of the Vulgar, so Naturalists must not stop there, since by the right use of external causes the internal may be corrected; by which correction not only Seeds formerly barren, or which fell in an ingrateful soil, are reduc'd to a better temper and render'd prolifick, but such as were destinat'd to a female production through defect of heat, are render'd more vigorous and fit to generate Males. Now that young married people hit not sometimes upon this latter Sex, 'tis because of their frequent debauchery, which cools the Brain, and consequently the whole habit of the Body. Which happens not so frequently to men of more advanc'd age, who use all things more moderately.

The Fourth attributed the cause to the Constellations and Influences of the Stars which reign at the time of Conception; Males being generated under Masculine, and Females under Feminine Signs.

CONFERENCE CLXXXVI.

Whether the French Tongue be sufficient for learning all the Sciences.

A Language is a Multitude or Mass of Nouns and Verbs which are signs of Things and Times, destinat'd to the explication of our thoughts. There are two sorts; the one perfect, call'd Mother-Languages, the other imperfect. The Mother-Languages are the Hebrew, Greek, and Latine; the imperfect those which depend upon them. Now the French being of this latter sort, we cannot learn the Sciences by it alone, because being particular, and the Sciences general, the less is not capable to comprehend the greater. Moreover, our Language being not certain in its Phrases, nor yet in its Words (not only Ages, but also a few Years changing both), whereas the Sciences are certain and immutable, it will follow that they cannot be taught by it. Besides, there may be Inventions for which our

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Language hath no expression, or at least not so good as others; and to busie our minds in the search of words is more likely to retard the mind in the acquisition of Sciences then to further it. The truth is, 'twere well if things were generally express'd by the most proper and significant words, but they are not so in any Language much less in the French, which is so far from being rich enough of its self that it borrows from the Greek and Latine to express the most common things, and consequently is not sufficient to teach all the Sciences.

The Second said, The French Tongue is deriv'd from the Greek, Latine, and Gothick, which are Languages much more copious then it; and therefore they that will recur to originals will find those Tongues more adapted for teaching the Sciences then the French, and yet not any single one of them sufficient for it; since the Romans, to become and deserve the name of Learned, were oblig'd to learn Greek. Moreover, since Books are the chief instruments for attaining the Sciences, the ancient Latine and Greek ones (which yet were not sufficient for it) are much more numerous than the French, and by consequence the French Tongue is not capable to teach every Science: and had it more Translations then it hath, yet these are but small Rivulets deriv'd from that grand Source of Sciences which is found in the original Languages.

The Third said, If we regard the order of times and particularly that of the Creation when all things were in their perfection and purity; 'tis most likely that, that Language which took birth with *Adam*, and all the Sciences, is more fit to teach them then the much more Novel French, and since there must be a proportion between Instruments and the Matters upon which they act; and this proportion is not found between the French Tongue lately invented and the Sciences which are as ancient as the World, who can think it sufficient to teach them? and the Cabalists hold that the Language fit to teach the Sciences perfectly, must have words adapted to signifie the Vertues and Properties of things, which ours hath not.

The Fourth said, That all the Language of *Adam*, who gave names suitable to the nature of every thing being lost except the name of God (for that reason so much esteemed by the Jews); The Cabalists in imitation of that Tongue, invented one whereof I shall give you a taste. It hath five Vowels *E, A, U, I, O*, which answer to the Elements and the Heaven; *E*, to Earth; *A*, to the Water; *U*, to the Air; *I*, to the Fire; and *O*, to Heaven. *E*, produceth in pronunciation *c, d, f, g, l, m, n, p, r, s, t, z*; forasmuch as these Consonants cannot be produc'd without it; *A*, produceth *b, and k*; *U*, produceth *q*; *I*, produceth nothing, because pure and single Fire doth not. *O*, likewise produceth nothing, because the Heaven only moves and excites Generations: whereas *E* produceth abundance of Letters, resembling the Earth which produceth every thing in its bosom,

being the Centre of Heaven and the Matrix of the Elements. Now, to form words according to the Elementary Qualities, they will have the Vowels which compose such a word answer to the Elements which compose such a mixt body. And to specific degrees, because the Vowels, whereby they are denoted meeting together would spoil the pronunciation, therefore they make foure orders of the sixteen Consonants, viz. *b, c, d, f*, denote the four degrees of Fire; *g, l, m, n*, those of Air; *p, r, s, t*, those of Water; *x, z, ſ, ſt*, those of Earth. Upon this foundation they build the composition of all their Words, which they compose of Vowels according to the Elements predominant in things, and of Consonants according to their degree. But who sees not the absurdity of this invention, which by this means would extend only to corporeal mixts, whereof the quality and very degree is known: Concerning which Naturalists are so far from being agreed, that many attribute most natural effects to other causes, as to Occult Properties, so call'd in opposition to the Elementary. 'Tis best therefore not to rove from the common tract which teaches us the Sciences by real Languages; amongst which those call'd Dead ones, to wit, the Hebrew, Greek, and Latine, and others now disus'd, suffice not for teaching the Sciences, because they are not pronounc'd well, and the learned agree not about the importance of many Letters and Syllables. Besides, the most eloquent express not themselves so naturally in those antick obsolete Tongues as in their own. And all confess that in order to obtain the perfection of a Science, too much plainness cannot be us'd, either on the Teacher's part in establishing their Rules and Precepts, or on the Learner's in propounding their difficulties for resolution.

CONFERENCE CLXXXVII.

Of diversity of Colours in one and the same subject.

THe diversity of Colours is commonly deduc'd from the mixtion and proportion of the Elements; but more truly from the several degrees of Sulphur, which produces them, as Salt doth Savors, the most certain indications what degree the quality of a Plant is of: For if Colours had relation to the Elements, then all red things should be hot, and white things cold; which is not true in Poppy, and Roses, on the one side, nor Orange-flowers and Jasmin on the other. So also green things should be always moist, because this colour proceeds from an indigested humidity mixt with a part of putrifi'd earth; as appears in standing waters; and yet the greenness of Lawrel and Mint hinders them not from being hot and dry, nor that of Ranunculus from burning. But Colours are either natural, or artificial; which

which latter as we find it in Stuffs and Silks, is neither the cause nor the effect of their temperament. But natural colour, such as that in the parts of living Animals, is an effect of their Life, and alterable after their death. Wherefore I conclude, that colour and its varieties proceeds from the different degrees of Sulphur in the subject; but that one and the same subject is of several colours, the causes may be: First, For that some of its parts are more compact; others, more loose, and so differently receive the impression of the Sulphur and the Internal Fire. Secondly, the Sun shining more upon one part than another, draws the internal colour from the Centre to the Circumference; as Apples are colour'd on the side next the Sun. Thirdly, the same difference which is found between the Root, Trunk, Leaves, Flower, Fruit, and other parts of Plants and Animals, is also found in each portion of those parts; as the lower part of the Rose is green, the middle part whitish, and the top red; and the Tulip variegated, is compounded of as many several particles; which variety of places and matrices, serves to determine the colour which Sulphur paints thereon, being guided by the pencil of Nature.

The Second said, That this diversity of colours proceeds only from the divers aspect of light which varies the colours of certain Bodies to our Eye, as in the Rain-bow, the Camelion, and the necks of Pigeons, in things expos'd to the Sun, which seem far brighter than before: To which you must add the distance and station of the beholders; so water seems black or blew afar off, but near hand colourless; Turpentine, Crystal, and the whites of Eggs in several situations do the like.

The Third said, That there are four colours answering to the Elements, *viz.* Black to Earth, White to Water, Yellow to Air, and Red to Fire. For discovering the Causes of whose diversities, the ancient Philosophers prepar'd a Matter, which by the degrees of fire, they pass'd through all the colours of Nature, and perceiv'd sometimes in their vessel what they call'd the Peacock's tail, representing all colours in one single Matter; whence they concluded the variety of colours to proceed from that of External Fire, moving the Matter less in one part than in another. Thus Antimony, which is at first Black, is rais'd into White, Yellow, Red, and mixt Flowers, according as they are sublim'd more or less. But you can draw no consequence from hence to the Colours of Plants, since redness, which, in works of Art, argues perfect Digestion, and Fire predominant, doth not so in Simples.

CONFERENCE CLXXXVIII.

Whether we are more perspicacious in the Affairs of others, or our own, and why?

IT may seem superfluous to make this a Question, since by the enumeration of all sorts of Affairs, it appears that we are Moles, yea, perfectly blind in the Judgement we make of our selves, and more clear-sighted than the *Lynx* in those we make of others. Which also the Gospel testifies, by the comparison of a mote which we espy in the Eye of a Neighbour, not seeing the beam which is in our own; for, (according to the direction of the Lawyers, who are to be believed in point of affairs) in the first place in reference to persons, every one understands himself much less either in Mind or Body than he doth another; most esteeming themselves more capable and worthy of praise for Witt than they are; and (as the Eye sees not it self, but every other visible thing so,) he that hath any perfection or imperfection, cannot consider the same in its true Latitude, but easily adds something to the first, or diminishes from the second; whilst the various bent of our Passions always exalts and depresses the balance, and keeps it from that *equilibrium* which is necessary to a right Judgement. Hence Physicians, although they ought to know themselves better than they can be known by others, yet, when sick, permit themselves to be treated by their Companions; and never succeed so well in the Cure of themselves or their domesticks, as they do abroad elsewhere. In the second place, we are less quick-sighted in things that concern our selves, than in those of others; whence commonly the greatest Lawyers leave the affairs of their own Houses more imbroiled than others. Which was the cause that the Wife of *Pacius*, the famous Lawyer of our time, sent to him to ask his Advice concerning his own affairs under fancied names, making him pay a Solicitor with his own Money. In the third place, Actions are in a very evill hand when they are to be managed or defended by their Authors; either Modesty on the one hand extenuating them, or Thrafonical pride dilating them, and adding thereunto more than is fit. Lastly, the Laws shew sufficiently what hath been the opinion of Legislators upon this matter, when they forbid Advocates and Procurators to plead and practise in their own Cause; and when they injoyn Judges to forbear, not only their own, but also from all those wherein their kinred or alliances may have any interest. Thus much for the first Head of the Question. The Reason, which is the second, ariseth hence; That the Eye as well as all other Organs of External and Internal Senses (such as the Judgement is) must be serene, and not prepossessed by any tincture or Prejudice. Now to require
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this serenity and indifferency in our own affairs, is to demand an impossibility. The Cause whereof may come from the pureness and subtilty of the Humane Spirit, above that of other Animals, compared to the Elements of Earth and Water, which contracting themselves round about their own Centre, move not but in quest of their food; others more airy, rise a little higher, but yet have a bounded Region; such are the spirits of Women, whose Knowledge and Curiosity is limited to the affairs of their housewifery, or at most to those of their neighbourhood. But the Mind of Man resembling Fire, which hath no other bound but Heaven, penetrates even to the Centre of the Earth, carries its point every where, and is like flame in a perpetual agitation, oftentimes resembling our natural heat in Summer, which abandons the Internal parts to carry it self to the extremities.

The Second said, There is as great diversity of Judgements and Wits, as there is of Eyes amongst Men. As there are some blind; other Eyes from which the Objects must be set at distance to become visible; some also to which they must be approached; and, lastly, others which require a moderate distance between the Visible Object and the Organ: In like manner, there are some Judgements absolutely blind; others, which judge not things too near, but require to have them removed, or set at a middle distance; there are others also, which judge them better near hand than a far off; and this truly is the custom of the best Judgements, and of such as least suffer themselves to be prepossessed. Indeed, what is more absurd than for us to remove far from Objects in order to judging of them, after the manner of old men, and of those that are short-sighted; and if the saying of *Aristotle* be true, The Species of the thing to be known must be not only introduced into, but also made like the Mind; Is the divesting our selves of it a way to know it well? By this reckoning we shall never see clear in any affair: not in our own, because 'tis ours; nor in those others, in regard of the Envy Men bear to the prosperity of their Neighbours, which makes them think that their Vines are more fruitful, and their afflictions less severe. If some Physicians resign themselves to the cure of others of the same profession, 'tis because they believe them as able as themselves, or, perhaps, because their own Judgement is disturbed by the disease; otherwise, since the particular Knowledge of every one's Temper is the condition most requisite to a good Physician for curing his Patient, and every one knowing his own better than another can in a long time, none can be a better Physician of another than of himself; and if domestick cures be effected with less notice, yet they are not less sure and remarkable to him that would consider them. That Lawyers are not admitted to plead in their own Case, is rather from their too much, than too little Knowledge; the Court foreseeing that they would be too prolix and hot in the prosecution thereof, be-
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sides the greater temptation to dishonesty in disguising their own actions. Nor is exception against Judges in the case of their kindred allowed, because they see not clear enough into the affair in question; but because interest, which is inseparably fixed in humane minds, might lead them to relieve their Relations to the prejudice of a third. Which yet hath not place in all, there being found good Judges who would condemn their own Child if he had a bad Cause. But to attribute to self-love, the defect of clear-sightedness, is to speak too Poetically; since the Prince of Poets believes it not possible to deceive a Lover; and the knowledge we have of others affairs, hath no other foundation but that which we have of our own, just as self-love is given us for a rule of that of our Neighbour.

The Third said, That which happens most frequently being the rule, and the rest the exception; and the greatest part of Men resembling that *Lamia*, who being blind at home, put on her Eyes when she went abroad; it must be agreed, that we are less clear-sighted in our own than in others affairs: Which is the meaning of the Proverb of the wallet, in the forepart of which the bearer puts other Mens matters, casting his own into the part behind upon his back. Moreover, to see clear, is to see without clouds or mists, such as are those of the Passions, Fear, Hope, Avarice, Revenge, Ambition, Anger, and all the rest which suffer not the Species to be calmly represented to the Intellect, which receives the same as untowardly as stirred water, or a Looking-glass sullied with incessant clouds, or vapors receive an Image objected to them; 'tis true, the Passions have some effect upon it in affairs without; but as themselves, so their trouble is less, and he is the best Judge who gives them no admittance at all; which cannot be in our own affairs, where, consequently, we are no less clear than in those of others.

CONFERENCE CLXXXIX.

Of the Original of Mountains.

GOD having created the world in perfection, it was requisite there should be Plains, Mountains, and Vallies upon the Earth, without which agreeable variety, there would be no proportion in its parts, wherein nevertheless consists its principal ornament, which hath given it the name of world; no other beginning of Mountains seems assignable but that of the world. Nor is there any possibility in attributing another Cause to those great Mountains, which separate not only Provinces and States, but the parts of the world; all the Causes that can be assigned thereof, being unequal to such an Effect: Which the discovery of the inequalities of the Celestial Bodies, observed in our dayes
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by *Galileo's* Tubes in some sort confirmed; for by them Mountains are discerned in some Planets, especially an eminent one in the Orbe of *Mars*; which Mountain cannot reasonably be attributed to any cause but his primary construction. The same may likewise be said of the Mountains of the Earth, which besides having necessarily its slopenesses and declivities which are followed by Rivers and Torrents, there is no more difficulty to conceive a Mountain than an elevated place in the Earth; so that to say, that from the beginning there was no place higher in one part of the earth than in another is to gain-say Scripture which saith that there were four Rivers in *Eden*, each whereof had its current; which could not be, unless the place of their rise were higher then that whereunto they tended.

The Second said, That the proportion from which the ornament of the World results is sufficiently manifested in the correspondence of the four Elements with the Heavens, and of the Heavens with themselves, yea in all compounds which result from those Elements moved by heat and the Celestial influences, without fancying a craggy Earth from the beginning, to the prejudice of the perfection which is found in the Spherical Figure, which God hath also pourtray'd in all his works, which observe the same exactly or come as near it as their use will permit; as is seen particularly in the fabrick of Man's Body, his master-piece, whereof all the original parts have somewhat of the Spherical or Cylindrical Figure, which is the production of a Circle. And if the other Elements of Fire, Air, and Water, are absolutely round and cannot be otherwise conceived, though their consistence be fluid, and as such more easily mutable in figure; 'tis much more likely that the earth had that exactly round figure at the beginning; otherwise the Waters could not have covered it as they did, since not being diminished from the beginning of the World till this time, they are not at this day capable of covering it. 'Tis certain then that God gave the Earth that Spherical form, it being to serve for the bulk and Centre to all the other Elements, by means of which roundness the Water covered it equally, but when it was time to render the Earth habitable to Animals, and for that end to discover a part of it, it was to be rendered more hollow in some places and more elevated in others, since there is no Mountain without a Valley, nor on the contrary. Afterwards it came to pass that the Rain washed away whatsoever was fat, and unctuous in those higher places, and carrying it into Brooks and Rivers, and thence into the Sea, this Sea by the impetuosity of his waves makes great abysses in some places and banks of sand in others; but the great and notable change happened in the universal Deluge when the many Gulfs below and Windows on high, as the Scripture speaks, overflowed the whole Earth for forty days and forty nights together; the Earth being thus become a Sea was in a manner new shaped by the torrents of the waters, and the

the violence of the same waves, which made Abysses in some places and Mountains in others, according as the Earth happened to be more or less compact, and apt for resistance. Which is yet easier to be conceived of Rocks which being unapt to be molified by either that universal roavage of waters, or torrents superven'd in four thousand years since, they remain intire and appear at this day as supercilious as ever over the more depressed parts round about.

The Third said, That some Mountains were produced at the Creation, others since, partly by Rains and Torrents, partly by Winds and Earth-quakes, which have also sometimes levell'd Hills and reduced them into Valleys; so that you cannot assign one certain or general cause of all. For there is no more reason to believe that the ravages of waters have produced Mountains, then that they have levell'd and filled Valleys with their soil; as 'tis ordinarily seen that the fattest portion of Mountainous places is washed away by Rain into Valleys, and fertilizes the same. And the smallness of the Earth compared to the rest of the world permits not its inequalities to make any notable disproportion in it, or hinder it from being called Round; as appears in Eclipses caused by the shadow of the Earth, which she sends as regularly towards Heaven as if she were perfectly round.

The Fourth said, That the waters of the Sea, from which, according to the Scripture, all waters issue and return thither, impetuously entring into the caverns of the Earth go winding along there till they find resistance, whereby their violence redoubled makes the Earth rise in some places and so forms Mountains; which therefore are more frequent on the Sea-coasts then elsewhere, and seldom further from the same then a hundred and fifty Leagues. Now that the Sea is higher then the Earth the Scripture notes, and those that travel upon the Sea observe the truth of *Genesis* which saith that the waters were gathered together on a heap. For being remote from a Port at such distance as would otherwise suffer the same to be seen, the rising of the interposed waters intercepts the view thereof.

The Fifth said, 'Tis easie to conceive how waters running underground make breaches and abysses, such as that at *Rome*, into which *Q. Curtius* cast himself, and also in many other places even in our time wherein a Town of the Grisons was totally involved in the ruines of a neighbouring Mountain, whose foundations the torrents had undermined. And what is found in digging up the ruines of Buildings, paved streets, and other footsteps of mens habitations so deep that the cause thereof cannot be attributed to a bare raising of the ground in building by some humane artifice, shews that these changes happen'd by the depression and sinking of the ground whereon such Towns stood, and by the overturning of neighbouring Mountains, which in this case turn Plains into Valleys and Valleys into Plains

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or else into Mountains, as also these Mountains into Levels: all these changes which to us seem prodigious, being no more so to Nature, whose agents are proportional to their effect, then when we cover an Ant-hill with a clod of Earth. But 'tis not likely that subterranean waters, whose violence is broken by their windings can raise Mountains, or so much as ordinarily Hills; much less can they raise higher the cavities of Rocks which are the ordinary Basis of such Mountains; since our Vaults are ruined by the sole defect of one cliff or stone which joyns and knits the rest together; the sand Hills which the winds heap up in *Lybia*, as the waves do the banks in the Sea, pertaining as little to the Question as they deserve the name of Mountains. Wherefore 'tis probable that Mountains are as old as the Earth, which was formed uneven by Gods command, that so its declivities might serve for assembling the waters together; for to say that the situation of the Sea is higher then the Earth, is not only contrary to the experience of Dreiners who find the declivity of the Land by no more certain way then by the inclination of the waters, but also to the belief and manner of speech of all the world, who use the term of going downwards when people pass along with the stream of Rivers, which run all into the Sea whose surface must therefore necessarily be lower then that of the earth. Whereas it is said that all waters come from the Sea, this is meant of vapors exhaled from it and converted into Rain and Springs, from whence arise Rivulets, Brooks, and at length Rivers, which terminate again in the Sea.

The Sixth said, In pursuance of *Copernicus's* opinion which makes the earth turn about the Sun, that the several concussions it receives from that motion may possibly elevate one place and debase another.

CONFERENCE CXC.

*Whence proceed good and bad Gestures, Gracefulness
and ill Aspects.*

THE Soul being the principle of all the actions, we need go no further to find the cause of Gestures, and Postures. 'Tis true, that as this Soul is but a general cause, being according to the opinion of most Divines, alike in all men, it must like melted Metal borrow its form from the Mould whereinto it is infused; so the Soul follows the model of the Body and as she formed it, so in some sort be modified by it exercising her functions variously according to the diversity of its Organs. Whereunto also the humors and their mixture or temperament

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contributes very much. Hence a man of small stature and choleric hath quick and hasty motions; the tall and phlegmatick, more heavy and slow; the Sanguine and middle-sized, between both. Nevertheless the principal reason is drawn from the conformation of the parts; whence, the Lame halts; he who hath the Muscles and Ligaments of the hinder part of the Neck too short, holds his Head too upright; He who hath a great Mouth and a large Breast is a great talker; and so of all the other parts, from the diversity whereof even that of Languages is said to have come. These Gestures are either universal, as we see some gesticulate with the whole body; or particular, one contracting his Forehead, another shrugging his Shoulders, beating of measures with his Foot like a good Horse, rubbing his Hands as if they were scabby or to be washed, not being able to speak to any one without touching him, pulling his Button, or pushing him upon the Arm or Breast. Where also is but too observable the troublesome way of some, who never end their discourse but by an Interrogatory, whether you hear them? or at least by an hem! which they continue till you answer them; yea, others interlard their speech with some word so impertinent that it takes away the grace from all the rest: all Gestures words and vicious accents, to which may be opposed others not affected or repeated too often, because 'tis chiefly their frequent repetition which renders them tedious and as blamable as the saying over and over the same word: as on the contrary, their seldomness serves for an excuse to those who have no other. Above all it must be endeavoured that the Gestures suit, or at least be not wholly opposite to that discourse which they accompany; as that ignorant Comedian did who pronouncing these words, O Heaven! O Earth! look'd downward at the first, and cast up his Eyes at the last. Whence one and the same Gesture may be good or bad in respect of the subject whereunto it is applied, and according to its seldomness or frequency. As for ill looks, they are always disagreeable, disfiguring the proportion of the countenance and proceeding also from the first conformation of the parts, For as the Arm is bowed only at the Shoulder, Cubit and Wrist, and the Leg at the Knee and Ankle, though the Soul which makes the flexion be alike in all other parts, but the articulation is only in those parts: so the motion is carried alike to all the Muscles; but only those disposed by their conformation to receive the figure of such grimaces, are susceptible thereof. They likewise sometimes happen upon Convulsion of the parts, which cause the strange bendings we observe therein, though never without a precedent disposition which may be called their antecedent cause.

The Second said, That we ought to ascribe to the Imagination all the Motions and Gestures of the Body, which are agreeable or displeasing according as they suit with that of the beholder.

holder. Hence Fools and Children whose judgment is irregular, are pleased with seeing such gesticulations and the grimaces of Jack-puddings, which displease the more judicious. So that as there is one beauty absolutely such and another respective and in comparison of those who judge differently thereof according as they find it in themselves (whence the Africans paint the Devil white because themselves are black, and the Northern people paint him black because themselves are white:) so there are Gestures and Motions purely and simply becoming, honest and agreeable; others such only by opinion of the beholders, as are the Modes of Salutation; and lastly, others absolutely bad as Frowning, Winking, biting the Lip, putting out the Tongue, holding the Head too upright or crooked, beating of measures with the Fingers; in short, making any other disorderly Gesture. All which defects (as they are opposite to perfections which consist in a right situation of all the parts without affectation) proceed from the Phantasie either sound or depraved. Which happens either naturally or through imitation. The first case hath place in Children who from their birth are inclined to some motions and distortions of their Muscles; which being double, if one become weaker and its Antagonist too short it draws the part whereto it gives motion out of its natural seat, as is seen in those that squint. The second is observed in Children somewhat bigger, who beholding some Gesture repeated, render the same so familiar to themselves, that at length it becomes natural to them. Hence the prohibition of Mothers give their Children not to counterfeit the vices their companions bodies, is not void even of natural reason; because the Phantasie is stronger in a weak Mind, and when the Memory is unfurnished of other species; whence the Phantasies of Women are more powerful then those of Men. The Minds of Children being weak, and residing in soft pliant Bodies, more easily admit any ideas once conceiv'd: And as a Language is more easily learn'd by Use then by Precepts, so example is Extremely prevalent, and sweetly insinuating into the Phantasie by the Senses diffuses its influence over the whole Body.

The Third said, That if the Soul be an harmony as the pleasure it takes therein seems to intimate, we need seek no other cause of the several motions and cadences of the Body which it animates. 'Tis the Soul which moves all the Nerves of the Body and carries to all the parts such portion as she pleases of Spirits proper to move them, whereby like a player upon a Lute or some other Instrument she makes what string sound she pleases, stretching one and loosening another. And as Musick is such as the Quirrester pleases to make it, delighting the Ear if it be proportionate thereunto and procuring the Musitian the repute of skilfulness; if not, the contrary happens: so the Soul imprints upon the Body one figure or another which make a good or bad grace, in so much that oftentimes gracefulness is

more esteemed than Beauty, unless it may be better said to be part thereof; for want of which, beautiful persons resemble inanimate Statues or Pictures. But as true Beauty is wholly natural, and an Enemy to Artifice, so the Soul owes to its original and first temper, the good or posture which it gives its Body; and there is as much difference between natural gracefulness and affected postures, as between the Life and the Picture, truth and appearance; yea, the sole suspicion of affectation offends us. Moreover, a Clown seldom becomes Courtly, and whatever pains be bestowed in teaching him good Carriage, yet still his defects appear through his constraint; as on the contrary, amongst Shepherds most remote from the civilities of the Court, we see gentleness and dexterities; which manifest that good carriage, or Gestures are purely natural.

The Fourth said, That in the Gestures and Motions of the Body, two principles must be acknowledged, one natural and the other accidental. The former is founded in the structure and composition of every one's Body, the diversity whereof produceth, with that of the spirits, humors, and manners, all the Actions and Passions which depend thereon, the true motive causes of our Gestures and Carriages. Hence he that suffers pain frowns, he that repents bites his Lip or Fingers; he that admires something, and dares not express it, shrugs his shoulders; he that muses deeply turns his Eyes inward, and bites the end of his Pen or Nails. The accidental principle is imitation, which, next to Nature, is the most efficacious cause, and acts most in us; Man being born for imitation more than any other Creatures, as appears in that scarce five or six Species of Birds imitate our Language, the Ape alone our Gestures; we, on the contrary, imitate not only the voices of all Animals, but also all their Actions. And therefore as it cannot be denied that Nature contributes to our Gestures, so neither can it be doubted that Imitation hath a power therein.

CONFERENCE CXCI.

*Which is most proper for Study, the Evening
or the Morning.*

IF Antiquity had not had Errors, the cause of those who prefer the study of the Evening before that of the Morning, would be very desperate. But Reasons having more force here than the Authorities of Pedagogues, who hold *Aurora* the friend of the Muses, only to the end that their Scholars rising betimes in the Morning, themselves may have the more time left after their exercises; I conceive the Evening much more fit for any Employment

ployment of the Mind, than any other part of the day; the Morning leaving not only the first and more common wayes full of Excrements, but also all the Ventricles of the Brain wherein the Spirits are elaborated, and also the Arteries and Interstices of the Muscles full of vapors; whence proceed the frequent oscitations, contortions, and extension of the members upon our awaking, to force out the vapors which incommode them. On the contrary, the Evening even after repast, finds those first wayes full of good Aliments, which send up benigne and laudable vapors which allay and temper the acrimony of other more sharp and biting, found by experience in Men fasting, who for that reason are more prone to Choler. Moreover, Study consisting in Meditation, and this in reflection upon the Species received into the Phantasie, 'tis certain that the report of these introduced all the day long, serves for an efficacious Lesson to the Mind, when it comes to make review of the things offered to the Intellect, for it to draw consequences from the same, and make a convenient choice: but in the Morning all the species of the preceding day, are either totally effaced, or greatly decayed. Moreover, the melancholy humor, which is most proper for Study, requires constancy and assiduity, which ordinarily accompanies this humor; and it is predominant in the Evening as Blood is in the Morning, according as Physicians allot the four humors to the four parts of the natural day; as therefore the Sanguine are less proper for Study than the Melancholy, so is the Morning than the Evening. Hence the good Father *Ennius* never versified so well as after he had drunk, which seldom happens in the Morning; and the conceptions of fasting persons are commonly more empty, and less agreeable than those of Authors well fed. For the Spirits repaired by Food are carried much further, as being more vigorous when their continual flux and deperdition finds matter proper for their restoration, as they do after Supper, having then the same advantage that an Army hath, which sees at its back another Auxiliary one ready to recruit it. On the contrary, in the Morning nothing remains in the Body of all the Aliments of the foregoing day, but only a mass of liquid blood, which is presently distributed into all the parts, having its self need of restoration: Whence the other animal-functions are performed less vigorously in the Morning than in the Evening, especially after Supper: Which is justifi'd also by the experience of those who when they would learn any thing by heart, study it in the Evening and sleep upon it, committing the same to those vigorous Spirits newly produc'd by the food, to be more deeply engraven in the Memory. And your nightly Students sleep commonly in the Morning, which is the fittest time for it, and best refreshes the forces both of Body and Mind; whereas Evening sleep is lyable to musings and tumults. Which also is confirm'd by the practice of Courtiers, who best of all Men understand the delights of Life; especially Ladies, who by long sleeping in the

the Morning, preserve themselves fair and in good plight, which is an infallible sign of health, without which, the functions of the Mind cannot be rightly perform'd.

The Second said, That a vessel which is to be fill'd, must first be empty'd, and the Organs of Sense must be free from all Species, that they may be susceptible of those whereof we desire to inform them. For which purpose, the Morning is far fitter than the Evening, when all the Idea's of the day past, throng into the Phanſie, and shut the door to new Objects. The Spirits likewise are then more pure from the vapors, which arise from meats while undigested; which vapors are very prejudicial to the Spirits, as appears in those that have drunk too much, who reason but very ill; and they that apply themselves to study after Supper, find a manifest difference in themselves from what they were before it; their Animal Spirits being clouded by multitude of vapors which fill their Heads, and leave no longer free passage to the Spirits: Besides that, Attention hurts Digestion, calling the Spirits to the Brain from the Stomack, where they should be to concoct the food; whence follows imperfect sanguification, testified by paleness of Complexion of hard Students. Moreover, the Soul being Light, delights more to exercise its functions in the day than in the night, whose darkness saddens it, and represses its beams; whence our conceptions are much more dull in the night, whose coldness is an Enemy to all Actions, as heat (which is greater in the day) is a friend to them. And the Custom of the most studious is back'd with Reason, which requires that the Soul, Man's chief part, begin to take its food of Knowledge at the chief and first part of the day. And our ancient Laws seem to favor this Opinion, whilst they prohibit the judgement of Criminal Causes after dinner, as requiring more attention than Men are commonly capable of at that time; and certainly they must be much less capable thereof after Supper.

The Third said, That the Question cannot be determin'd but by distinguishing of Complexions, Ages, Customs, and different Studies. The Cholerick commonly find themselves fittest for study in the Evening, when the Acrimony of their predominant humor is allay'd by the recent vapors of meat. On the contrary, the Phlegmatick must not sleep much, and to be early is both most healthful for him, and the fittest time for his study; but the Sanguine requires more sleep. And for Customs, though bad ought to be reform'd, yet if an Evening Student changes for the Morning, or on the contrary, it will be with less success. If it be asked, What Custom then is best to be contracted, we must come to the consideration of Ages; wherein, Children after seven years old, when they begin to be capable of regular discipline, must not be confin'd to less than eight or nine hours sleep; after the Age of Puberty, Morning Studies are most profitable for them. The Evening is fittest for the Studies of Youth and Manhood,

Manhood, in whom Choler predominates, as less disturbing their Morning repose, which is necessary to repress the boylings of their hot Blood; whence if they rise too early, they are commonly troubled with the Head-ach. Lastly, Old-age being more phlegmatick, and its humors sharper, 'tis good for them to go to bed betimes, to the end to temper that Acrimony by the gentleness of the vapors rising from the lately taken Supper; and also 'tis most profitable for them to rise early, whereunto they are guided by Nature, awaking sooner than any other Age.

CONFERENCE CXCII.

Who are the most Ingenious of the World.

BY Ingenious are meant inventive, subtle or acute persons; He that understands, discourses and exercises the functions of the Soul more subtly than another is styl'd Ingenious. Thus *Apelles* when disguis'd was discover'd by a third line which he drew upon two others, so small, that none but he could have drawn it: And in a dispute, he that best distinguishes a term confounded by the Antagonist, passes for the most subtle and ingenious; so also doth an Artificer that makes the most subtle pieces of work, as chains for Fleas, Nine-pins with a Bowl extremely small, Knives and other Instruments, not weighing above a grain of Wheat. For as they that can perceive the least objects are the most clear-sighted, so minds not contented to conceive common and gross things, are the most ingenious. This being premis'd, I conceive that the Cholerick are such; and for the same reason Southern people, whose Climate produces that humor most. Hence those that govern people in those parts trouble not themselves to reason with them, because having to do with refined spirits, it were to no purpose; there being no reason so good but a contrary one might be invented amongst them: But they relye upon nothing more then Faith and Religion, whereby they accomplish their ends upon their people, who elsewhere are govern'd by force of Reason.

The Second said, That if Ingenuity consisted only in subtlety, there would be none in making *Colossus's* and great Piles of Buildings, wherein nevertheless there is far more then in little Trinkets, which like some Iron mechanick-Instruments are useless by being too fine. And as he that distinguishes pertinently in a Dispute is reputed ingenious, so is he no less who entangles the respondent by confounding things which ought to be separated. In the practise of Affairs, things too subtle pass for Chimeras, and are never put in execution; nor is he accounted the best Painter that draws the finest strokes. Moreover, the Eyes that discern the least objects are not always the best; but 'tis

'tis a sign of weaknes of sight to see things out of their proportionate distance. Much less probable is it that the Cholerick are more ingenious then the Melancholy, since reflection is necessary to the making of a solid conclusion, which the impatience of Choler cannot endure; and indeed, never was there seen a man of great parts who was not pensive. And accordingly, Northern people, being more cold and reserv'd, will carry it above other hotter Nations.

The Third said, That as to Nations, he conceiv'd that as not only the Plants, but also the Pearls and Jewels of the East, are more excellent and purer than those of other parts of the world, so also are their Wits: The Reason whereof, is, That the Sun coming from the East bestows the First-fruits of his own and other Celestial Influences upon the Orientals; which Influences, like the impression of Perfumes, are most vigorous in their beginning. Moreover, we see that God made use of the excellence of the spirits of those people to make the first and greatest Lawgivers and Sages. If Authors of new and untrue Religions have been found there, this fortifies rather then destroys this Opinion, more Witt being requisite to maintain a bad than a good cause. As for Temperaments, the Sanguine hath the advantage. First, because 'tis the most healthful Complexion, and Health is the principal condition of a good Witt, which cannot display it self perfectly in a sick body. Secondly, because Blood is the proximate matter of spirits, and he that hath good Blood must have plenty of spirits. Thirdly, because this is the Complexion of the amorous, who are the most ingenious people of the world. Whence the Poet said, *Quis fallere possit amantem?* But if the Question be, What Exercise or Employment hath the most ingenious people, 'tis harder to be determin'd; so great Wits being found at this day of all sorts of professions, that 'tis difficult to judge, of which there are most. Some will prefer the Scholastick Devines for their subtle disputes and nice distinctions; others, the Rational Physicians, for their discourses and conjectures upon the causes of hidden diseases; others, the Mathematicians for their curious searches into Heaven it self; or the Lawyers who manage their affairs so advantageously above others.

The Fourth said, That, absolutely speaking, there is no quarter of the world more Oriental or Occidental than another; these words having been invented only in respect to Men themselves, to some of whom one and the same people is Oriental, and yet Occidental to others; since the world is round, and all the parts of a Sphere are of the same Nature. What differences there are, must be taken from something else than the four parts of the world, and, particularly, from Cold and Heat. Thus those that live under the Poles, are of a different Complexion both of Body and Mind, from those that are between the Tropicks. According to which difference, the Inhabitants of the temperate

Zones

Zones must be the most ingenious: Cold being too much an Enemy to Life, to advance the Wit; and excessive Heat burning the Humors no less within than without, as the woolly hair and black skin of the Nations expos'd to it, manifest. So that 'tis no presumption in the French and other Nations under the same Climate, to award the preheminance to themselves in this matter. For the operations of the Mind, as well as the digestions and other natural operations of the Body, require a temperate, not an excessive Heat. And the levity imputed to our Nation is a proof of it, since commonly the most ingenious are least steadfast in executing the things they have devis'd. But amongst the French, I account none more ingenious than the Lawyers, who confute the Philosophical Maxim, which saith, That whatever hath a beginning hath also an end, since they render Suits immortal. Instead of the four causes taught by Naturalists, they create others without number; and in spite of the Maxim, which saith, There is no *Vacuum*, they make one at length in the purses of their Clients.

The Fifth said, That since there are good and bad, ingenious and sots in all Lands, to be the one or the other, dependeth not upon the Climate; Heaven, from whence the Soul descends, being alike in all places. Nor is it likely that professions render Men more or less ingenious, since those to which people are lead by natural inclination, are rather Effects than Causes of good or bad parts. As for those to which we are perswaded or forc'd, nothing can be inferr'd from them, having no affinity with our Nature. Lastly, nor doth Temper always contribute to render Men ingenious, since there are some so of all Tempers, Ages, and Sexes. The true Cause is the proportion which happens to be between the Soul and the Body at the first conformation. Whence the surest signs of good parts, are taken from the figure of the Body, and chiefly of the Head, which if sharp, never makes a wise man; as on the contrary, great Heads, and broad Fore-heads, are always ingenious, of whatever Country, Vocation, and Temper they be.

CONFERENCE CXCIIL

Of the Fraternity of the Rosie-Crofs.

I Find that these Brethren being associated in *Germany* two or three hundred years ago, sware mutual Fidelity to observe the Laws of their Fraternity; the chief of which was Secrecy, never to speak or write but in the Allegories of their Cabal, whose pretension is to re-establish all Disciplines and Sciences, especially Physick, which, they say, is ignor'd and ill practis'd by all others; themselves alone having the Knowledge of so
Sf many

many Secrets that they hold the Philosophers Stone for one of the least, and professing to imitate sundry other Societies of ancient time; as first, that of the Kings, Priests, and Philosophers of *Ægypt*, under the names of *Isis*, *Osiris*, *Apis*, *Anubis*, and *Mercury*, the mysteries whereof they hid under their Hieroglyphical Letters, leaving the use of the common way of writing to the vulgar: For proof whereof they alledge, that the first Priest of this Fraternity being urg'd by *Alexander* to discover to him the Secret of *Isis* and *Osiris*, told him for the whole Secret, that they were not gods but men whom they worshipt. With which Answer, *Alexander* was so well satisfied, that he writ word thereof to his Mother *Olympias*, desiring her to burn his Letter as soon as she had read it, for fear of Scandal. The second Society which they alledge, is, the College of the *Eumolpides*, so called from *Eumolpus* its Author, an Eleusinian Priest at *Eleusis* in *Athens*, in imitation of that instituted in *Greece* by *Orpheus*, to the honor of *Bacchus*; of which *Eumolpides*, the supream Sacrificer carry'd a golden key in his mouth to mind him of keeping the Secret, which was not communicated to all the initiated in this Order, but only to such as were of approv'd discretion. The Third (they say) was that of the *Samothracians*, who were never troubled with sickness or poverty, the two grand scourges of Life; maintaining themselves in perpetual Health by repairing the radical humidity, and by Astrological Application of Specificall Remedies deriv'd to them from their Predecessors; and having by their great work secret means of supplying the common necessities of their Confreres and Associates. Then follow the *Magi* of *Persia*, where, *Cicero* saith, it was required as a Condition of admitting any to be King, that he were skill'd in natural Magick, that is, in the most profound and admirable secrets of Nature; to learn which, *Empedocles* and *Plato*, purposely sail'd into *Persia*. Of this Magick they make *Zoroaster* the Author, who liv'd six hundred years before *Moses*, and spent twenty years in a Desert in studying the works of Nature, trying the Effects ensuing upon the Application of Actives to Passives; whence he got the name of Necromancer, as if he invok'd Devils. Next they quote the *Chaldeans* in *Babylon*, and the *Brachmans* in *India*; both sorts visited by *Apollonius*, to whom *Hyarchas* the Moderator of the East shew'd a Well four paces broad, by which they swore, having near it a Cup full of fire, which perpetually burning, never surmounted the brims of the Vessel, and two Hogheads, the one of wind, the other of rain, both which infallibly follow'd upon opening the same. They bring in likewise the *Gymnosophists* of *Æthiopia*, who assembled under an Elm, and saluted the same *Apollonius* by his name, without having ever known him. *Pythagoras* also, they say, profess'd the Secret, trying his Disciples taciturnity by five years silence, and hiding his mysteries under Numbers. They tell further of one *Anacarsus* who did many wonders, appearing in several places at the same time, killing with one word a Serpent that

that destroy'd a whole a Country; and lastly, they mention a Colledge of *Arabians* in the City of *Damcar*, where the Author of this Brotherhood of the Rosie-Cross had his Academy, after the establishment whereof he went to *Fez* to instruct the *Moors*, where his progress was such, that the Society came to be diffus'd into *Germany*, *Poland*, and *Hungary*.

The Second said, That the rise of this Fraternity is by *Mayerus* referr'd to the year 1378, when a German Gentleman (the initial Letters of whose name were *A.C.*) of the Age of fifteen years, was shut up in a monastery, where having learnt Latine and Greek, in his seventh year he began to journey to the Holy Land; but falling sick at *Damas*, he heard so much talk of the Sages of *Arabia*, that recovering, he went to *Damcar* the City of these Sages, who saluted him by his proper name, and telling him that they waited for him a long time, discover'd to him many Secrets; after he had learnt their Language and the Mathematicks, he travell'd into *Egypt* and *Spain*; then return'd into *Germany*, defraying his expences by the invention he had of making Gold, with which he built and liv'd magnificently for five years; afterwards bethinking himself of reforming the Sciences, which he had design'd from the beginning, he associated to himself three Brothers to whom he communicated his Secrets. These four not sufficing for the great number of Patients which flockt to them from all parts to be cur'd, they took four more who enacted among themselves these Rules of their Society. I. None shall make other Profession but of curing the sick *gratis*. II. None shall be ty'd to any particular Habit, but left to conform therein to place and time. III. Every Brother shall assemble once a year on a set day, in their House call'd the House of the H. Ghost, or signifie the cause of his absence. IV. He shall choose a worthy and fit person to succeed him after his death. V. These two Letters *R.C.* shall be their Symbole, Signet, and Character. VI. The Fraternity shall be kept secret for a 100. years. These Articles being sworne to, he retain'd two of the Brothers with him, and sent the rest about the world. This founder, they say, liv'd 106. years, was buryed secretly by his Confreres in the year 1484; after which time, these Brothers succeeded one another, every one of them living no less than a 100. years; and in the year 1604. one of them finding a stone in a wall pierc'd through with a nail, which denoted something more than ordinary, pull'd it out with great difficulty, and discover'd a Vault; wherein, amongst other strange things, he found the Sepulchre of this Founder with this inscription in Latine, *I shall be manifested after six score years*: And at the bottome, *A, C, R, C*, In my life time I made this Abridgment of the Uuiverse for my Sepulchre, with many devises, one a side, and four in circles. The Body held in its Hand a parchment-book written with Golden Letters, at the end of which was his *Elogium*, containing among other things, that after having heap'd up more riches than a King or Emperor,

of which he judg'd his own Age unworthy, he left them to be fought for by posterity, and built a little world answering to the great one in all its motions, by which he had compendiously acquir'd the Knowledge of all things past, present, and to come; and after he had liv'd above a 100. years, he render'd his Soul to his Creator amidst the embraces and last kisses of his Brethren, not by reason of any disease, (which his own Body never felt, and he permitted not others to suffer) but God with-drew from his Body the illuminated Soul of this most beloved Father, most agreeable Brother, most faithful Master, and intire Friend. The same *Mayerus* saith, that the place of these Rosie-Crucians Colledge is still unknown, but yet they repair to it from all the parts of the world. In the year 1613. News came that one of these Brethren nam'd *Mulley om Hamet*, having assaulted *Mulley Sidan* King of *Fez*, and *Marocco* strongly arm'd, defeated him with a handful of unarm'd men, and seiz'd his throne; from whence these Conquerors were to go into *Spain*, where at the same time some Spaniards taking upon them the title of *Illuminati*, fell into the hands of the Inquisition. This report oblig'd the Society to publish two Books, intitl'd, *Fama & Confessio*, wherein, after refutation of wrongful reputations, they set down their Maxims, and say, That the great Knowledge of their Founder is not to be wonder'd at, since he was instructed in the Book *M*, which some interpret the Book of the World; others, the Book of Natural Magick, which he translated out of Arabick into Latine: out of which, they affirm, that *Paracelsus* afterwards learnt all his Knowledge; which being new, 'tis no wonder, they say, that both he and they be derided and hated by the rest of men. And that the above-said Founder caus'd to be collected into another Book for his Disciples all that man can desire or hope, to wit, both Celestial and Earthly Goods; these last consisting chiefly in Health, Wisdom, Riches, to acquire all which, they shew the means. In brief, that their main end is, by Travells and Conferences with the Learned, to obtain the Knowledge of all the Secrets in the World, and relate them to their Society, and to none else.

The Third said, That there have ever been spirits extravagant, irregular, and incapable of all Discipline both Political and Ecclesiastical. Hence have risen in the Church Heresiarchs and Schismatics; in the State, Rebels and Mutineers; in the Sciences, Innovators and presumptuous persons, who wanting Ability and Constancy to undergo the pains of Study necessary for obtaining the skill requisite to the right exercise of the least Disciplines and Professions, take upon them to blame what they understand not; and as the vulgar easily close with Calumnies, to which the faults of the Professors, not the Professions, give but too much occasion; so they readily prepossess the Understanding of their Hearers. For which there is more matter in Physick than there is in any other Profession, because the vulgar, who
judge

judge thereof, consider only events, which are not in our power but only the application of causes; the rest being the work of Nature. Hence *Paracelsus*, and others of that gang, started up in the world, establishing new Principles, and vaunting themselves upon the authority of imaginary antiquity. And as no Opinion is so erroneous but hath its followers; so there have been found people enough of that sort to make a Colledge, who forgetting that one of the faults they charg'd upon the Rational Physicians, was, that in their prescriptions they made use of a strange Language and Cyphers unknown to the vulgar, have imitated those above-mention'd Priests of *Ægypt*, who made an outside shew of brave Ornaments, which being lifted up, you see nothing but a Cat, or an Ox at the stall. Thus all their discourse is only of *Aurum Potabile*, *Mercurius Vitæ*, Magistery of Pearls, Quintessences, Spirits, Extracts, which they denote by Cyphers invented at pleasure, and apply (as they say) only according to the mind of Heaven, all the cadences whereof they observe and measure for that purpose: But if you look to the bottome of all, you will see their Hands foul'd with coals or dung, their Faces discolour'd by the Arsenical Exhalations of the Minerals they prepare in their furnaces; and yet the most pitiful wretch of them all will swear that he knows the great work. Indeed, this were no great matter, if the success of their Practise made amends for the defects of their Theory. But seeing chief remedies consist in vomiting or purging violently, whereof few Bodies are capable; no wonder if people use them only in desperate cases. Nor is their impertinence sufferable, whilst, to credit themselves, they pretend to be descended from the Gymnosophists, from whom, 'tis to be fear'd, they inherit at last nothing else but their nakedness. For what better title have they for their succeeding to all those ancient Societies, (I mean such as were commendable and worthy of imitation) than our Faculties have, which are authoriz'd by the Laws of the Prince, by possession immemorial, and a conformity of all Nations, which renders their right as strong as that of Nations. Wherefore I advise these Brethren, if they will not betake themselves to study as others do, to render themselves altogether Invisible, (as they pretend to be) withdrawing from the Commerce of the rest of Mankind.

The Fourth said, Who openly profess'd himself one of this Fraternity, said that Doctor *Flud* of *England* had ingeniously interpreted these three Letters; *F. fide*, *R. religione*, *C. charitate*, though the common opinion prevails, which will have them signifie, *Fratres Rosæ Crucis*. But neither of these interpretations can pass for a great Secret; wherefore it appears upon further search, that the Cross is truly significative there, but in another sense, which is, that in this † the word *L V X* is included, whence some think that these Brothers took in *Spain* the title of *Illuminati*: I shall venture further, and add that *Ros* (Dew) which is the most powerful dissolver of Gold amongst natural and
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not corrosive Bodies, is nothing else but Light condens'd and render'd corporeal, which being concocted and digested artificially in convenient time in its proper vessel, is the true *Menstruum* of the Red Dragon, i. e. of Gold, the true matter of Philosophers. Of which Secret, this Society desiring to leave Posterity intimation in their Name, styl'd themselves Brethren of the Rosie Cross. Thus *Jacob's* blessing upon *Esau*, contain'd only these two matters, *De Rore Cæli, & pinguedine Terræ det tibi Deus*. Whereas this Society is charg'd with pretences of being invisible, they mean only that it hath no visible marks to distinguish it from others, as other Societies have, namely, several colours and fashions of habits, but 'tis known and visible only to those of the Society it self.

CONFERENCE CXCIV.

What Paracelsus meant by the Book M.

I Shall not stand to consider whether it be true, as some say, that more persons besides *Theophrastus ab Obenheim* bore the name of *Paracelsus*; my present purpose is only to consider a passage lately recited here out of his *Archidoxa*; *Atq; hæc omnia* (saith he there) *parum vulgaria de Medicina supernaturali & Magica, ex libro secreto ex Arabico idiomate in Latinum verso qui pro titulo habet Literam M.* In which words we may observe how remote this Author's manner of Writing is from that of the Doctors of these times; yea, and of former too, (if you except the Chymists) who mainly aim to speak clearly, and to render themselves intelligible, many of them professing to wish that things themselves could speak. From which practise this Author is so far, that he conceals even the Book's name wherein he studied, by a kind of *Plagium*, hiding his Theft, lest others should trap him; and the same Jealousie runs through all his Works. However, for Curiosity's sake, let us consider what Titles will sute to this Letter. Me-thinks the fittest is *Mundus*, that great Book, open to all that are minded to read in it; that to which *Job, David*, and many other Authors sacred and profane so frequently refer us; each Element whereof is a Tome, every Compound a Book, and every part thereof a Letter. All other Books are only Copies of this Original, to which if they happen to have conformity, they pass for good; if not, they are meer Chimera's, having no foundation in the thing. Hence ariseth that so remarkable difference between the Theory and the Practise of Arts; for almost all Books being false Copies of this of the World, no wonder if Book-doctors are most commonly ignorant of Things, whose solid Contemplation produces other satisfaction in the informed Intellect, than do the empty Phantries of

Of those who either never understood what they writ, or had not the gift of right expressing it. And certainly we may have more exact and natural information from the species of things themselves, than either the Writing or Speech of another person can give us.

The Second said, That this Book M. is the Book of Magick; whence many have believ'd *Paracelsus* a Magician, and the rather in that they find him teaching in many places of his Books to cure diseases by words, and to produce men by enchantment in a great bottle, with other such abominable proposals, not to be accomplish'd but by Diabolical assistance. Moreover, we seldom see any persons so bold as to attempt to overthrow so ancient an Institution as Physick, both in Theory and Practice, but who are led to that enterprise either by God or the Devil: And the continual calumnies and detractions, whereof this evil spirit is the Author, and for which *Paracelsus* and his followers so signalize themselves, give far more probability of the latter than of the former. Whence, possibly, to disguise the matter; most Magicians pretend to have learnt their Characters out of some Book, as, particularly, that which they call *Clavicula Solomonis*.

The Third said, That it may be Magick, and yet lawful, to wit, true and Natural Magick, such as was profess'd by the Indian *Magi*, three of whom having discover'd our Saviour's Birth, came to worship him; the other black and infamous Magick, no more deserving that name, than Empiricks and Mountebanks do that of Physicians. Now Natural Magick is the knowledge of the nature and properties of all things hidden to the vulgar, who take notice only of manifest qualities, and reduce all to generalities, to avoid the pains of seeking the particular virtues of each thing; and therefore 'tis no wonder if they see only common effects and successes from them. Thus Plants bearing the signature or resemblance of a disease, or the part diseased, as Lungwort, Liverwort, Pepperwort, cure by a property independent on the first qualities, though few understand so much. Of this kind are many excellent Secrets, whose effects seem miraculous, and as much surpass those of ordinary remedies, whose virtues are collected only from their appearing qualities, as the Soul doth the Body, and Heaven Earth.

The Fourth said, That by the Book M. cannot be meant *Mundus*, since the World cannot be turn'd into Arabick and Latine; and 'tis not a Secret but a Figure and Metaphor to call the World a Book. If it be lawful to admit a Figure in it, I think 'tis more likely that this Book is nothing else but a Talismanical Figure, or Character engraven in a Seal, and employ'd by the Rosicrucians to understand one another; and call'd the Book M, because it represents an M cross'd by some other Letters, from whose combination results the mystery of the Great Work, designing its matter, vessel, fire, and other Circumstances; the first
whereof

whereof is Dew, the true *Menstruum* or Dissolver of the Red Dragon or Gold. In brief, so many things are compriz'd in this figure, by the various combination of the Letters represented therein, that it deserves well to be term'd a Book.

The Fifth said, If this be the Secret of the Brethren of the Rosie-Cross, they are Invisible in all their proceedings; because no Secret is seen in it, but only many absurdities. As, amongst others, to call that a Book, which is neither Paper, nor Parchment, nor Leaf, but a Figure; in which 'tis no wonder if they find what they please, since in these three Letters *Sic*, variously interlac'd one with another, you may find not only all the Letters, but also by their combination all the Books and all the things which are in the World; and it requires no more industry than to sound all sorts of notes upon a Flageolet. Let us therefore rather say, That Authors who puzzle their Readers minds with such Figures, are as culpable as those are commendable, who feed them with true and solid demonstrations; and whereas we thought that this M signifi'd *Mons*, we now see that it signifies no more than *Mus*; according to the ancient Fable of the labouring Mountains, out of which upon the concurrence of people to the spectacle, issu'd forth nothing but a Mouse.

The Sixth said, That high Mysteries have alwayes been veil'd under contemptible, and oftentimes ridiculous Figures; as if the wisdom of the sublimer Spirits meant to mock those of the vulgar, who judge of things only by appearance. Which may have place in common effects; but as for extraordinary things, their causes are so too, whereof we have experiences in Nature sufficiently manifest. There is no affinity between a word and the death it gives to a Serpent; yet the Poet attests the thing in this Verse,

Frigidus in pratis cantando rumpitur Anguis;

between the sight of a little bird call'd a Wit-wall, and the Jaundies, which it cures; between the Figure call'd *Abacus Lunæ*, and the Meagrim, which is also cur'd thereby; between a point ty'd, and the Generative Power which it hinders. In brief, the most excellent effects are of this kind, and deserve not the name of admirable, unless when our mind finds no connexion between the effect and the cause that produceth it. Why then may not the same reality be admitted between this Character and the effects pretended by those Brothers of the Rosie-Cross?

C O N-

CONFERENCE CXC.V.

Of the Art of Raimond Lully.

SOME Wits are fitter for Invention than Imitation, and so was that of *Raimond Lully*, who invented an Art how to find many Attributes, Propositions, Questions, and Means of speaking to any Subject propounded, to the end to be never surpriz'd, but to be and always appear ready. By this Art, which upon account of its use, and because it pretends to shorten vulgar studies he styles Great, he endeavors to out-do *Aristotle*, who having reduc'd all Logick to *Definitio*, *Proprium*, *Genus*, and *Accidens*; and in his Books of Topicks, set down some few places out of which to draw *Mediums* for arguing; *Lully* hath propos'd others, not only drawn from all the preceding, but increas'd with many others invented by himself. This Art he divides into two parts. The first treats of simple terms, which he calls Principles, whereunto he hath joyn'd general Questions; and this part he calls the Alphabet, because it comprizes each of those terms, reduc'd to nine by as many Letters of the Alphabet. The second treats of the connexion of these Principles, and makes Propositions and Syllogisms of them: this part he intitles *De Figuris*, either because, 'tis illustrated by Tables or Figures representing the combination of those Principles, or because Arguments are compos'd of them as the Celestial Figures are of Stars. His Alphabet is thus delineated by *Pacius*.

b	Goodness.	Difference	whether it be ?	1
c	Greatness.	Concordance	what it is ?	2
d	Duration.	Contrariety	whence and from who ?	3
e	Power.	Principle or beginning	why ?	4
f	Wisdom.	Middle	how much ?	5
g	Appetite.	End	of what quality ?	6
h	Virtue.	Majority	when ?	7
i	Truth.	Equality	where ?	8
k	Glory.	Minority	how ?	9

This Table, as you see, contains three Columns, each of which hath Nine Squares, and every one of these a word. The first Column contains Absolute or Transcendent Principles; the second, Relative Principles; the third, Questions. On the side of these Squares are set the nine first Letters of the Alphabet, namely, from *b* to *k*, because *Lully* reserv'd *a* to denote the first Figure or Connexion of these Squares; and he employ'd these Letters alone instead of Words, which they denote, for brevity's sake. Thus *bb* signifies the goodness of the difference, or the difference of good things; *bc* the goodness of greatness, or the

T t

goodness

goodness of Concord; *bd*, the goodness of contrarieties, or things contrary, and so of the rest; for he ties not himself solely to the word of each Square, but extends it to all its *Conjugata*, or Derivatives, Species, and Contraries. As the *Conjugata* of Goodness are Well, Good, Bonificative, (or, that is able to make something good) Bonificent, (that makes a thing actually good) Bonificable (that may be made good) Bonified, (that hath been or is made good) to Bonifie, (to make good) and Bonification (the action whereby a thing is made good.) The Species of Goodness are, 1, Permanent Good, as To be; Transient Good, as To act. 2. Honest, Profitable, and Delightful: the Contrary of Good is Evil; of Honest, Base; of Profitable, Damageable; of Delightful, Troublesom.----- Greatness transcendent and not categorical is that, by reason whereof it is term'd great, and acts very much; its Conjugates are Great, Grandifying, or Magnifying, Magnificative, Magnification, and to Magnifie, whose definitions may be understood by what is said of Goodness; its Species are Finiteness and Infinity, length, breadth, height, multitude, production, dilatation, multiplication, and their conjugates; its contraries, smallness, shortness, narrowness, and their Conjugates.-----Duration is that, by reason whereof a thing endures and is permanent. Its Conjugates, are enduring, durable, &c. its Species, Eternity, Time, and their Conjugates; its contraries, Change, Privation, &c. with their Conjugates.-----Power is that whereby a thing can exist and act; its Conjugates are potent, possible, to be able; its Species, Omnipotence, (which is in God alone) simple power, (which is in Creatures) strength, masterdom, authority, jurisdiction, empire; its contraries, impotence, imbecillity, impossibility, and their Conjugates.-----Wisdom is that by reason whereof any one is wise; its Species are Science, Intelligence, Prudence, Art, Prophecy, Conscience, and their Conjugates; its contraries, Ignorance, Imprudence, Error.-----Appetite, is that by reason whereof a thing is desirable; its Species are Instinct, Cupidity, and Will; its contraries, Hatred, Malevolence, Horror, &c.-----Virtue is here that which unites and contains a thing; its Species are, Perfect (in God) imperfect (in Man) its contrary, Vice, &c.-----Truth, is that by reason whereof things are true; its speech are verity of the thing, (so God is Truth it self) Verity of the Intellect (as when we conceive that Man is an Animal) and Verity of Speech (as in this Proposition, *Homo est Animal*) its contrary is Falsity; its Species, those opposite to the former. Truth is again divided into Necessary and Contingent, Simple and Conjunct.-----Glory is the supremam and utmost perfection of a thing in the enjoyment whereof it acquiesces, being unable to wish ought more; such will be the Glory of the Blessed; its Species are Honour consider'd in it self, and call'd by the Latins, *Decus*; and Honor receiv'd from others, which they properly call *Honor*. Thus much for the first Column.

The

The Second is of Relative Terms, which agree not to all things in general as the former do, but are three Ternaries, one of the three whereof necessarily agrees; for every thing either differs, or agrees, or is contrary to another; is at its beginning, middle, or end; is greater, equal, or less; and is extended likewise to its Conjugates, and divided into its Species: but they have no other contrary but themselves consider'd one in respect of another.

The Third Column is of Questions, whereof the first is, Whether the thing simply exist, as, Whether there be a Phoenix; or, Whether it be some other thing; as, Whether the Moon be greater than the Earth. The second is, What the thing is? To which it is answer'd by the *Genus* or Difference, and consequently, by a Definition or Description; or else, What the word signifies? The third hath two branches; the former demands, Whence a thing took its Rise, as in this Question, Whence comes Original sin? From that of our first Parents. The latter asks, To whom the thing belongs, as, Whose book is this? The fourth Question inquires the Cause; as, Why a stone always tends towards the Centre? The fifth concerns either continu'd Quantity; as, What magnitude the Sun is of? or disjoyned Quantity; as, How many several magnitudes of stars there are in Heaven? The sixth is concerning Quality; as, Whether *Opium* be hot or cold? The seventh is of Time; as, When is there an Eclipse of the Moon? The eighth is of the means by which one thing is in another? as, The Earth in its Centre, the Part in its Whole, the Accident in its Subject, Wine in its Cask. The ninth asks; How any thing is done? As, How do the Intellectual Species act upon the Intellect? How do the Sensible Species act upon the Senses?

The Use of this Art, (styl'd also by its Author *Cabalistica*, because 'tis learnt better by Cabal, or Tradition, than by Rules) consists in Terms, Questions of the Alphabet, and Figures, which are Combinations or Conjunctions of two or three of those Terms; to the end it may be easie for any one to examine the Question propos'd by all the wayes resulting from these Combinations or Conjunctions of Terms. For Example, if you desire to prove that the Intellect is immortal, you must run over the Terms by themselves, and examine the goodness of the Intellect, its Greatness, Duration, Power, and other following Terms; first, each apart, and afterwards joyning two or three together. And if you would not forget any *Medium* of proving, carry the Question through all the squares resulting from the Combinations of these Terms, which, indeed, are so numerous, that the most judicious restrain themselves only to the principal and most suitable to the Subject; it being not the multitude but the goodness of proofs that perswades.

CONFERENCE CXCVI.

*Why a Needle touch'd by a Loadstone turns
toward the North?*

TO omit Preface in this Question, There are two sorts of Load-stones; the black, distinguish'd with little lines, which draws flesh; and that which is of the colour of Iron. This latter is call'd *Lapis Herculeus*, perhaps, upon account of its great virtue; and *Sideritis*, from Iron which it attracts. *Cardan* mentions a third sort, with which a Needle being rub'd, enters into the flesh without being felt. We here consider the second sort, which turns it self towards the tail of the lesser Bear. And since nothing is done in vain, the Loadstone must be mov'd thither by some Cause, which also must be either in Heaven or on Earth, the Poles of both which are fixt. I am of their opinion, who say, that under the Northern Pole there is an Island call'd *Ilva*, wherein there are high Mountains of Loadstone, towards which, (the stronger prevailing over the weaker) both our lesser Loadstones and Needles toucht therewith turn; because those vast heaps of Loadstone diffuse their virtue over the whole Earth, and so draw all Loadstones, and what-ever Iron is rub'd with them towards themselves.

The Second said, That the Cause of this Motion ought rather to be ascrib'd to some thing in Heaven, because in Ships that approach that Island of Loadstone, the Needle still tends towards the North, and not towards that Island. The truth is, there is a Sympathy between some parts and things of the world; the Female Palm bends towards the Male, Straw moves to Amber, all Flowers, and, particularly, the Marigold and Sun-flower incline towards the Sun, the Loadstone towards the Iron and the tail of the little Bear, which if we conceive to be of the Nature of Iron, there is no more inconvenience therein than in the other Properties attributed to the rest of the Starrs and Planets.

The Third said, That (to wave what other Authors have said) this inclination of the Loadstone proceeds from the great humidity of the North, which is the Centre of all waters, towards which they tend. For the Loadstone being extreamly dry, and oblig'd to tend some way, when it is in *equilibrio* it veers towards that quarter to seek the moisture which is wanting to it; as also doth Steel heated red hot, and suffer'd to cool of it self, if it be lay'd upon a piece of the wood floating gently in water.

The Fourth was of *Cardan's* Opinion, who conceives, that stones are animated, and, consequently, that the soul of the Loadstone carries it to the search of its food and its good; as the the Eye affects Light, a Whelp is carry'd to his Dam's teat, and a Sheep

Sheep naturally eschews a Wolf. For it matters not whether we hold, That the touch'd Load-stone moves towards the tail of the little Bear, which is distant five degrees from the Arctick Pole; or, Whether it flie and recoil from the part of Heaven diametrically opposite therunto? Now that the Loadstone is animated, appears by its being nourish'd with, and kept in the filings of Steel, by its growing old, and by the diminishing of its attractive virtue with age; just as the virtues of other bodies do. Wherefore, 'tis probable, that the Loadstone's soul either with-draws it from that part which is contrary to it, or else leads it towards its good. Indeed two different inclinations are observ'd in this Stone, depending upon the situation it had in the Mine; one Northwards, whither it turns the part that once lay that way; the other Southwards, whither it turns its opposite part. But the Experiment of Iron loosing its attraction by being rub'd on the Loadstone the contrary way to which it was rub'd at first, is an evident sign of such a soul in it, which makes it thus vary its actions.

The Fifth said, That all these accounts leave many difficulties to be resolv'd; for if the Loadstone mov'd towards those great Adamantine Mountains of *Ilva*, then they would draw only that and not Iron; if Iron too, why not before 'tis rub'd with a Loadstone? Nor doth this inclination of the Loadstone proceed from its dryness, for then plain Iron, (which is as dry) Pumice, Lime, and Plaster, (which are dryer) should have the same effect: Besides that, there is not such want of humidity as that this stone should seek it Northwards, the Mediterranean and the Main Ocean being nearer hand. As for Heaven, the Cause is no less obscure there, and the terms of Sympathy and Antipathy differ not much from those which profess naked Ignorance. The second Opinion hath most probability; for since the two pieces of a Loadstone cut parallel to the Axis, have so great a community of inclinations, that a Needle touch'd with one piece, is mov'd at any distance whatsoever, according to the motion of another touch'd with the other piece; why may we not admit that the tail of the little Bear, or its neighbouring parts, are of a Magnetical Nature; and have the same community with our Terrestrial Loadstone; according to that Maxim in *Trismegistus's Smaragdine-Table*, That which is above, is as that which is below.

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CONFERENCE CXC VII.

What Sect of Philosophers is most to be follow'd.

ALL the Sciences confefs Obligations to Philosophy. Divinity draws Ratiocinations from it; Eloquence is diffuse Logic; and Rhetorick is not to be learnt but after Philosophy. Civil Law, being wholly founded upon Morality, is nothing but an effect of it, whilst it teaches us to do voluntarily what the Laws makes us practise by force. Physick supposes excellent skill in Philosophy, since the Physician begins where the Naturalist ends. Now there are so many Sects of Philosophers, that to follow them all, is to fall into manifest contradictions; and to adhere to one alone, is to be in great danger of mistaking the worst. That which keeps us from being able to make a good choice, is the little knowledge we have of these Sects, and the Probability each seems to have; and therefore 'tis requisite to examine them in general, in order to drawing a general conclusion. And because Saint *Augustine* cites almost three hundred Opinions touching the Supream Good, and as many may be brought touching other points of the Sciences; I shall only take notice of the famousest Sects, as seeming the most rational, and most follow'd. And let us compare the always contentious Peripateticks, and the Stoicks together: The end of the former was to contemplate and understand things; the latter, aim'd more to do good than to know it; their design was Speculation, the scope of these *Practici*. I side with the former, because that Science which embellisheth Man's noblest part, his Understanding, is the most sublime, and consequently, the most considerable. And as the Understanding is more excellent than the Will, so is Theory in matter Science than Exercise, Acts of Virtue depending on the Acts of Reason, and those of Reason not depending on those of Liberty. Besides, that is most to be esteem'd, which must render us blessed; and that is the knowledge of God, and of the Creatures in God and in themselves, which is to constitute the Beatifick Vision.

The Second said, That Men ought not to get knowledge only to know, but to operate conformably to their knowledge. Truth would be either useles or dangerous, if it lead us not to practise. And though the Will is one Sense subordinate to the Understanding, yet it commands the same in another. To know how to do well, and yet to do ill, is a double crime. And if knowledge alone could make happy, the Devils would be soon in Heaven; since Divines tell us, the least of them, hath more natural knowledge than all Mankind together. Now the Opinion of the Stoicks regulating the Acts of our Wills, and composing our Manners suitable to Reason, seems to place the steps which
must

must raise us to the highest pitch of Felicity. Wherefore I conclude, that the Curious may follow the first Sect of these, namely, the Peripateticks; but good men must necessarily adhere to that of the Stoicks.

The Third said, That there are three other Sects which seem to comprize all the rest, and therefore not to be omitted in this important choice: First, the *Pyrrhonians*, who doubt of all things, and say, There is no knowledge of any thing. Secondly, Those that doubt of nothing, but think they know every thing. Thirdly, Those who are neither in doubt, nor in perfect certainty, but in search of Truth. The first do found their Opinion upon this receiv'd Maxim, That there is nothing in the Understanding but what pass'd through the Senses; and these being fallacious, our Notions must be so too; That being we perceive not the essence of things, we cannot say that we know any thing. But these people may be answer'd, That since they have not so much as a knowledge of their doubts, they cannot make the same pass for a demonstrative maxim; if they think they have such a knowledge, they must grant that there is knowledge of some thing; and if of doubts, why not of certainties. Moreover, if the Senses be always fallacious, it will follow that there are Powers, which acting without impediment, never attain their end; and if our Understanding be always abus'd, 'tis in worse case than the faculties of Brutes, who acquiesce in embracing their Objects. In brief, these dreamers cannot be ignorant that themselves exist, because they act, and that existence is the foundation of all action. Nor are those that think they know every thing much more intelligent; the former offend against Truth, by denying it; these, by thinking it their sole Mistress. They argue, that since the Understanding is the Subject of the Intelligible Species, which contain (they say) either actually or potentially the impressions of all Objects, it follows that as soon as we frame a Notion, we know all things. But I ask these Knowing Men, What Truths they know so easily, which other Wits hold so difficult to be known, Whether created or uncreated Verity? The former is knowable only to it self; we may demonstrate, That it is, but not What it is in its own Nature. And how many errors have there been concerning the Nature of that Sole, Necessary, and true Being? And as for the latter, we know not the Truth of Essences, but by their Accidents; and these by Species which are very often perverted, either in the *Medium*, or the Organ. But how can we know other things perfectly, whereas we know not our Selves? We know that we act, but we know not how; so that the Opinion of those that profess only to seek Truth, is the best and surest, though it engageth us to continual labour; and be the punishment said by the Holy Scripture to be inflicted upon Men, both to satisfy and chastise their Curiosity. Now Action is the Life of the Soul, and that Science which keeps the Mind always awake, is justly preferrable before that which renders

renders so good an Agent idle, and impoverishes it by perswading it that it hath riches enough already. Besides, all Men are of this Opinion, either directly or indirectly : And Dissenters themselves, seek Reasons every day to maintain it. Astrologers still endeavor to discover new Stars, Chymists new Secrets, Physicians new Remedies, and Philosophers new Opinions.

CONFERENCE CXCVIII.

Why Mules breed not.

THE First said, That Mules are barren, because every perfect Animal can produce only its own like by univocal Generation, defin'd, The production of a Living Thing descending from another Living Thing by a conjoyn'd Principle, in order to similitude of Species. But Mules cannot generate thus, because being produc'd by a Horse and an Ass, they are neither the one nor the other, nor yet both together ; but a third Species retaining something of both. So that after what-ever manner they joyn together, they cannot make their like, that is, produce an Animal part Horse, and part Ass ; If a Mule could generate, it must be by coupling with a Species different from its own, as with a Horse or an Ass ; whence infinite several Species, partaking more or less of the nature of Horse or Ass would arise, and so Forms being increas'd or diminish'd, Substance should receive degrees of More and Less, contrary to the Maxim of Philosophers. And in this matter, Nature's Wisdom and Providence is observable, who rather suspends her Action, than suffers any inconvenience to come by it.

The Second said, That there are particular as well as general causes of the Sterility of Mules. As first, they want distinction of Sex, that between them being only similitudinary, and the parts they have answering to the genitals of other Animals, having only the outward figure, not the internal form and energy thereof : Just as the Teats in Men, Dogs, Swine, &c. signify nothing as to any use, but serve only for correspondence with the Female and Ornament.

The Third said, That the Sterility of Mules cannot be design'd by Nature only to avoid multiplication of Species in *infinitum* ; since this consideration hinders not but that Leopards and other Mixt Animals generate, and Plants ingrafted upon others of different Species bear fruit. But the cause hereof must be sought in the divers Temperature and Complexion of the Ass and Horse ; the former being very melancholy, that is, Cold and Dry, as appears by his slowness ; the other Hot and Dry, as he testifies by his nimbleness ; their two seeds mingled together compose a third, which indeed, hath Natural Heat and Radical Moisture enough

enough for making an Animal : but Nature having brought her work to this point, can go no further; because she spent all the Radical Moisture and Natural Heat she had in the first production; whereby Mules have the Courage of the Horse, and the Laboriousness of the Ass. But the Mule having only Heat and Radical Moisture enough for it self, and not enough for the production of another, the same cannot be produc'd.

The Fourth said, That the Number of Forms and Species of things being limited, 'tis not in the power of Art and Nature to multiply them. And though it be easie to multiply them in the family of Plants, which are but of one Sex, (though some are distinguish'd into Male and Female, upon account of some small differences); Yet 'tis not in the Gardener's power to ingraft all sorts of Fruits one upon another. For (excepting the Colewort, in whose foot, when 'tis become hard and ligneous, one may ingraft some shrubs) Plants of divers kinds mingle not one with another, as trees with herbs or shrubs, and herbs with trees. Nor will the Pepin admit insition into the Nut-tree, or on the contrary: Nature differs from Art in this chiefly, that she hath her work bounded and determin'd; but Art counterfeits what the Artist pleases. Whence Painters oftentimes draw fine Pictures, and beget deform'd Children. Every mixture of Perfumes is not pleasant, nor of Medicaments effectual; nor do our Sawces admit of any ingredients, but only of some that are suitable and proper. So also two several grains mixt together produce nothing, because Nature hath temper'd seeds in such degree, that nothing can be added or diminish'd from them, but deprives them of their efficacy. If such unnatural Mixture make any productions, the same is prodigious, and amongst Animals is call'd a Monster: But being an Error of Nature, she returns to her old way as soon as she can, and rather ceases to generate, than produces second Monsters of those first. And this in Mules rather than other Species, because the Equine and Asinine Natures are no less contrary than Fire and Water. So that if they happen to be conjoyn'd, and make one *Compositum*, the Generative Virtues then existent in their seeds make an Animal indeed; but, in producing the same, they extinguish one another, as Fire doth Water; and so what is generated of them, hath no power of Generation.

The Fifth said, That this Sterility being suppos'd, (although *Aristotle* relates, that in *Syria* Mules commonly generate; and *Theophrastus*, *Varro*, and others affirm the like of those in *Cappadocia* and *Africa*) *Democritus* in *Ælian*, attributes the cause thereof to the ill conformation of their genitals, particularly, of the womb, which is unapt to retain and quicken the seed, because through the excessive heat deriv'd from the Horse, the passages serving to those parts in either sex are too much dilated; besides that, the same are very laxe in the Shee-Ass; whence Naturalists and Experience tells us, that she conceives not, unless

after covering she be well cudgel'd, that so the pain thereof may make her constringe her womb, and retain the seed which otherwise would slide out again. Now this over great dilatation of the genitals appears by dissection; and 'tis found by Experience, that the Beasts themselves are unwilling to such an unnatural copulation; so that in some Countries people are fain to feed Asses with Mare's milk, and cover the Mares sometimes with Cloaths of the colour of an Ass, to beguile them into the same. Add hereunto that both the Species, of which Mules are generated, are very subject to Sterility. For the Ass is of a cold temper, and particularly, its seed is so cold, that unless it begins to generate at the first casting of its Teeth, it remains barren for ever. Yea, if an Ass couple with a pregnant Mare, the coldness of his seed makes her cast her Foal. The Horse likewise, by *Ar. stotle's* report, is very little fruitful; whence his seed being further refrigerated by that of the Ass, they produce an Animal indeed, but altogether improlifick.

CONFERENCE CXCIX.

Of the Mandrake.

Since of the three Conditions of Curing, to wit, pleasantly, speedily, and safely, this latter pertains chiefly to Plants; it were good that a little more curious search were made into the treasures hid in the Plantal Family of Remedies, whereof Nature hath provided above three thousand several Species, which are many more than are in those of Animals and Minerals. And as Nature hath (instead of the Instinct bestow'd on other Animals to guide them to their good) given Man Reason, whereby he may proceed from things known to things unknown; so, besides the manifest and occult qualities of Plants, from whence their uses may be infer'd, she hath markt those which are most useful to us with certain Signs and Characters: Amongst these, Mandrake is the most famous, representing not the Eye as Eye-bright doth; nor the Lungs, as Lungwort; nor the Liver, as Liverwort; nor the Rupture, as *Solomon's Seal*; nor the Hemorrhoids, or Orpment; nor an Ulcer as spotted, as spotted Arsmart; but the Figure of an entire Man: And as the eminent Virtues of Ancient Heroes being too great to be comprehended by the Wits of these Ages, gave occasion to fabulous Romances; so the Wits of *Botanists* that have been capable to write the Virtues of other Simples, have not been sufficient to speak of these of Mandrakes, leaving the vulgar the liberty to attribute Supernatural Virtues to them. Which made some *Rabbins* say, that the *Teraphims* of *Laban*, *Jacob's* Father-in-law, were the roots of Mandrake, which render'd him Answers; and for the loss of which

which he fell into such Passion; and *Pliny* ascribes to the Mandrake the name of *Osiris*, which was that of an *Ægyptian* Idol. Our Histories report, that in the year 1420. a certain Cordelier, nam'd *Frier Richard*, was so perswasive in his Sermons, that in two dayes the *Parisians* publickly burnt all the instruments of voluptuousness and debauchery, and, particularly, the Women their Images; and Mandrakes which they kept wrapt up in their attires, upon a belief that as long as they had Mandrakes, they should never fail to become rich: which Mandrakes, gave them Answers by shaking the head, or else by speech. And there are not only true, but also counterfeit ones, such as were made by an Italian Mountebank, (as *Matthiolus* relates) who carv'd the root of Pyony, or of a great Reed in the shape of a Man, and sticking Millet or Flax seed in the places where hair should grow, bury'd the same for twenty dayes; at the end whereof, fine small threads appear'd in those places, and a skin over all the rest, which represented and pass'd for a true Mandrake. *Belleforest* also relates, that the Maid of *Orleans* was calumniated for having acquir'd the valour she testifi'd against the English by the Magical Virtue of a Mandrake. And *Henry Bouquet*, a modern Author, affirms, that Thieves steal the Goods out of Houses, and Children from their Mothers Breasts by help of it; those that behold them being unable to defend themselves, because this Plant stupifies their Hands. So likewise *Levinus Lemnius* tell us, that 'tis employ'd with great effect in Philtres and Amorous Potions: Upon which account, *Natalis Comes*, thinks it was an ingredient in that which *Circe* gave *Scylla*, whereby she became so desperately in Love with *Glaucus*, that, being unable to enjoy him, she cast her self headlong into the streight of *Messina*. Some think, 'tis the same Plant that *Josephus lib. 7. cap. 25. de bello Judaico*, calls *Baaras*, from the valley wherein it grows; which, he saith, shines in the night like fire, and is pluckt up by a hungry Dog ty'd to the top of the root, after the same hath been softned with the Urine of a Woman; because upon its plucking up, 'tis said to send forth a shriek which is mortal to the hearer, and so the Dog dyes after his work is done. Others conceive, that this root cannot be found except a little before the rising of the *Pleiades*, which is about the beginning of *September*. Which is no more incredible, than that the seed of Fearn springs but at a certain prefixt time, before and after which, it appears not. 'Tis likewise thought particular to Upper *Hungary*, and to be pluckt up only by certain Sorceresses, and that in the night; whence also they sell the same secretly, for fear of being punish'd by Justice; as it happen'd *Anno 1630. at Hamburg*, where the Senate caus'd three Women who exercis'd this trade to be whipt. Moreover, they hold that this Plant, (call'd Mandrake from a German word which signifies to bear the figure of a Man; for *Man* hath the same sense in that Language as in ours; and *Dragen*, is to bear or carry) comes from the seed of Men hang'd on

Gibbets, or broken on the Wheel, which dropping upon the ground, already fat and unctuous by the multitude of hanged Bodies, produceth this Anthropomorphite-Plant, so term'd by *Pythagoras*, and alledg'd as an Instance to prove his Metempsychosis. Which Conceit is also strengthened by the production of Beans, which the same *Pythagoras* and many others hold, to be produc'd of dead Bodies; for which reason he not only abstain'd from eating them, but had them in such reverence that he suffer'd himself to be kill'd in a field of Beans, through which he might have escap'd, but would not, for fear of hurting them. So likewise of the Urine of a Dog is produc'd the Herb *Orrach*; of an Elephant's Blood, suckt and vomited by a Dragon, *Sanguis Draconis*; of the Bodies of Serpents, *Serpentana*; and of the seed of Stags, the Mushrooms, call'd *Boleti Cervini*. So that though this Plant be not seen, it doth not follow that there is no such thing; it being no more absurd to credit the voice of the vulgar in this matter, than in many others.

The Second said, There are three sorts of Plants that bear the name of Mandrake, the Etymologie whereof may be taken from the Latin word *Mandra*, which signifies a Cave or a shady place; because this Plant loves to grow in the shadow, and cannot long endure the heat of the Sun. The first sort is call'd *Mandragoras mas*, or white Mandrake; hath on the top of its Root great leavs, spread on the ground like those of broad-leav'd Lettice, but somewhat long, shining and smooth, in colour resembling those of Bete, to wit, of a pale green; the Flower is likewise pale, whereunto is annexed a round Apple of the bigness of a small Lemon, of a pale Saffron colour, and full of a succulent pulp, wherein are pale or blew kernels, like those of a Pear, saving that they are not pointed, but flat like a kidney. Its root is lasting, and dyes not yearly as most others do; long, and so thick, that it can scarce be grasp'd with one Hand. 'Tis usually divided into two; of colour outwardly, between white and red; within, white; carnos, juicy, and of taste between sweet and bitter. The whole Plant sends forth a strong smell, especially the Apples, whose juice is somewhat vinous, but bitterish; and burdens the Head both smelt and tasted. The second sort call'd *Mandragoras niger*, or Female Mandrake, hath leavs like the Male, but less and straiter, like those of small-leav'd Lettice, of a dark green, bearing Apples as big as our little Medlars: Its root is less, but otherwise in smell, taste, and figure, like the former; only 'tis black without, and white within, and sometimes divided into three. The third kind is call'd by some Herbarists, *Morion*, or Mandrake of *Theophrastus*; touching which, though all agree not, yet the opinion of *Codrus*, whom we follow here, is, that it hath great roots, a high stalk, and leavs of a middle size between *Solanum* and Female Mandrake; its Flower is black, and so also is its Fruit; equal to a big Grape, and of a vinous juice: which Plant some call *Solanum Mortiferum*, the Italians *Bella*

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Donna, which grows likewise in shadowy places (as the former also do) in many parts of *Italy*, especially in *Apulia*, and sometimes is set in Gardens: the Apples are ripe in *August*. *Galen* accounts them cold in the third degree, and all Authors agree that they are very moist. All their parts are *somniferous*, and of great use in Physick, according to *Dioscorides*. The most active is the bark of the Root: The ancient way was to peel the root, press out the juice, and thicken it in the Sun; or else to boil the root in new Wine till a third part were consum'd, or to infuse it without coction: of this liquor they administred one or two glasses to such as could not sleep, and three to such as were to have a limb cut off. They us'd it likewise in inflammations of the eyes, some feminine diseases, and to suppurate Phlegmons; having such a mollifying faculty, that in six hours boiling the Root with Ivory, (they say) the same becomes plyable, and apt to take any impression. At this day scarce ought but the leaves and roots are in use, (except that the apples are sometimes boil'd in oil) but all externally, not by the mouth. 'Tis also thought alexipharmacal against Serpents, and good to cure Tetters, being bruised and apply'd with vinegar. All which effects have made it admir'd; but (as humane Nature is prone to Superstition) though this Plant be indu'd only with Vertues common to other Plants, (the soporiferous Quality being found in Lettice, Poppy, Henbane, and more eminently in Opium; and that of being proper to Women, in the *Aristoloches*) yet because its root resembles a man's legs, and its trunk in some sort his body without arms; hence Mountebanks have by their frauds and tricks brought people to believe their strange Stories of it, even that it eats like a man, and performs his other natural functions. Which imposture, though less prevalent upon strong minds, becomes less credible by the prodigious manner they relate it to be produc'd: for 'tis impossible to imagine that any generation can proceed from sperm destitute of spirits, and out of the proper natural subject destinated to its reception.

The Third said, That indeed no Univocal Generation can be made after the loss of the spirits of Sperm; but equivocal, such as this is, may: whereunto Nitre contributes very much; which salt not being lost by death, nothing hinders but, a fertile soil being determin'd by some form or other, a Plant may arise out of it; to which production fewer conditions are requisite than to that of an Animal. And 'tis the less incredible, if the Experiment deliver'd by some Authors be true; That the salts of Rosemary, Sage, Mint, and some other strong-scented herbs, being extracted according to Art, and frozen in a Glass, exhibite the image of those Plants, therein; and, if sown in well-prepared earth, produce the Plants of same Species.

The Fourth said, That not only the means of the production of this imaginary Plant are so too, but also the supernatural virtues ascribed to it are ridiculous; yea, those said to be natural

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to it are very hard to be justifi'd: for to be foporiferous, and to promote Procreation in Men and Women of several tempers is inconsistent, because these things require Simples of very different Qualities; and also are the causes of Sterility. This error of its being prolifick, proceeds from a false supposition taken out of *Genesis*, where 'tis said, that *Reuben*, the Son of *Leah*, one of *Jacob's* Wives, having brought Mandrakes to his Mother, her Sister *Rachel* could not obtain them of her but upon condition that *Jacob* (who despis'd her for *Rachel* the fairer of the two but barren) should lie with her that night: which bargain was made between them. Now because *Rachel* had Children afterwards, hence some Interpreters infer, that she eat those Mandrakes, and that they render'd her fruitful: which is not at all in the Text; and her Fruitfulness might proceed from the favour of God, or some more fit means than that Herb. Nor is it an edible fruit, neither did all the Women in the Scripture, who of barren became fruitful, eat Mandrakes. 'Tis therefore probable, that this Plant hath neither the Form, nor the Properties which vulgar and vain Antiquity attributes to it.

The fifth said, 'Tis easier to overthrow, then to establish a Truth, when the question is about things apparently repugnant to Reason, which many times agrees not with 'our own experience, whereby we see several contrary effects of one and the same Plant. As the pulp of an Orenge cools, the peel heats, and oil of the seeds is temperate: The like may be said of Mandrake, which according to the diversity of its Species and Parts may produce the different effects, which are attested by Antiquity; *Apuleius*, in his *Metamorphosis* relating, That a Physician deluded the malice of a Servant and a Stepmother, by giving them the juice of Mandrake instead of poyson (which they desir'd of him to kill a young man) which caus'd them to think him dead when he was only in a deep sleep: and *Columella* speaking of the soil where it grows;

*Quamvis semihominis vesano gramine fæta,
Mandragoræ pariat flores.*

Moreover since there are middle Natures compos'd of two extremes, as your *Zöophytes* between Plants and Animals, to wit, Spunges and Coral; between Brute and Man, the Ape; between the soul and body of Man, his Spirits: why may there not be something of a middle Nature between Man and Plant, to wit, the Mandrake, a Man in external Shape, and a Plant in Effect and internal Form. In brief, we believe there is an Unicorn, though no man of this age hath seen it; why therefore may we not believe, that there is such a Mandrake as most describe, who affirm that they have seen one, as I my self have also, though I cannot affirm whether it were a true or false one.

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CONFERENCE CC.

Of Panick Fear.

THE Species conceiv'd in the Phantasie representing to the Intellect some future Good, they beget Hope; when Evil, Fear. 'Tis not very hard to comprehend the way, nor how he, that sees himself pursu'd by a potent enemy, betakes himself to flight, by the Instinct of Nature, which avoids what ever is destructive to her: But the Mind is puzzled to find the cause it sees not, as of groundless Fear; which nevertheless sometimes befalls the most resolute, yea whole Armies, which fly without any pursuer. The Vulgar of the Ancients, (who made Deities of every thing, especially of what they understood not) thought *Pan* the God of Shepherds put this sudden Passion into the minds of men; because oftentimes it happens to flocks of Sheep, over which he is said to preside; though there be no appearance of any Wolf to fright them: whence they call'd it a Panick Terror. Unless you had rather interpret *Pan* to be the Universal and Supreme Deity, who giving the success of Battels, sometimes immits such a fear into the hearts of those men whom he intends to deliver into the power of their Enemies.

The second said, That *Pan* was an ancient Warrior, who invented the ranging of Soldiers in order of Battel, and distinguish'd them into Wings, call'd by the Latins, *Cornua*; whence he was pictur'd with Horns. He also first devis'd Strategems; so that one day, having sent out his Scowts, and understood that the Enemies were lodg'd in a desert place full of resounding caverns, he order'd his Soldiers, that as soon as they approach'd the Enemy, they should make a great shout; which, multiply'd by the Echo of those neighbouring caverns, so frighted them, that before they could understand what it was, they betook themselves to flight, conceiving they had to do with a far greater multitude of Enemies than there was: Whence the Fable of this God *Pan* adds, that the Goddess *Echo* was his Mistress. From this, Groundless Fear, as others of the like nature, came to be call'd Panick Terrors. Such was that which seiz'd the Soldiers of *Marc Antony* in the War against *Mithridates*; that of the Gauls under *Brennus*, when they were ready to sack the Temple of *Delphos*; that of *Hannibal*, when he approacht the walls of *Rome* to besiege it; and that of *Macedonians* under their King *Persëus*, who so lost their courage upon sight of an Eclipse of the Moon, that it was easie for the Romans to overcome them.

The Third said, That *Plutarch*, in his Treatise of *Ists* and *Ostis*, relates another cause of this Appellation; namely, That when the latter of them reign'd in *Ægypt*, *Typhon* surpris'd him by

by a wile, and cast him in a chest into *Nilus*; which News arriving amongst the Pans and Satyrs, it put them into an astonishment; from which all other sudden frights took their name. But leaving apart conjectures of words, let us consider the thing, and examine, Whether it be not a mistake, to think that there can be terrors without any cause? I think, There cannot; because 'tis as true in Moral as in Natural Philosophy, That nothing produceth nothing. But as an even balance is sway'd either way by the least blast, and (the cause being imperceptible) seems to incline of it self; so when Men are ready for a battel, and every one thinks of the doubtful event thereof to himself, the least external cause hapning to make never so little impression upon their Spirits whilst they are in this balance, is enough to move them either way; the first object that occurs, yea, the least word, being of great efficacy. And because Fear is found more universally imprinted in Mens minds than Courage; hence there needs less subject to produce it, than to animate them. Thus at the battel of *Montcontour*, this single word, Save the Princes, spoken either accidentally, or by design, made them lose the day. Thistles being mistaken for Lances, gave a great terror to a whole Army; and an Ass or a Cow in the Trenches, hath sometimes given an Alarm to considerable Garrisons.

The Fourth said, That Fear caus'd in an Enemy being one of the surest means to conquer him, Generals have not been more careful to animate their own Souldiers, than to terrifie their Enemies even by vain affrightments; as showts, extravagant arms, and habits. For this reason the *Germans* were wont to paint their Faces with several colours, that they might seem terrible; some think our *Poitevins* had their name of *Pittons* from this custom: So *Gideon* by Gods command employ'd Trumpets and earthen Pitchers with fire in them to terrifie the *Amalekites*. Yet none of these Inventions, no more than that of Elephants, Chariots of fire, and other Machins, can cause a Panick Terror, because it ceases to bear that name when 'tis found to have some manifest cause. So that to ask, Whence Panick Fear proceeds? is to ask, What is the cause of that which hath none? If there be any, I think 'tis from some hideous Phantasms irregularly conceiv'd in the Brain as a *Mola*, or a Monster is in the womb; which Phantasms arising from a black humor, cause Sadness and Fear; a Passion easily communicable, because conformable to the Nature of Man; who consisting of a material and heavy Body, hath more affinity with the Passions that deject him, as Fear doth, than with those which elevate him, as Hope and Ambition do. The moral cause of Panick Terror is Ignorance, which clouds and darkens the light of the Soul; whence the most ignorant, as Children and Women, are most subject to this Fear; and Souldiers, who are the more ignorant sort, being taken out of the Country, and from the dregs of the people, become easily surpriz'd with it; and by the proneness of Men to imitation, upon the
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the least beginning it finds a great accession and familiarity in Humane Nature.

The Fifth said, That the cause of this Terror may be a natural prescience our Souls have of the evil which is to befall us; which is more manifest in some than in others; as appear'd in *Socrates*, who was advertis'd of what-ever important thing was to befall him by his familiar Spirit, or good Angel. Now if there be any time wherein those Spirits have liberty to do this, 'tis when we are near our End, our Souls being then half unloos'd from the Body, as it comes to pass also at the commencement of a battel, through the transport every one suffers when he sees himself ready either to die or overcome.

CONFERENCE CCI.

Of the Water-drinker of S. Germain's Fair.

THis Person is of a middle Stature; hath a large Breast, as also a Face, especially his Fore-head; very great Eyes, and is said to be sixty years old, though he appears to be but about forty. He was born in the Town of *Nota*, in the Island of *Maltha*, and is nam'd *Blaise Mansfrede*. They that have observ'd him in private Houses, and upon the Theatre, relate that he makes his experiment not only every day, but oftentimes twice in one afternoon. Moreover, vomiting so freely as he does, he is always hungry when he pleases. His Practise is very disagreeing from his publish'd Tickets, wherein he promises to drink a hundred quarts of water; but he never drinks four, without returning it up again. His manner is thus: He causes a pail full of warm water, and fifteen or twenty little glasses, with very large mouths to be brought to him; then he drinks two or three of these glasses full of water, having first wash'd his mouth, to shew that there is nothing between his teeth: Afterwards, for about half a quarter of an hour, he talks in Italian; which time being pass'd, he drinks three or four and twenty more of the said glasses, and thereupon spouts forth of his mouth with violence a red water, which seems to be wine, but hath only the colour of it. This water appears red as it comes out of his mouth, and yet when it is spouted into two of his glasses, it becomes of a deep red in one, and of a pale red in the other; and changing the situation of his glasses, on the left side of his mouth to the right, and of those on the right to the left, these colours always appear different in the same glass; namely, the one of a deep red, and the other yellow, or Citron-color. Some of the water is of the color of pall'd wine; and the more he vomits, the clearer, and less colour'd the water is. He hath often promis'd to bring up Oyl and

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Milk;

Milk; but I never saw nor heard that he did it. This done, he sets his glasses to the number of fifteen or sixteen upon a form or bench, to be seen by every one. After which, he drinks more water in other glasses, and brings it up again either clear water, or Orange flower water, or Rose-water; and lastly, *Aqua Vitæ*, (which are manifest by the smell, and by the burning of the *Aqua Vitæ*) having been observ'd to keep this order always in the ejection of his liquors, that red water comes up first, and *Aqua Vitæ* last. He performs this Trick with thirty or forty half glasses of water, which cannot amount to above four quarts at most; then having signifi'd to the people that his Stomack, although no Muscle, (which is the instrument of voluntary motion) obeys him, he casts the same water up into the Air with its natural colour so impetuously, that it imitates the Casts of water in Gardens, to the great admiration of the Spectators, who for six weeks together, were seldom fewer than three hundred daily. For my part, I find much to admire in this action. For though men's Stomacks be of different capacities, and some one person can eat and drink as much as four others; yet I see not, possibly, where this fellow should lodge so much water. And again, he seems rather to pow'r water into a Tun than to swallow it, though the conformation of the Gullet doth not consist with such deglutition. Besides, vomiting is a violent action, and yet most facile in this Drinker. And as to the order of this Evacuation, 'tis certain, that all things put into the Stomack are confounded together therein, so that Concoction begins by Mixtion; and yet this fellow brings up what-ever he pleases, as 'twere out of several vessels; so that he undertakes to eat a Sallad of several sorts of Herbs and Flowers, and to bring them up all again in order. Moreover, what can be more prodigious, than this mutation of Colours, Smells, and Substances? And, indeed, they say, he hath sometimes fear'd to be question'd for Sorcery. But the greatest wonder is that smartness and violence wherewith he spouts out water from his Stomack, not laterally, which is the ordinary manner of vomiting; but upwards, which is a motion contrary to heavie bodies, as water is. Some speculative person that had read in Saint *Augustin*, that a Man's being turn'd into a Horse by the power of Imagination, might refer the cause of all these wonders to that faculty; which daily producing new shapes upon the Bodies of Children in their Mothers womb, may with less strangeness, produce in this Man the above-mention'd alteration of one colour into another. And as for his facility of bringing up what-ever he hath swallow'd, I can find no better Reason for it than Custom, which in him is turn'd into Nature.

The Second said, That Ignorance being the Mother of Admiration, we begin less to admire as we proceed to more Knowledge. Now if this *Maltese* were a Magician, he would do more marvellous things, and of more than one sort; whereas all his power is confin'd

fin'd only to the vomiting up of liquors which he drunk before ; and the faculty of his Stomack being determin'd to this single kind of action, the same must be natural ; because that is the definition of natural powers. Moreover, no action ought to be accus'd of Magick, till good Reasons have evinc'd it to surpass all the powers of Nature ; which is very hard to prove, because we know not how far they may reach : And should we accuse of Magick every thing when we understand not the Causes, almost all Natural Philosophy would be turn'd into superstition. Again, a Man that promises more than he can perform, drinking but the twentieth part of what he boasts of, and who can make but one sort of colour issue out of his mouth, though he exposes several others to the Spectator's Eyes, cannot pass for a great Sorcerer, or refin'd Magician. As for the easiness and violence where-with he casts water out of his Stomack at pleasure, it cannot be either from Artifice or Custom alone, which cannot put free and voluntary motions into parts wherein there is none, nor procure new Organs necessary to this action ; and no Man being able to accustom himself to move his Ears at his pleasure, unless the same be naturally dispos'd thereunto, as *Manfred's* Stomack is. Now natural dispositions are only of two sorts ; some depend upon the Temperament, which is incapable of this effect ; others, belong to the Stomack, as it is an Organical part ; namely, a particular Conformation, which may be easily conjectur'd from the example of ruminating Animals, who when they list, bring up their food out of their Stomack into their mouth : An action not impossible to Men ; since Nature oftentimes by error gives one Species such a Conformation in some parts, as is of right peculiar to another ; and accordingly the faculty of ruminating is found in divers Men. *Aquapendens* saw two to whom this action was more voluntary than that whereby we void our excrements, when they importunately sollicit us ; observing expressly that they were not constrain'd to it, but by the pleasure which they took in it. And the same Author likewise records, that opening the Body of one that ruminated, he found one Membrane of his Stomack more fibrous and strong than ordinary. And the same is probably so in that of this *Maltese*, since this voluntary motion can proceed only from such a Conformation. In like manner these persons that have been able to move their Ears, have been observ'd to have the Muscles behind them more fleshy than other Men. And our Conjecture is further confirm'd by the Instance of the Bladder, whose Excretion is perform'd by the Pyramidal Muscles, which oftentimes are deficient ; and in that case their office is supply'd by the carnos Membrane of the Bladder which is valid, and performs the motions of a Muscle, according to the opinion of the greatest Anatomists of this Age. So that what is so ordinary in the Bladder, is not to be admir'd in the Stomack : Besides that, Custom may have much increas'd the strength and dexterity of this faculty ; and although it have not other-

wife conduc'd in the least to the effect, but only as founded upon a natural Disposition. That all ruminating have not been able to do the like, is, because they neglected to increase the natural Disposition by use and practise; and as to the diversity of colour and smells, there is nothing therein but artifice and fallacy.

The Third said, That what is here thought most admirable, the drinking of a great quantity of Water, is seen every day at *Pongues* and *Forges*, where you shall have one Person drink sixty glasses: and those that have seen the Stomach, that hangs up in the Anatomical Theater of *Leyden*, and is capable of seven quarts, will not think it strange, that this *Maltese* drinks much less: As for the diversity of Liquors, which he brings up, discern'd by their several colours, smells, and the inflammability of the *Aqua vite*, I attribute it to the perfection of the reasonable soul, which, as well as all other forms, imprints Dispositions in the matter; this being universal, that, besides the Properties common to the whole Species, there is a particular one in every Individual which distinguishes the same from others, and comes from the last Character of the form. That of the *Maltese*, is to turn common Water into Wine, Orange-flower-water, Rose-water, and *Aqua vite*. For the diversity of matter, and its dispositions, signifies nothing as to the mutations introduc'd therein by the Forms; though one may say, that in common Water, especially that of the Well, all the Elements, and the three Principles of Chymistry are found, having its Salt from the Earth, its Sulphur from the Bitumen and Naphtha, wherewith the Caverns of the Earth, and especially Wells abound; and, as for Mercury, 'tis nothing but water it self. No wonder then, if since every thing may be made of every thing, by the Maxim of the most ancient Philosophers, our *Maltese* fetches what he pleases out of his Stomack.

The Fourth wonder'd, if this Maxim were true, That every thing is made of every thing in the *Maltese's* Belly, even without any distinction or preparation of the matter, why this Water-drinker fetcht so great a circuit to get money, since 'twould be a shorter way for him to make it, and even Gold it self by the same reason; or at least he would make sale of his sweet Waters, and not suffer the Perfumers to be at such charge in fetching them from far. If he make it his excuse, that he would not get vent for such an abundance, why, if there be no cheat in the thing, hath he not taken occasion of the dearness of Wine in *France* this year, to sell the Wine he makes in *Paris*? But Experience renders it manifest, that the Wine he promises is nothing but water, and consequently, he is less able to make *Aqua vite*, into which water cannot be turn'd but by first taking the nature of Wine; and indeed there needs more wine to yield the quantity of *Aqua vite* he pretends to bring up, than he drinks water before he ejects it. Besides, Chymistry manifests, that *Aqua vite* is
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not made, but only separated. Nor can this change be a Property in the *Maltese* Stomack, because all Properties are specificall, and belong to all the Individuals of the same Species, there being nothing peculiar in any man, but a certain degree of indivisible temperament, call'd *Idio-syncrasie*. And, if his temper be so hot as to turn common water in an instant into *Aqua vite*, 'tis impossible to be cold enough to make Rose-water at the same time: if it have any transmuting vertue, it ought to turn all into one sort of Liquor; because the same Agent never makes but the same Effect, unless the Subject be diversifi'd by diversity of matter; whereas here 'tis all water from the same Spring. Neither could this Drinker drink Well-water without intoxication, because, being turn'd into *Aqua vite*, the vapors thereof would mount up into his brain; and so to prescribe him water in a Fever, would be no more refreshment to him then if one gave him *Aqua vite*.

The fifth said, That the diversity of colours and odors of the Liquor he ejects, proceeds from the tincture of some mass of Essence extracted from the same materials, which those Liquors represent; which Masses he holds between his teeth incorporated with some gum which fastens them there; so that, as the Water he drinks, passes impetuously between his teeth, it derives colours and odors from the same: Which is the reason why the water he first casts forth, is most colour'd; whereas, if the Dye proceeded from his Stomack, it would be deeper at last of all, as having acquir'd more digestion by a longer infusion.

The Sixth said, That Histories are full of several particular Constitutions of the Natural Parts; witness the example of the Maid mention'd by *Cardan*, who drinking but two pints of water a day, piss'd twenty; and that of the Emperor *Maximinus*, who commonly eat forty pound weight of meat, with proportionable drink, and sweat so abundantly, that he fill'd—— 'Tis said, That *Theagenes* the Thasian eat a Calf for his dinner; and *Milo*, the famous Wrestler of *Croton*, devour'd a 100. pound of Flesh, a Hoghead of Wine, and Bread proportionable. Such was that Parasite, who one day at the Table of the Emperor *Aurelius*, eat a Boar, a Sheep, a Pig, and an hundred Loaves, and drunk half a tun of Wine. All which stories render less strange the quantity of this *Maltese's* Drink, whose colour possibly afterwards he disguises with powders hid in his Handkerchief which he handles so often, or by the help of a double Glass, of which his Vessels are made, or by some other trick, whereto he ha's inur'd himself for many years.

The Seventh said, That mineral waters are usually drunk with more ease in great quantity by half than common water can be, because their tenuity makes them pass immediately into the habit of the Body. And if you consider that this fellow drinks only out of small vessels, and those not always full; as also with what nimbleness he dispatches his work, you will much abate the

the opinion that he drinks so much as is generally believed. Besides, though his pail be of a middle size, yet 'tis never quite full; and he spends much water in washing his mouth and his glasses, and some too is left behind. Nor is it absurd to think, that before his shewing himself to drink, he swallows a bolus of Brazil, or of Alkanet, or Fearn Root, or of red Sanders, or Indian Wood, or some such other thing in powder; after which drinking two or three glasses of water, he interposes some interval, that the same may be the better tinctur'd in his Stomack; which time being pass'd, he drinks about two quarts of water, which soon after he brings up red, appearing so both in the Air and in the glasses: Which colour being weak for want of time to be well imbib'd by the water, is wholly lost when the same is powr'd into a vessel, wherein there is a little Verjuice, Vinegar, juice of Citron, Spirit of Vitriol, or other such acid liquor, which is proper to consume the said color. And 'tis observable, that the last water he vomits, is continually paler than the first, the tincture being diminish'd by the quantity of water. Add hereunto, that 'tis likely his glasses are smear'd with some essences, which seem transparent to the Spectators; for though he makes shew of washing them, he only passes the brims dextrously over the water, and lets none of it enter into them. As for the violence wherewith he spouts forth the water, it must be confess'd, that the fellow hath a great natural propensity to vomiting, which by frequent repetition, is become habitual to him: Custom being capable to produce such effects, that I have seen a Beggar about fifty years old, by being exercis'd thereunto, piss as high as a pike.

CONFERENCE CCII.

Why dead Bodies bleed in the presence of their Murderers.

Honest Antiquity was so desirous of knowing the Truth, that when natural and ordinary proofs fail'd, they had recourse to supernatural and extraordinary. Such was the Jews water of Jealousie, which made the otherwise undiscoverable Adulterer burst in sunder; the innocent Vestal's Sieve, in which being accus'd of Incest, she carry'd water without shedding. Such also were the Oaths made upon Saint *Anthony's* arm, of so great reverence, that 'twas believ'd the perjur'd would burn a year with the fire of that Saint; and in our time the excommunication of Saint *Genevieve*, which those that incurr, are commonly reckon'd not to out-live a year. In like sort the zeal of Men against that horrid crime of Murder, hath made them cherish a persuasion, that a Carcase will bleed before its Murderers; (though most slain Bodies bleed when they are stirr'd) that so the Conscience of the Actors being disturb'd, they might either by word or gesture

sture be brought to make discovery of themselves. For, indeed, the Blood which was congeal'd in the Veins presently after death, becomes liquid again after two or three dayes, when it is in its tendency to corruption; which Liquefaction, and the Inquisition after the Murderer, hapning commonly at the same time, 'tis no wonder if the Body bleed in the Murderer's presence, since it doth so frequently when he is absent. Yet because this false persuasion from the co-incidence of times, ceases not sometimes to have its effect, and to discover Truth; therefore Legislators have thought fit to authorize it, and to use it as an Argument at least to frighten the Murderer; though, indeed, 'tis no conclusive one to condemn him.

The Second said, That 'tis not credible that Courts of Justice who often admit this proof to good purpose, could so continue in ignorance of Natural Causes, as not to discern the effusion of Blood ensuing upon its putrefaction in the Veins, from that which happens upon confrontation of a Murderer. 'Tis better therefore to seek further for the cause, than to question the effect; which some attribute to some secret Antipathy of the murder'd person's blood to that of his Murderer; or else to their mutual emission of spirits, which still seeking the destruction of each other's person, those of the Murderer being the strongest, because still living, cause a commotion in the Blood of the dead, which thereupon breaks forth at the out-let of the wound; *Camparella* attributes it to the sense where-with all things are indu'd, and which still remains in these dead Bodies; so that having a sense of their Murderers, and perceiving them near hand, they suffer two very different motions, Trembling and Anger, which cause such a commotion in the Blood, that it flows forth at the wound. For the spirits, which during life had such perceptions as were necessary for their receiving and obeying the Soul's commands, retain somewhat thereof after death, and are capable of discerning their friends and their enemies.

The Third said, If this opinion concerning the emanation of spirits, whether by Sympathy or Antipathy, be true, it will follow, That one who hath done a Murder with gun-shot, cannot be discover'd by this sign; and that one slain in his Wife's arms, and in a crowd of his friends that endeavor'd to defend his life, will bleed rather in the presence of his friends than of his Murderer, whose spirits are more inwardly retir'd through fear of punishment; whereas those of his friends are sent outwards by Anger and desire of Revenge: Yea, if the Murderer had been wounded before, he should rather bleed than the dead, because his Blood is more boyling, and capable of commotion by the spirits issuing out of the Carkase. And had they any Sympathy, they could not discover the Murderer for want of sense, which they never had; for the spirits which are in the Blood scarce deserve that name, being purely natural, and void of all sense even during life, and specifically different from the animal spirits. The
vital

vital spirits which are a degree above them, vanish together with life, whence the Arteries that us'd to contain them are empty. And those that serve for Sensation cannot remain in a dead Body, because they are easily dissipable, and need continual reparation; whence we see all the senses fail in a swoon, because the Heart recruits them not by a continuity of their generation: Besides, should they remain after death, they would be unactive for want of fit dispositions in the Organs. Moreover, natural causes act necessarily when their object is present; but sometime tis known, that Murderers have thrust themselves more diligently into the crowd of Spectators than any other persons, for avoiding suspicion, and no such bleeding hath hapned in their presence; and that Executioners take Criminals the next day from the Gallows or the Wheel, and not a drop of Blood issues from their wounds. And why should not a dead Sheep as well fall a bleeding afresh in the presence of the Butcher that kill'd it? Or a Man mortally wounded, when he that did it is brought unknown into his Chamber? For 'tis hard to imagine that we have less sense and knowledge whilst life remains than after death, that a wounded person must die that he may become sensible. In short, tis easie to see that this effect is not like other wonders which have a cause in Nature; because though we cannot assign the particular causes of these, yet they are prov'd by some demonstrative, or at least some probable reasons. And as for Antipathy, it should rather center all the dead person's Blood in his Murderer's presence, and make it retire to the inward parts. Wherefore, I conclude, that not only the causes of this miracle are not yet found, but also that 'tis impossible there should be any natural one of it at all.

The Fourth said, That according to the opinion of *Avicenna*, who holds, That the Imagination acts even beyond, and out of its Subject, this faculty may cause the effluxion of Blood; the Criminal's Phantasie working mightily when the person slain by him is objected before his Eyes. And the nitrous vapors arising out of the Earth upon digging up the Body, together with the heat of the Air greater than that of the Earth, and increas'd by the conflux of Spectators, may in some measure contribute to the new fermentation of the Blood. But the truth is, after all our inquiries, this extraordinary motion cannot be better ascrib'd elsewhere, than to God's Providence, who sometimes performs this miracle for the discovery of Murder, which would otherwise be unpunisht, but not always. And 'tis no less impiety to deny, that Divine Justice comes sometimes to the aid of that of Men, than 'tis ignorance and rusticity to be satisf'd in all cases with universal causes, without recurring to particular ones; which God employs most ordinarily for the Production of Effects, yet does not so tie his power to the necessity of their operations, but that he interrupts the same when he pleases, even so far as to give clay power to open the Eyes of the blind.

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CONFERENCE CCIII.

Of the Unicorn.

There are no greater impostures in the Art of Physick than those which relate to Antidotes and Preservatives from Poyson, such as the Unicorn's Horn is held to be: And I am mistaken, if it be not a popular error. First, because the opinions of all Authors are so contrary concerning it. *Philostratus* in the life of *Apollonius* saith, that the Animal of this name is an Ass, and is found in the fenns of *Colchis*, having one single horn in the fore-head, where-with he fights furiously against the Elephant. *Cardan* after *Pliny*, saith 'tis a Horse, as 'tis most commonly painted; only it hath a Stag's head, a Martin's skin, a short neck, short mane, and a cloven hoof, and is bred only in the Desarts of *Aethiopia* amongst the Serpents, whose Poyson its horn which is three cubits long resists. *Garfuss ab Horto* saith, 'tis an Amphibious Animal, bred on Land near the Cape of good Hope, but delighting in the Sea, having an Horses head and mane, a horn two cubits long, which he alone of all Authors affirms to be moveable every way. Most agree that it cannot be tam'd; and yet *Lewis Vartoman* saith, that he saw two tame ones in Cages at *Mecha*, which had been sent to *Sultan Solyman*: Almost all confess it very rare, and yet *Marcus Sberer*, a Renegado German, afterwards call'd *Idaith Aga*, and Embassador from the same *Solyman* to *Maximilian* the Emperor, affirms that he saw whole troops of them in the Desarts of *Arabia*: And *Paulus Venetus* the same in the Kingdom of *Basman*; where they are almost as big as Elephants, having feet like theirs, a skin like Camels, the head of a Boar, and delighting in mire like swine. Nor are Authors less various concerning its manner of eating; some alledging, that being unable to feed on the ground by reason of his horn, he lives only on the boughs and fruits of Trees, or on what is given him by the hands of Men, especially of fair Virgins, of whom, they say, he is amorous; though others think it fabulous. Some believe that there was once such an Animal, but not now; the whole race perishing in the Deluge; and that the horns we find now, for the most part in the earth, have been kept there ever since. And if there be such variety in the description of this Animal, there is no less in the horns, which they tell us are those of the Unicorn. That at *Saint Dennis* in *France*, is about seven foot high, weighs thirty pound four ounces, being wreath'd and terminated in a point from a broad base. Yet this is not comparable to that *Ælian* mentions, which was so thick that cups might be made of it. That at *Strasburg* hath some conformity with this of *Saint Denis*, but those of *Venice* differ from both, as that describ'd by *Albertus Magnus* doth from all. For

'tis, saith he, solid like a Hearts horn, ten foot high, and very large at the base. The *Swisses* have one, which was sometimes found on the bank of a River near *Bruges*, two cubits long, yellow without, white within, odorous, and apt to take fire. That at *Rome* is but one foot high, having been diminish'd by being frequently rasp'd in order to be imploy'd against Poyson; 'tis also smooth and shining like Ivory. *Aldrovandus* who writ a Treatise of this Subject, saith, he saw one so big at *Niclasbourg*, that it resembled the rib of a Whale rather than a Horn. *Becanus* the Queen of *Hungarie's* Physician, speaks of one at *Antwerp* seven foot high, so fastned to the skull of the Animal, that it was bow'd backwards along the back bone, and could not serve to trouble the water for repelling its venosity, (as Authors say it doth) nor yet be of any defence, which is the use of horns, except by bowing down the head between the fore-legs, as Bulls do in their fights. It was also white; and yet *Ælian* saith, it must be black: And *Ctesias*, Physician to King *Artaxerxes*, represents it but one cubit high, purple towards the point, and black at the base. Which variety makes some believe, that all these are the horns of Fishes, or Sea-monsters, there being no Element susceptible of more varieties: Whereunto that Fish is to be referr'd which *Albertus Magnus* calls *Monoceros*, from its having one horn in the Fore-head; the opinion of those that think the Unicorn was the Rhinoceros. *Pliny*, after *Ctesias*, affirms, that some Oxen in *India* have but one horn, and are not cloven hoof'd. *Ælian* and *Oppian* report the like of others in *Aonia*; and *Cæsar* of others in the Hercinian Forest; and *Lewis Barthelema*, that he saw such Cows in *Æthiopia*. In brief, as 'tis agreed that there are Animals with one Horn, so 'tis impossible to know which is that whereunto Antiquity gave the Appellation of Unicorn by way of excellence; which incertainty, those Kings and States that have them testifie, by keeping them in their treasures for shew only, not for use, and not making them into drinking vessels, which (according to *Ælian*) retun'd the hurtfulness of all Poysons. Add hereunto, that 'tis not credible the *Romans* who subdu'd most of the accessible world, and were very careful to delight their people with spectacles of the rarest beasts, would not have forgot to shew them Unicorns, if there had been any. But were there a Unicorn, I should not esteem its virtues such as they are describ'd, being countenanc'd by the authority neither of *Galen* nor *Hippocrates*. So that *Charles* the Ninth's Physician said, he would have taken away the custom of putting a piece of this horn into the King's Cup, but that it was good to leave an opinion of its virtue in the minds of the vulgar. Moreover, the marks given of it are like all the rest, equivocal, incredible, and ridiculous. For they say, a true is discern'd from a false by the ebullition the true one causeth in water when cast thereinto; which nevertheless all porous Bodies do, as burnt bones, lime, brick, and such other things wherein there are many cavities.

cavities. Others discover it by giving some of it in powder after a dose of Arsenick to a Cock, or a little Dog; whom it will not only secure, but almost revive when dead; and yet all that can be gather'd upon trial, is, that we see those Animals that have taken this antidote, die more slowly than others. Which is suppos'd to happen by the astriction that all horn causeth in the mouth of the Stomack, and the other Vessels, whence the exhalation of the Spirits is retarded. The trial of some Empericks is yet more ridiculous; they boast, that if a Circle be describ'd with a piece of this horn upon a Table, and an Adder or Spider laid in the middle of it, they can never come out of it; and, that these Animals die, if only held a quarter of an hour under the shadow of this Horn. Some add, that this horn sweats in the presence of poyson, which seems absurd: because in this case the counter-poyson suffers from the poyson, which consequently, must be strongest and most active of the two. In brief, these numerous Contradictions, Impossibilities, and Incertainties make me conclude this Story of the Unicorn a meer Fiction.

The Second said, If the Verity of things were shaken by the false conceits others have of them, there would be no Physicians, because there are oftentimes ignorant ones; no point of Right, because many know it not; no true Deluge, because the Poets feign'd that of *Deucalion* and *Pyrrha*; no true Religion, because the Pagans and others have had false ones. On the contrary, as the Romances, concerning *Charlemagne*, were built upon the truth of his admirable exploits, so 'tis credible, that the marvellous effects of the Unicorn's Horn have given both great and small occasion to speak of it, and out of ignorance of the Truth to feign much more than the Truth concerning it. The objection taken from the verity of descriptions of the Unicorn, and from that which is observ'd in several Horns, (of about twenty whereof found in the treasures of Princes and States of *Europe* there are not two altogether alike) is not concluding; since the same may be said of most other Animals, who according to the diversity of Climats change their colour, and oftentimes shape too; yea, in one and the same place, they differ according to their Ages. Moreover, the Error is very excusable in Authors that have treated of the Unicorn, in taking (as *Aristotle* doth) the Greek name *Monoceros*, and the Latin *Unicornis*, for a Noun Adjective applicable to every sort of Animals that have but one Horn, as many have not. Some indeed have confounded *Rhinoceros* with *Monoceros* through the resemblance of their cadence; which *Rhinoceros* the Romans had in their Spectacles or Shows, and is describ'd by *Martial* so furious, that he threw a Bear up into the Air, as one would do a Ball: But it follows not, that they had no Unicorns in their Amphitheaters, because there is no mention made of any; an Argument drawn from Negative Authority not being demonstrative:

and, granting it was unknown to them, it follows not thence that there is no such thing in Nature; not only because they knew not the greatest part of the World, but also, because this Animal is represented so furious, that it cannot be taken alive; especially in its perfect Age, being fierce even to those of its own Species of either Sex, and only accostable at the time of their Copulation. Philo after *Ælian* saith, That the Brachmans call it *Cartazonon*; that 'tis of the bigness of a Horse, of a bay colour, very nimble of body, especially of the legs, though without joints; that it hath the tail of a Boar, one horn between the eyes, black, streak'd like a Snail, and ending in a very sharp point, two cubits long; that it hath a hoarse voice, is less furious towards other Beasts, than to those of its own Species, with whom it fights incessantly, unless when they are at rut. There are also ancient Medals representing this Animal putting his horn into a Cup; which 'tis thought were *Alexander's*. *Aeneas Sylvius*, and *Paulus Venetus* affirm, That Unicorns are found in the Mountains of *India* and *Cathay*; though the marks this latter give them, agree better to the *Rhinoceros*: But these Authorities are not considerable in respect of that of the H. Scripture, wherein 'tis said, *Deutl. 28. His horns shall be like that of the Unicorn*: and *Psal. 22. Deliver me, O God, from the Lion's mouth, thou hast heard me also from among the horns of the Unicorns*: and *Psal. 29. He maketh Lebanon and Sirion to skip like a young Unicorn*; and *Psal. 92. My horns shalt thou exalt like the horn of an Unicorn*; and *Isaiah 34. The Unicorns shall come down with them, and the bullocks with the bulls*. *Job* also speaks of it, chap. 39. Add to these Authorities the experience and example of so many Kings and States, who would not think their treasure well furnish'd, unless they had an Unicorn's horn. For, the matter that makes teeth, being transferr'd to the generation of horns, and so further sublim'd; 'tis certain, that all Horns have an Alexiterical Vertue, by which they resist Feavers, cure Fluxes of the belly, kill Worms, and serve for many other Remedies to Man: but when this already great Vertue comes to be united into one single Channel, as it happens in the Unicorn, the same is mightily augmented. And 'tis too much detraction from the power of Nature, to deny such Vertue to be found in inanimate Bodies, as in the Serpentine Tongues found in the Caves of *Malta*, sealed Earths, and Minerals, such as those they call for that reason *Unicornu minerale*, not because taken from Unicorn's bury'd under ground ever since the time of the Deluge, but because of their Resemblance in Vertues, Properties, and outward Figure: and indeed there is so much of this Mineral Unicorn's horn, and Mineral Ivory found, that 'tis not credible it ever belong'd to any Animal. Nor is this truth prejudic'd by the tricks of Impostors, who make counterfeit Unicorn's horns of Ivory, or other horns, or the bones of Elephants, and other Animals kept for some time under ground, whereby they acquire more solidity,

ty, and some transparency, by means of the salt of the Earth, which insinuates thertinto, as it doth to Porcellane, which for that reason is bury'd a whole Age: nor by the ebullition that some other natural and artificial bodies cause, or by the sweating of some Stones upon the approach of poyson, which proceeds from the poyson's inspissating the Air, which thereupon sticks to the next solid body. Nor is the colour material; since process of time may alter it; besides that, the Ancients attribute blackness only to the horns of the Indian As, and the Rhinoceros: And, as for the smell found in the Unicorn's horn in *Switzerland*, 'tis an argument, that the same is either adulterate, or a Mineral one; the texture of the horns being too close to evaporate any thing; and those that have distill'd them by fires, find, that they abound with an inodorous Salt, and a stinking Sulphur. In short, 'tis not credible, *Clement VII. Paul III.* and divers others, would have taken this Animal for their Arms, if there were no such; nor do Popes so much want understanding men, that *Julius III.* would have bought a fragment of it for 12000. crowns; whereof his Physitian made use successfully in the cure of Diseases that had any thing of venenosity. *Marsilius Ficinus, Brasavola, Matthiolus, Aloisius, Mundela,* and many other Physicians, recommend it in such diseases, especially in the Pestilence, the Biting of a mad Dog, Worms, Falling-sickness, and other such hideous Maladies. To conclude, I conceive, that effects which depend upon occult Properties, as this doth, ought not to be rashly condemn'd; being mindful that our knowledg is limited, and therefore, the Authorities, Reasons, and Experiences, which establish the Unicorn's horn, and its wonderful Effects are to be yielded to; only with exception to Imposture.

CONFERENCE CCIV.

Of Satyrs.

Novelty and extraordinary things have such power upon our Minds, that they not only render us attentive when they are present, but remain longer imprinted in the Memory; as those, that teach the Art of Memory truly observe. This oblig'd many Poets and Historians to speak of Hydra's, Chimæra's, Basilisks, Satyrs, Centaurs, and other such Fictions. For those that have most exactly examin'd the power of Nature, find the mixture of these Species impossible, not only on the part of the Matter which is to receive the Soul, to which it is determin'd by a certain proportion, but also in respect of the Form, which is indivisible, especially the Rational Soul. To which purpose the Poet *Lucretius* speaks very learnedly, and maintains, that there can be no Centaurs; and the reason he alledges, holds as well against the

the possibility of Satyrs: Because, saith he, if this mixture of the humane and equine Nature had place. Horses being in their full strength at three years old, at which time children scarce leave sucking the breasts of their Nurse, how is it possible this monstrous Animal should be in its tender age and full growth both together? And again, a Horse growing, when the Man enters into the prime of his youth, how can the one dye, when the other is in the state of its greatest vigour? Now Goats live less time than Horses, and so there is less probability for an Animal compounded of the Nature of a Goat and a Man. Hence *Pliny*, in the seventh book of his Natural History, saith, That a Hippocentaur being bred in *Thessaly*, it dy'd the same day, and was afterwards preserv'd in honey, which is an excellent bawm. *Virgil* places them at the entrance of Hell, because things against Nature cannot subsist. And *S. Hierom* in the life of *S. Paul*, the Hermit, relating how a Centaur appear'd to *S. Anthony*, doubts whether it were a true Centaur, or the Devil under that shape; and indeed seems to infer it an Evil Spirit, because it was driven away by the sign of the Cross. So that Satyrs are to be attributed only to the liberty Poets have ever taken, as well as Painters of daring and attempting every thing, without observing the Rule *Horace* prescribes them not to conjoyn Natures totally disagreeing and opposite; for, by these mixtures they intended only to represent very nimble, lascivious, rustick, and perhaps abusive men; (whence came their Satyrick Poems.)

The second said, That 'tis as dangerous to conclude all impossible that we have not seen, as to be credulous to every thing. But when Reason, and the authority Experience carries with it, are of a side, our incredulity hath no excuse. Now the case of Satyrs is such; for they may be as well produc'd by the mixture of the Seeds of two Species, as Mules are. Besides, were not the Imagination of Mothers capable of imprinting this as well as any other change of Figure in a Child's body, whereof we have daily examples; yet the wild suckling and course of life some Children may have had amongst Goats (as *Romulus* and *Remus* had from a Wolf) may in process of time have begot some resemblance of shape in them. As for *Lucretius's* Reason, we see that Plants are ingrafted into others, not only of the same, but also of a different Species, as the Apple-Cyon on a Colewort; which Plants being of different durations, the graft becomes of a middle duration between them, namely longer-liv'd than a Colewort, and shorter than another Apple-tree. And *S. Hierom* is not positive, that the Centaur, which appear'd to *S. Anthony*, was an illusion, but doubts whether it were a true Centaur such as Antiquity spoke of, or whether 'twas not the Devil appearing in that shape to frighten that holy Person. And, *Plato, in convivio sapientum*, relates, That a Shepherd having presented to *Periander* a Foal born of a Mare of his, that had the head, neck, and hands of a Man, the rest of an Horse; and

and the voice of a Child, *Diocles* affirm'd, that this Prodigy presag'd Seditions and Divisions of Minds; But *Thales* reply'd, 'Twas a natural thing, and, for preventing the like again, advis'd him to have no other Horse-keepers but what were married. *Pliny*, likewise in the seventh Book of his Natural History, saith, That in the Country of the *Cratadulones*, amongst the Indian Mountains, Satyrs are found; very swift Creatures, running sometimes on two feet, sometimes on four, and having the shape of a Man. And *Plutarch* tells in *Sylla's* life, That, as he return'd into *Italy*, a Satyr was brought to him like those describ'd by ancient Authors; half-man, and half-goat; and being askt what he was, answer'd nothing that resembled a humane voice, but with a tone mixt of that of Goats, and the neighing of Horses. Whereupon, *Sylla*, having compassion on him, appointed guards to carry him back. *S. Hierom* in the above-mention'd place describes another Satyr, which, he saith, was of a middle stature, having a crooked Nose, horned front, and Goats feet, and brought Dates yet hanging on a Palm-branch, to *S. Paul* the Hermit. The Saint askt him what he was, and he answer'd, that he was a Mortal, one of the Inhabitants of that Hermitage, whom the abused Pagans adore, for Fauns, Satyrs, and Incubes; and I come (saith he) as, deputed to you from our Company, to desire you to pray for us to your and our God, whom we know to be come into the World, for the common Salvation. After which words, this light Animal took its course and fled away. And lest this Relation might seem strange, I shall add, That under *Constantine*, a living one was brought to *Alexandria*, and shewn there to the People; afterwards, being dead, it was called and carried to *Antioch* to be seen by the Emperor. *Pausanias* records also, That he was inform'd by one *Euphemius*, who, (he saith) was a man worthy of credit, how that sailing into *Spain*, he was driven by storm into certain Islands full of savage Men, having hairy bodies, long tails, like those of Horses, and red hair; whom they could not keep off from them, but by blows; and a Woman being expos'd on the shore by the Mariners, these Satyrs abus'd her with all outrages imaginable. So that to doubt of the existence of Satyrs after so many Testimonies, is, to ascribe too much to our own senses, and too little to the witness of the Ancients.

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 sidering from these false suppositions, the Historians make it to be
 reason, that to avoid reading accounts of the many splendours
 words, *Lucian's* opinion is true, who admits not that
 they, and others the sort of being taken. As many fictions as
 best and advantage, inasmuch that birds of rapine forget their
 returned by all other birds, that they follow it with great
 more, in place apart from the common of Men; but so highly
 according to others the hundred.

CONFERENCE CCV.

Of the Phœnix.

IF ever there were cause to admire the simplicity and credulity of the Ancients, 'tis the story of the Phœnix, which is feign'd a Bird that lives many ages, after which repairing to the City *Heliopolis* in *Aegypt*, it builds its nest, or rather funeral pile, there of aromatick wood, which, by reason of its high situation being fir'd by the Sun-beams, she dyes, and immediately another arises out of her ashes; it being as impossible for Nature to be without a Phœnix, as the Phœnix to have a Companion. In which Relation the Historians have imitated the Poets, and chosen rather to tell strange things than true. For, first, this Nativity of this imaginary Bird is a manifest impossibility; because nothing is more abhorr'd by Nature than voluntary death, and that orderly Governess would rather have given the Phœnix a Female, as well as to all other Creatures, than have put her self thus upon the necessity of a miracle. Nor can any thing be more contrary to the generation of Animals than ashes, which are dry; dryness being altogether opposite to life, and to the corruption which is antecedent to every generation. Next, its progress is equally absurd. For, they say, this little Bird no sooner attains its just bigness, (which is equal to that of an Eagle, having its head cristed with divers colours, the neck gold-colour, the rest of the feathers purple saving that the tail is mixt of scarlet and sky-colour) but it prepares it self to pay the last duties to the bones of its deceased parent. (But how consistent is this with the Bird's being reduc'd to ashes?) Which bones she lays upon her back, and flies from *Aegypt* with them to *Arabia*, where she places them upon an Altar dedicated to the Sun; upon which the same Bird before her death had made an offering of the Nest, which was to be her fatal pile. After these funerals it flies towards Heaven, where 'tis fed with dew, and the fumes of Incense and Amomum; and instead of drink, makes use of the vapors which arise from the Sea, abhorring all kind of grain and food common to other Birds. According to *Ælian*, it lives five hundred years, according to others six hundred, and according to others more, in places apart from the commerce of Men; but so highly reverenc'd by all other Birds, that they follow it with great respect and admiration, insomuch that Birds of rapine forget their prey, and others the fear of being taken. As many fictions as words, even if *Lucretius's* opinion be true, who admits not, that any single Animal can generate. Wherefore 'tis not without reason, that to avoid rendring account of the many absurdities arising from these false suppositions, the Historians make it to be hid from our sight so many Ages; foreseeing that if there was
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but one Woman found that had danc'd twice at *Rome* in the secular Playes, there will be no witnesses found to attest the nativity, life, and death of this Animal.

The Second said, That we ought not to condemn the absent, under pretext that they are unknown; for the Nativity of this Bird is defended by that of *Barnacle*, which is bred of the putrefaction of a Ship; and of another call'd *Ephemeron*, which by *Aristotle's* report, is produc'd of the leaf of a Tree near the River *Hippanis*. If the duration of its life be uncertain, so likewise is that of all Animals with which we converse not. And were the authority of *Betonius* suspected, who confounds it with the *Manucodrata*, yet that of *Tacitus* in the fourteenth Book of his Animals is authentick. *P. Fabius*, and *L. Vitellus*, (saith he) being Consuls, the Bird call'd a Phoenix after many Ages appear'd in *Egypt*, and gave occasion to many Greeks and other personages of the Country to discourse of the miracle; concerning which they relate many doubtful things, but worthy to be known. They say, this Animal is devoted to the Sun, and that its beak and variety of plumes, is wholly different from other Animals. Most affirm, that it lives five hundred years; others, that it attains to one thousand four hundred sixty one: and that the first were seen under *Sesoftris* and *Amasis*, Kings of *Egypt*; next, under *Ptolomy*, who reign'd the third of the *Macedonians*. It came then into the City of *Heliopolis*, accompany'd with a great number of other Birds, who seem'd as well as Men amaz'd at the new spectacle. But because (saith he) there were but two thousand five hundred years from *Ptolomy* to *Tiberius*, under whom this appear'd; this made some doubt it was not the true Phoenix, and came not from *Arabia*, whence it ought not to come till its life were near an end, to build its nest in *Egypt*; wherein he leaves a genital virtue whereby his Successor is produc'd, who as soon as come to full vigor, prepares to pay the funeral duty to its parent; which it doth not, lightly, but after it hath try'd by carrying an equal weight of Myrrh, whether it be able to carry that of its parent's bones. However, saith he, 'tis a certain thing that this Bird is seen sometimes in *Egypt*. And, indeed, its existence is prov'd by the Authority of *Orus Apollo* in his Hieroglyphicks; *Manilius*, *Pliny*, *Ovid*, *Athenæus*, *Albertus Magnus*, yea, by the publick voice which uses this word, to signifie a rare thing, and singular in its Species: Which were not much indeed, if *Lactantius*, *Tertullian*, and many other Fathers had not often employ'd it to convince the Pagans who question'd the Resurrection. Moreover, *Ælian* in his History of Animals, presupposing this too well known to be particularly describ'd, only blames the broking Misers of his time, who prefer their affairs before the wonder of this Bird, which is so well skill'd in calculation, that it fails not to repair to its fatal nest at the prefixt time. In short, we may doubt of some circumstances, but not of the truth of its existence; its renovation is prov'd possible

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from the re-animation of a drown'd fly by the Sun ; and since hard to give a satisfactory account of common generations, we may therefore forbear to reject this, which, though extraordinary, may yet be maintain'd by Chymists, who lay the foundation of generation in Salt, the sole permanent principle, and not volatile as the two other are.

The Third said, That the Fathers in using Comparisons from this Bird, had regard to the common belief, as God accommodates himself to the Language of Men, attributing Passions to himself, though he hath none. And for the Authors that speak of it, 'tis always upon the credit of others. Even *Herodotus* and *Pliny*, the first whereof, (if you will believe him) saw almost every thing however strange and unheard of ; and the second affirms almost every thing ; (so far as to say, that certain Birds lay their Eggs in a Hare's skin, which they afterwards hang upon a Tree ; and that others carry theirs upon a stick lay'd over the shoulders of two ; besides infinite other things no less incredible and ridiculous) yet speak but doubtfully of this Bird. So that we have great reason to do the like, yea, to esteem it a Fiction.

CONFERENCE CCVI.

Of Sensitive Plants.

Sense and Motion are in some sort observ'd in all Plants, which incline towards the Sun and Light, and attract their aliment at distance ; particularly, the Vine, which seems to act with choice, twining about the next Tree that may support it, not once, as might be by chance, but twice or thrice. But with much more reason may we attribute Sense to the *Heliotropium* and Marygold ; as also to Tulips, which shut up themselves at night, and open again in the day. *Pliny* attributes a yet more admirable property to the *Lotus*, saying, that it sinks and hides it self totally at night in the River *Euphrates* near which it grows, so that 'tis not to be reach'd by one's hand, then rises out of the water again at Sun-rise ; and that, in places where it grows remote from water, in the Evening it wraps up its Flower and Fruit in its leaves, and discovers them afresh next Morning. The Tree call'd *Arbor Tristis*, seems also to have much Sense, its leaves resemble those of the Sloe-Tree ; its Flowers open at night, and in the day are all languid, though of so good a smell, that the Inhabitants of *Malaca*, and *Goa* in the *East-Indies*, distill an odoriferous water from them, and make use of their red stalks to colour meats, as the Europeans do of Saffron. So likewise do those Trees of the Islands *Hebrides*, the wood whereof being rotted in the Sea is turn'd

turn'd into Birds like our Ducks; and that mention'd by *Ruellius*, *L. 12. ch. 38.* of his History of Plants, which bears Cockles, of which Birds are produc'd; and those said by *Munster* in his Cosmography, to grow in *Vomonia* near *Scotland* towards the North, whose Fruit falling into the water is turn'd into a Bird, call'd a Tree-Bird. *Guadagnina*, an Italian Author, affirms the like of the leavs of another Tree. Add to these those which *Cardan* saith, grow on the bank of a River in *Ireland*, of whose leavs those that fall into the water become Fishes, and those that fall upon the land Birds; as also those which *Pigafetta* saith, he saw in the Island of *Cimbubon*, near *Borneo* in *Oriental Asia*, which falling to the Earth, walk'd upon four sharp and short feet, whereof he kept one eight dayes, which mov'd when it was touch'd, and liv'd, in his judgement, of Air alone. Of this sort are likewise all Sea Vegetables, such as the Sea-Star, Sea-Nettle, Oysters, which have a very dull Sense, are immoveable, and oftentimes fastned to the Rocks, and from the midst of whose shells sometimes springs a shrub call'd Sea-Oak, which grows also upon stones and portheards, having no root but a thick purple leaf, as *Pliny* and *Theophrastus* witness. But all this is nothing in comparison of what *Scaliger* saith of the Scythian Lamb, nam'd *Borrametz*. They affirm, that in *Zalvolha* a part of *Tartary*, the Inhabitants sow a grain like Melon-seed, saving that 'tis not quite so long; from which issues a Plant about five spans high, having the feet, hoofs, ears, and whole head of a Lamb, (saving the Horns, which are represented by one tuft of Hair) and being cover'd with a hairy thin skin; its flesh is very sweet, and like that of Crevishes; and which is more strange, it bleeds when it is wounded, and is much desir'd by Wolves, but not by other Animals that live on flesh. It adheres to the Earth by the Navil, and cannot live unless grass be sown about it; which withering, or being purposely destroy'd, the Plant dyes: Which Plant-Animal, *Sigismund Liber*, a Pole, saith, is also call'd *Smarcandeos* by the *Musulmans*, who wear the skin of it upon their breasts and shaven heads for warmth. And there are seen at this day in the King of France's Garden in the *Fauxbourg* of *S. Victor* at *Paris*, three sorts of Plants, to which cannot be deny'd the name of Sensitive, since being toucht, they flag their leavs, one sooner, another more slowly, and the third very leisurely; which leavs return to their place after the Sun hath warm'd them again with his rayes. *Carstas ab Horto* speaks as much of certain anonymous Plants growing in the Province of *Malabar*, which as soon as they are toucht, shrink and contract their branches by a motion contrary to the former; and he adds, that their leavs resemble those of Polypody, and the Flowers are yellow. *Theophrastus* in Book 4. Chap. 3. of his History of Plants, attributes the same faculty to a Spinous Plant like Fearn, (according to *Gaza's* Translation) or Feathers, (according to that of *Pliny*) the leavs or boughs of which Plant being toucht, become arid and languid,

close, and compress themselves, and after some time turn green again, and resume their first vigor : He saith, This Plant grows at Grand Cairo, and is so big that three men can scarce fathom it. *Apollodorus*, the Disciple of *Democritus*, ascribes the like virtue to an Herb which he calls *Æschinomenē*, or Chast-Herb, because it shuts the hand of any that offers to touch it, shrinking its leaves up into an heap. *Pliny* speaks of another in the Islands of the *Troglodites* like Coral, call'd *Charito-Elepharon*, which seems to be sensible of the approach of him that comes to cut it, becoming then as hard as horn; and, if he wait some time, like a stone. The *Portugals* tell in their Navigations of an Herb that grows with small roots in hot and moist places, putting forth eight little branches two fingers long, furnish'd with leaves on each side, as green as *Tamarisk*, but resembling those of *Poly-pody*. From the middle of the roots arise four small stalks, each of which bears a yellow Flower like that of Cloves, but without smell; which being never so little toucht, languish and flag, but resume their first vigor upon the removal of the hand. Of which *Maryail*, a Philosopher of *Malabar* being unable to find the cause, became a fool. *Monardes* a Physician of *Sevil*, having describ'd a sort of Barly in new Spain, call'd *Gayatene*, or *Cevadilla*, (wich falls flat as soon as it is toucht) makes mention of another Species of the same Herb, which lying spread upon the ground, upon touching, folds it self like crisped Colewort. Lastly, *Nicolas Conti* says, that in the *East-Indies* between the Cities of *Bisnagar* and *Malepur*, there grows a Tree without Fruit three yards high, call'd *Arbor Pudica*, which retracts its branches when any Man or Beast approaches it. By all which Relations, it is manifest that there are Sensitive Plants.

The Second said, That since 'tis not possible to imagine Sensitive Life without Organs, these motions must not be attributed to Sense, but to other Causes; as to the attractive heat which is in all Plants, which makes them fold up themselves according to the figure of the Body near which they are. Some Animals, as Oysters, have indeed a more imperceptible degree of Sense, yet are not they therefore Plants; those whereof that have any local motion, have it, perhaps, from the concussion of the Earth caus'd by the approaching person, or from the stirring of the Air; which though imperceptible, drives along the *Ignis Fatuus*: And perhaps, these Flowers and Herbs are of a very rare and subtle texture. Unless you had rather recurr to the Antipathy which is found between these Plants and Man, which causes the skin and fiddle-strings made of Sheeps guts, to break at the noise and sound made by those of a Wolf, with which they will never be brought to be harmonious. For this is a better way than to multiply Species without necessity, as they do who establish a middle Nature between a Plant and an Animal. And as for those which remove from one place to another, they may, perhaps, find the same account of them upon inquiry that *Æneas*

Sylvius

Sylvius did, who (as he saith in his Description of *Europe*, Chap. 46.) asking *James V I.* King of *Scotland*, touching those Tree-Birds reported to be bred there, learnt from the mouth of that learned King, that those famous Trees grew not there but in the *Orcades*. Whereupon *Aneas* truly and handsomely reply'd, *Miracula fugiunt.*

CONFERENCE CCVII.

Of the Bezoar.

THIS word some think is deriv'd from the Hebrew *Bel*, which signifies King, and *zaars* Poysons, as if it were the King or Master of Poysons, which are subdu'd more powerfully by this than any other remedy. According to *Scaliger*, *Bezohard* is taken by the Arabians for that which preserves life, and so the Stone will have borrow'd its name from its effect. *Cardan* saith, there is a poysonous root of this name, which bears a fruit call'd *Nirabri*, which is an Antidote to it. This stone is divided into Natural and Artificial. The Natural is of two sorts, viz. Animal and Mineral; yea, Plants and every thing good against Poysons is commonly term'd Bezoardical. But the Name primarily belongs to a stone found in an Animal, call'd by the Persians *Pasan*, or *Pasar*; which Animal, *Monardes* saith, is of the bigness, and almost of the shape of a Stag, having two Horns large at the base, pointed at the top, and bowed over the back like those of a Goat, which it resembles in the feet, and something too in the form: Whence some term it *Trag-elaphos*, i. e. a Goat-Deer; though this be a different Animal, having short Hair, and a skin between grey and red, and sometimes of other colours. The Indians take them in nets for the stone's sake, which they sell to Merchants. For though the Beast is so furious that it breaks any other link but those of Iron, yet the price of this stone is so great that it makes the danger despicable. He adds, that it is so nimble that it casts it self down from an high Rock, and lights upon its horns without any hurt; and that its pace is leaping and bounding like a football. All agree not in what part of the Animal the stone grows. The Arabians write, that this and all other sorts of Deer finding themselves old and sick, by their breath draw Serpents out of their holes and devour them, that so thereby they become young and well again; after which finding themselves heated by this food, they run into the water, and stay there without drinking till their heat be over; during which stay in the water, this stone is bred in the corners of their Eyes, whence it is taken for the uses abovesaid. But *Monardes* more probably learnt from the Inhabitants of the Mountains of *China*, that in the *Indies* near the River *Ganges*, these Goat-Deer after their eating of Serpents

go about the tops of the Mountains feeding on such Herbs as Nature hath taught them resist Poysons; of the quintessence whereof mix'd with that of the Poysons, the Bezoar is by some particular virtue produc'd in some cavity of their Bodies; *Garfias ab Horto*, and *Acosta* say, in their stomach; particularly in that reduplication by which they ruminate: others, as *Fragosus*, in the kidneys, because some stones have the figure of that part, which also is the most lapidifick of the whole Body; and others too, as *Rabbi Moses* the Egyptian, in the Gall; which opinion *Monardes* himself is of, though he admits too that it is found in the Ventricle, Intestines, and other cavities of the Body: As, indeed, there is no place in the Bodies of Animals, but stones may be generated in them. However, 'tis universally acknowledged so useful, that the hunters are expressly commanded to carry them all to the King, who buyes them at a great rate, and they are not transported elsewhere but clandestinely. *Amatus Lusitanus* saith, that one of the richest Presents which *Cochain* King of the place sent in his time to the King of Portugal, was one of these stones, a little bigger than a Hazle-nut; of which having observ'd the great effects, he procur'd others to be brought from that Country. These effects are the curing of Pestilential Fevers, the Leprosie, Small Pox, Epilepsie, Worms in Children, bitings of venomous Beasts, and generally against all Poyson; particularly, 'tis very proper for faintings, ----- and other effects of Melancholy. Whence 'tis us'd in Quartan Agues to appease the Symptoms thereof, and *Charles V.* took it often; yea, 'tis observ'd in some Hospitals, that the bare powder of this stone temper'd in water, communicates its virtue thereunto, so that it hath cur'd the Purples and other Epidemical Maladies.

The second said, That such as design'd to get themselves Reputation in Physick, finding many Diseases unconquerable by common Remedies, that they might not remain idle, and suffer the defect of curing incurable, and rebellious Maladies to be imputed either to their Art or their Ignorance, have had recourse to the Foxe's skin, proposing the use of Remedies so rare and hard to find, that their Imposture might not be discover'd. Hence some have so highly extoll'd precious Stones and Gold, which not fifty years ago the poor were perswaded, cur'd them by being boil'd in Restoratives, though the rich, who made use of the fraud, found their gold Chains as heavy afterwards as before, (in case they lookt well to them in the boiling) and consequently, that no Vertue was deriv'd from them. Of this kind is the Bezoar-stone: touching the Original whereof we see how Authors differ, and a few moneths ago an Animal was shewn in this City very different from that above-describ'd, which they term'd *Pacor*, and affirmed to be that which bred the Bezoar. Besides, the difficulty of discerning the true Stone from false, which probably are the most numerous, must needs render the use of it suspicious; since even in the time of *Serapion* it was
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fold falsifi'd, which, he saith, was unprofitable, but I think rather mischievous. And *Clusius* complains, That the Merchants of *Lisbon* would not suffer the usual trials to be made for distinguishing the true from the adulterate. Neither do Authors agree about those trials; some accounting it a sign of Goodness, if the Stone hath nothing but a little dust in the Center; whereas the falsifi'd (say they) have some Seed, or other solid body there, upon which the other Materials were superinduc'd: others think, the right hath always a straw in the middle. Wherein we may observe, that the several scales or folds it hath one over another, like those of an Onion, or the Stone of a man's Bladder, which are made by new apposition of matter, agree not with the above-mentioned manner of its being made all at once. But in whatever manner and place it be produc'd, I think it can act only by its manifest Qualities which alone are active; the Effects of occult Qualities being as hidden as themselves. Besides, how could these Treasures and Presents of Kings to be so common at this day, in all Shops, if they had such great Vertues too as are attributed to them. Wherefore 'tis most likely, that the Avarice of Men hath added this to other popular Errors.

The Third said, That as no Sect is more easie than the Pyrrhonian or Sceptick, which doubts of every thing; so 'tis a very obvious Invention for such as are willing to decline inquiring into that vast treasure of Remedies, which are dispers'd from the Concave of the Moon to the Center of the Earth, and into the trials which may be made by their almost infinite preparations and mixtures, to reject all upon pretext of Incertainty in Philosophical accounts. But though the shortest, I doubt whether it be the best way; since Experience shews us many Effects which depend not upon Qualities; and, they that decry the Bezoar, because it acts not by manifest Qualities, admit others which do as little, *viz.* Elective Purgers, Splenetical, Hysterical, and other appropriate Remedies, though in some cases even of a contrary temper to the parts they are apply'd to. Which error happens, from our always making Qualities Causes; whereas oftentimes they are Effects. Besides, 'tis great pride to deny whatever we understand not; since the most knowing agree that they see only through a cloud, and the chief effect of Beatitude will be, To be ignorant of nothing. And why should the faculties of Antidotes depend more upon first Qualities than those of poysons do? since they ought to be contraries, and contraries are under the same *Genus*. Wherefore it sufficeth to recur to Authority and Experiment. Indeed *Hippocrates* and *Galen* knew not Bezoar; yet neither do wee reject *Sena* which they knew not, and which is one of the commonest and best Medicaments we have. But all the *Arabian* Physicians concur in this point, and *Serapion* particularly affirms, that this Stone is a potent Antidote against all poyson in the bitings of venomous Beasts; and so efficacious, that not only three or four grains of it

it held but in the mouth, enervate poysons; but the powder apply'd to a venomous Animal, stupefies it, and takes away its power of hurting; so that some parts already begun to corrupt by their biting, have presently been restor'd to their first estate by its single application. *Avicenna*, in the fourth Chapter of his second Canon ranks it with Treacle, amongst Alexipharmacal Remedies which preserve health, and strengthen the Spirits. *Rhazes*, in his Continent, affirms, That he found more admirable Faculties in Bezoar, than in all other Antidotes; and in his book to *Almansor*, he saith, That Remedies for resisting poyson, that assault the heart, and offend by their whole substance, are in vain prepar'd, if Bezoar be left out; which alone, he saith, resists the poyson of *Napellus* or Monks-hood the most pernicious of all. *Avenzoar*, in his *Theyser*, writes, that a man given over for dead upon taking of poyson, was cur'd by three grains of Bezoar. *Peter de Abano* (call'd the Conciliator) affirms, That *Edward I.* King of *England*, being wounded with a poyson'd sword in the war against the *Sultan*, and ready to expire, was cur'd by some of this stone given him by the General of the *Templars*; and that the bare wearing it resists poyson. *Mónardes* affirms, That with this Stone in less than a quarter of an hour he cur'd a certain Licentiate, whose body was already all swell'd by having once drunk, and another time eaten poyson; and that a poyson'd Maid, after the useles tryal of all other Counterpoysons, was presently cur'd by this. The same Author produces a great number of Syncope, Pestilential Feavers, Vertigoes, Epilepsies, and other Diseases cur'd by this Remedy; which is the more excellent in that it is insipid and void of all the bad taste which accompanies most other Remedies. These Examples are further authoris'd by the publick voice, which cannot be easily outweigh'd by the few persons that undertake to bid defiance to Antiquity, and to accuse it of ignorance or fraud, though it be not wholly destitute of Reason. For since 'tis granted, that Viper's flesh is necessary in Treacle to render the same efficacious against the bitings of that Animal, (it being necessary, that something intervene of a middle nature between ours, and that of the Viper, as its flesh, is being void of venom, but susceptible of it) why should it be deny'd, that Bezoar which is produc'd of something that hath poyson, and something that resists it, may serve for a *medium* to subdue the same in our bodies. The objections to the contrary are either general or particular. The former concern only Mountebanks, who are left to answer them; it being incredible that a good man, much less a Christian, would deceive in a matter so important as Life; which yet may be as often indanger'd by rejecting good remedies upon vain Argumentations, (to say no worse) as by prescribing those that are unprofitable. The Objection against Gold and precious stones makes as much against the Confection de *Hyacinthis*, and others, whereof they are ingredients; but they that have

have well consider'd those rich Bodies, find virtues to issue from them which impair not their weight; as is observ'd in Quick-silver, the decoction whereof kills worms, though its weight remain the same; and in the Regulus of Antimony, a cup whereof renders liquors purgative in *infinitum*, without any diminution of its substance. As for the diversity of Opinions touching the generation of this Stone, this difficulty is found almost in all foreign remedies; and though 'tis not known, Whence Amber comes? yet we find its perfume excellent, and its use profitable in Physick. Nor is Adulteration proper only to Bezoar stones, but common to Balm, Civet, Storax, Rhubarb, and, in a word, to all other remedies; and the abuse ought not to prejudice the use, since the same Authors that have observ'd these impostures, teach us also to avoid them. *Clusius* makes tryal of them, by passing a poyson'd thread through a Dog's Leg, and when the Symptoms of the Poyson have made him fall down as dead, if upon taking a little of the powder of this Stone, he revives, 'tis right; if not, 'tis falsifi'd. *Monardes's* tryal is by breaking the stone, which ought to appear made of several films thicker or thinner according to its bigness, which is commonly equal to that of an Olive, and almost of the same colour, though some are found to weigh two ounces, and the biggest are the best; but the Surfaces must be all smooth, the inward more than the outward, in the middle of which is a powder of more efficacy than the outside, or a straw or little piece of dry'd Herb, not a seed as there is in the fictitious; those that are vers'd therein know how to avoid being abus'd, and adjudge the Oriental better than the Occidental, which are darker and weaker. It matters not as to the truth of the effect, in what manner this stone is generated; though 'tis not impossible for several Tunics to be produc'd together, as those of the Onyon are. In fine, such may the rarity of Bezoar have sometimes been, that only great persons made use of it; but its admirable effects have made men curious to procure store of them, which they may the more easily do even by their means who decry them, the Apothecaries thereby having always some left in their shops.

The Fourth said, That in order to know well the benefits of Bezoar, 'tis requisite first to be agreed What it is; which point is not yet determin'd. *Scribonius Largus* conceives it the hardned tear of a Stag a hundred years old: Others, think it a Mineral; others, a stone bred in an Animal, so contrary to Nature that the Animal that breeds it is exceedingly tormented with it, especially if be big; which the hunters guess by seeing them go with pain, as Men do that have the stone in the Bladder. Yea, 'tis not agreed in what part of the Body 'tis found, though this indication be necessary towards the discovery of its virtue; since stones found in the Gall are of another Nature and Properties, than those of the Reins or Bladder. Moreover, the colour of these stones is extreamly various, not to mention the difference

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which proceeds from that of Climates ; the Occidental being almost without virtue in comparison of the Oriental. Whence it follows, that no certain unquestionable property can be assign'd to this stone as to other Remedies, which act always in the same manner ; otherwise there would be no Science. But should the Bezoar have an Alexipharmacal Virtue, yet it could be but like that of other Bodies, which act proportionally to their bulk. Now what proportion is there between three grains of an insipid powder which causes no evacuation, or other sensible action ; and a mortal poyson, whose cruel Symptoms discover themselves as speedily as fire doth when put to matter susceptible of combustion ? And I appeal to the testimony of all those that have made use of it in our Age, whether they ever found the effects that are attributed to it. Whence it follows, that it is doubly to be rejected ; First, because 'tis of great cost to the Patient ; Secondly, it takes up the place of some other good Remedy, causing loss of time which might otherwise be profitably employ'd in relieving the sick.

The Fifth said, That Poysons and Epidemical Diseases hurt not by their manifest qualities, nor by the quantity of their matter ; as appears in the biting of a Scorpion, which casts forth an imperceptible quantity of venom. And therefore 'tis not to be expected that their Remedies should act either by such qualities, or by their quantity. Nor are we to doubt of the effect of Bezoar, under pretext that 'tis given in few grains, though some have given twenty and thirty grains ; and that the ordinary dose is about nine or ten grains. Neither is it material whether it be the stone of the kidneys of a Goat, Deer, or the tear of a Deer, provided it have the Virtues ascrib'd to it, which is no more incredible than that which *Scaliger* affirms, himself try'd in the Stag's tear, which, he saith, so melts Men's Bodies that are either poyson'd or infected with the Pestilence, that they seem turn'd all into water, and thereby are cur'd. To which Experience, there are few well employ'd Physicians but can add many more. Nor is any thing said against Bezoar, but what may be objected against all other Antidotes, as Sealed Earth, Unicorn's Horn, and all Cordial Remedies, whose Virtue may as well be question'd as that of Bezoar.

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CONFERENCE CCVIII.

*Whence proceeds the sudden Death of Men and Animals
upon descending into certain Pits.*

ON the sixteenth of *June* last, an Inhabitant of the Town of *Tilliers*, two Leagues from *Virruel*, perceiv'd a goodly Pigeon, which he took to be one of his own, fall down into a Well hard by his House; whereupon he call'd his Son, and, to draw it out, they let down a basket with a rope to the bottom of the Well, into which the Pigeon presently entred; but as oft as they lifted it up from the water, it fell back again thereunto: After their design had fail'd, the Son tyes a cudgel to the rope, and being let down by his Father, endeavors to take the Pigeon. The Father ask'd him, Whether he had her? He answer'd thrice, No; and after some sighs falls, having lost both Speech and Life. The Father troubl'd at so strange an accident, resolves to go down himself, and accordingly without any help descends into the Well, where he remain'd as his Son. The Neighborhood advertis'd of this dyfaster repair'd thither, and, amongst others, one who had not long before cast the Well; He ascribing all to the weakness of those who were dead, presently betakes himself to go down; but he was scarce come within two foot of the water but he fell down dead without making any complaint. A strong and vigorous young Man upon the belief that the company conceiv'd that those persons were not dead, but only needed help, undertakes to go down likewise; he did so, but suddenly fell backwards with a little Convulsive Motion which made him cast up his head. Hereupon, notwithstanding the dissuasions of the Curate of the place, who began to suspect some mortiferous causes of this effect, a fifth descended after he had caus'd the rope to be fastned to his middle; he was no sooner in the middle of the Well but he was pull'd up again upon the Gestures which he made, with a livid Countenance, and other signes fore-runners of Death, which he escap'd by being presently succoured with Wine and *Aqua Vitæ*. Being recover'd, he affirm'd, that he had perceiv'd no hurt but only a certain faintness upon him. This last attempt cool'd all assistance, so that there was no more talk of going down, but only of getting the Bodies up; which was done: and 'twas observ'd that none of them had any signes of Life saving the Son, in whom were seen some small tokens which presently vanish'd. The wonderment of all this was greatly increas'd, when a Gentleman of the Country, curious of seeing what was reported, let down a Dog, who continu'd there a quarter of an hour, and was pull'd up again safe and sound. This Well twenty five foot deep, and of water but two, is inclos'd with a very ancient Wall at the foot of a good high

high Hill, whereon stands the Castle of *Tilliers*: And which help'd not to diminish the wonder, it had been cleansed by two men who found no hurt, nor any thing extraordinary in it, saving an odour stronger than elsewhere; the water being as clear as that of the Spring, and without any sediment. Now if it was mineral and malignant vapors that suffocated those that descended, the same might have done the like upon those that first gave them vent.

The Second said, That this Effect cannot be attributed to vapors barely venomous, and of the nature of ordinary Poysons, which corrupt our humours, sometimes after Applications, as the Plague and other Epidemical Diseases do; but this steam is so opposite to Life, that it destroyes the same in an instant; which we cannot imagine to proceed from any other cause but a mineral, which is far more active. The escape of those that cleans'd the Well, may be attributed to the mud which smeared the sides of the Well, and so kept the vapor in; till growing stronger by that restraint, it made way for its self through that remaining crust, and produc'd the above-mention'd dismal effects; emitting its Poyson in a strait line, according to the rectitude of the Well, which weakned the Pigeon in such sort, that it was unable to rise again; as 'tis reported that Birds fall down as they fly over the *Mare Mortuum*, or Lake of *Sodom*, in *Judea*.

drives The Third said, 'Tis not probable that any such slimy crust hindred this Effect at first, since the Dog let down afterwards found no hurt; unless you think a new crust arose in that little time which pass'd between the death of the Men, and the descent of the Dog. This Effect therefore may probably be attributed to the *Archæus*, or Central Fire, that Motor of Nature, which dries all the vapors of the Elements from the Centre to the Circumference, subliming the principals of minerals, in order to make its Productions; and as the several mixtures of these elevated vapors are in some places wholesome, to wit, in Bathes and mineral waters; so there are others destructive of our Nature. But because such elevation is not continual, but only at certain times, according to the motion of that grand Motor, and, particularly, of the Sun; hence Arsenical vapors have produc'd such Effects at one time, and stifled those that descended into a Well filled with them, which they have not done to those that clean'd it; nor to the Dog; in as much as those vapors were not rais'd at this time. And, perhaps, these mineral vapors are not always sublim'd in such a degree as to be mortiferous; otherwise it would follow that none could ever labor in mines with safety, by reason of deadly fumes.

ha The Fourth said, That such expellations could not extinguish the Fire of Life in so short a time, without some fore-running signes. But 'tis more probable, that this Effect proceeds from some venomous Animal infecting the Air, which being confin'd in a place incapable of evaporation, and suckt by those that descend

descend down the Well, they can no more save themselves from Death, than in a pestilent Air. Nor are they Fables which History records of certain Grottoes, in which Basilisks and Serpents residing, infected not only the place, but also the whole Country; as *Philostratus* relates in the Life of *Apollonius*, how a Dragon carry'd the Plague into all places where-ever he went. Now as to the particulars of the Story, what is difficult in them I thus resolve. Those that cleans'd the Well open'd the passage to the Basilisk, who by degrees creeping forth out of his hole into the Well, there darted forth his mortal rays upon what-ever was presented to his Eyes; which done, he retir'd into his hole again; so that the Dog let down into the Well after the Basilisk's retirement, could not be hurt: For that the spirits issuing out of the Eyes of this mortiferous creature, are harmless to dogs, and deadly to Men, is not warranted by any Example; Antiquity, whose Judgement is venerable even in doubtful things, allowing this Beast capable of doing mischief only in the place where he resides.

CONFERENCE CCIX.

Whether a Dead Body can be preserv'd naturally

many years.

THIS Question is divided in two points; First, Whether a dead Body can be kept without art; Secondly, Whether it can be so by art; Nature being here oppos'd not to Art, but to what is supernatural. The first is hard, every Carcase having in it self the principles of Corruption; because the harmony of qualities which caus'd to subsist being dissolv'd, it advances of it self to an annihilation: And Nature should cease her continual motion, if her subject depriv'd of animal life should always remain in one and the same state. Yea, if Nature should stop her course in dead Bodies, and not be able to resolve them into other works, the Influences of the Heavens would be useless in respect of them, as also their motion; which is in order to generations, which would cease if there were no more corruption; whence the destruction of the Universe in its parts would follow. Nor would the Elements act any more one against another, remaining pure and simple, and incapable of any generation, since siccity could no more act upon humidity, nor heat upon cold. It remains to enquire, Whether a dead Body may be preserv'd by art; which seems possible, because we may by art destroy the activity of the Elements, and reduce them to a just and equal temperament capable of long preservation. For if impurities and superfluities lead mixt Bodies to Corruption, 'tis easie to separate them by Chymistry; otherwise this art would be incapable of reducing them as it doth every day to a just Temperament: Yea, if we consider
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the Principles of Preservation, it will appear, that those of Art are more powerful than those of Nature, in regard of the means and Instruments it employs to separate them: which Nature cannot do, because She mixes things without choice and depuration: and consequently, since Art hath so much power in so many Agents, 'tis possible to preserve a dead body for many years. Moreover, our own Experience, and that of Antiquity teach us, that Balsms are able to preserve bodies a long time; as appears in the Mummies of *Egypt*, and in some Embryo's, which are preserv'd long in spirit of Salt; and other Liquors repugnant to corruption.

The second said, That a dead body may be preserved long, not only by Art, but also naturally; as that of a Lady deceased fifty six years ago, which was found lately intire, and gave occasion to this Conference; Whence it may be presum'd, That Women are not so easily corruptible, because their bodies are made of flesh more elaborate than that of man, which was immediately taken from the dust, and consequently is more prone to return into its first Original. Now the way to preserve dead bodies from corruption, is, to prevent the dissolution of their parts; which is done by maintaining the connexion of humidity with driness; to which end all extrinsical heat and moisture must be kept from them as much as possible. Hence it is, that dead bodies are plac'd in subterraneous places, and inclosed in leaden Coffins, to the end, the cold and dry vapours symbolizing with the qualities of Saturn, (which the Chymists make as justly preservative as the Poets make it destructive) may withstand extrinsecal heat and moisture, and maintain the marriage of siccity with humidity; which is also the scope of the Gums and Spices we employ to imbalm bodies; which having some heat with a certain Unctuousness suck up the superfluous moisture, and preserve the Natural. Moreover, the Sex, Age, and Temperament, are considerable in this matter. A Habit of body moderately fleshy, (which *Galen* accounts the most laudable, and which denotes a good Constitution) is fittest for this purpose; and 'tis probable, that the bodies of those that die of a sudden death, resist putrefaction longer than those that have been extenuated by a longer Sickness, or brought to the Grave by a Fever; because in these cases the body is in a great tendency to putrefaction even before Death.

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CONFERENCE CCX.

Of the Remora.

Is a small Fish, half a foot long, called by the Greeks, *Echeneis*, and, by the Latins, *Remora*; because 'tis thought to stop the motion of Ships, by means of two scales wherewith it closely imbraces the keel. This common belief is founded upon many experiences reported by Authors worthy of Credit. *Pliny* writes, That *Periander*, having sent a Ship to *Gnidos*, with orders to castrate all the principal Children of that Island, it was stopp'd in the main sea so long time as was requisite to send for other Orders contrary to the former by another Ship; and that in remembrance of this happy retardment, the two scales of this little fish were in his time seen hanging up near the Altar of *Gnidia* and *Venus*. The like happen'd to a Pretorian Ship of *Anthony* at the battel of *Actium*, so that he could not advance to give Orders to his Naval Army. The Emperor *Caligula*, having set sail from *Asturia*, with a Gally of five banks, was likewise constrain'd to stay by the way with his Vessel, the other Ships not suffering the same obstruction; at which this Prince was so incens'd, that he presently commanded divers to seek out the cause, who at length found this Fish sticking to the helm of the Vessel which they shew'd him about the bigness of a Snail; and he was more surpris'd when he saw that it had not the like effect within the Ship as without; as 'tis said, the foot of a Tortoise being in a Vessel, makes it move slowly. *Plutarch*, in the second book of his *Symposiacks*, affirms, That this Fish was found sticking to the Ship which he hired to sail into *Sicily*; and *Rondeletius* saith, That the Cardinal of *Tourain* being embarked for *Rome*, in a Vessel of three banks was a long time stopp'd in a place at Sea by this little Fish, which being taken was serv'd up to his table; though others write, that it is not fit to eat. But what they add, That its vertue of retarding is such, that it is made use of to hinder the Judgment of a Law-suit whereof the issue is fear'd; and also in fittres to retain a Lover that despises his loving Mistris, is as hard to believe, as 'tis to find considerable reasons for it, without having recourse to the ancient *asylum* of those who despair to find any, which is the specifick form of this Fish, which hath the same faculty of stopping Ships, that a Diamond hath of retaining the Vertue of the Loadstone, and Garlick of hindering it to act: as the Ship appeaseth the fury of the Elephant; the Fig-tree, that of the Bull; and many other such things, which though small in bulk, are yet very great and virtuous; as they make appear in their Qualities, which are as sensible in their Effects, as they are occult in their Causes.

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The Second said, That the Remora worketh the same Effect upon the Ship, that the Torpedo doth upon the hand of the Fisher, which becomes stupid, when he toucheth the same with a long pole. Now of this effect of Remora is not hard to be accounted for, if we follow the Principles of *Campanella*, and those who allow sense to all, even the most gross corporeal things. But this opinion being little received, 'tis better to say, that whereas all natural things subsist only by the vicissitude of motion and rest; wise Nature, who is the principle of both, hath judiciously dispenc'd them that they are found differently in some things, and in others, and that for the good and ornament of the Universe, which requires, that as they are bodies immoveable by reason of their situation or use, to wit, the Earth, and the Poles of the Heavens; others always in motion, to wit, the Heavens, Rivers, Air, and Fire; and others, endued with an attractive vertue, as the Loadstone and Amber; so She hath given others a Quality contrary to this. Namely, the Remora, that of stopping the motion of a Ship: and because motion and rest are contrary one to the other, their principles are no less, as well those that are effective of motion, as those which cause rest; but 'tis better to explicate them by their sensible and indubitable effects, than by reasons ordinarily frivolous and impertinent.

The Third said, 'Tis no rare thing for Ships to be staid in the main Sea, whatever pains the Mariners take to make them go forward; and how favourable soever the Wind may be, the cause whereof is no other but the contrary motion of the waves of the Sea, especially in streights and narrow places where there are strong Currents, which probably stopp'd *Caligula's* Ship, and those other mentioned in History, rather than this little Fish which 'tis credible can send so strong a Vertue from its small body, as to fix and check the far greater, and oftentimes irresistible force of the Winds and Sea. Unless you had rather attribute this retardment to the mucosity and other foulnesses wherewith Ships are crusted in long Voyages, which hinder their advancing; and this Fish being sometimes found in those mucous humidities, people mistake it for the cause, though it no wise contributed thereunto.

The Fourth maintain'd, according to the opinion of *Francastrinus*, That 'tis not possible for so small a Fish as the Remora, to stop a great Ship at full sail; but that this Effect is occasion'd by Rocks indu'd with a Quality like that of the Loadstone; upon which this Fish useth to reside, when a Ship passes near them, their Adamantine Vertue attracts the same towards them; whence the same thing happens by these two violent motions, viz. that wherewith the Vessel is driven along in the main Sea, and the attraction of these Rocks, as when two equal forces draw a weight two several ways, the thing remains unmov'd; so that this fish is not the cause, but only the sign of this retardment.

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The fifth said, That if there were any such magnetical vertue, in this case the nails and iron-works of the Ship to stay'd, would rather be taken away, than its course stopt, the latter being more hard to do than the former; since a little force sufficeth to pull a nail out of a Ship, whose impetuous motion, 'tis not possible to withhold; whence *Archimedes's* his drawing of a Ship out of the Port into the Market-place by his endless scrue, pass'd for one of the goodliest secrets of the Mechanicks, though indeed it be nothing to the present enquiry. And the truth is, this strange effect may best be attributed to a hidden property, and singular quality of this Fish, which being always found sticking to the stopped Ships, is more probably the cause of that impediment, than any unknown Rocks, which ought to do the like to all Vessels that approach them, if there were any such: For 'tis a vanity condemn'd by the most intelligent in the secrets of Nature, to presume to give valid reasons thereof, whilst we have none for the most sensible and ordinary effects, for want of knowing the last and proximate differences which constitute every thing in its Essence, and distinguish it from others; it being easie to know, that the Remora, after the example of many other which act by a propriety of their form, produceth this effect, without being needful to trouble our selves to find out the means it imployes in order thereunto.

CONFERENCE CCXI.

Of Negroes.

Nature loves variety so well that she is not contented with producing a great number of Species of all sorts of Animals differing chiefly according to the Climates which produce them; but she hath also pleas'd her self in an innumerable diversity of individuals especially as to colour, as cannot be call'd an Accident in Blackamores, but an inseparable property, which distinguishes them from other men, and constitutes the nature of Negroes, in whom the Sun's heat produceth an effect contrary to that of his light; this brightning, the other obscuring the subject upon which it acts. Yet it acteth not alike upon all Subjects, since the same Star (*Æthiopian*) whitens linnen and wax; but this blackness happens to the *Æthiopians* because moisture exceeds, and in a manner extinguisheth heat; just as we see it come to pass in Charcoals, Gangreens, and the parts of man's body when struck with Lightning. For, if the first Quality would take colours, no doubt cold would be white as we may judg by Water, Ice, Snow, Gray Hairs, and the Animals that live under the Arctick Pole which are all white, though of the same Species with ours of another colour; as Bears and

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Hares.

Hares. Which is further prov'd by Herbs which grow white under ground, and lose as much of their heat and bitterness, as they partake of such whiteness, witness the stalks of Hartichocks and Savoury. Hot things would be red, and of the colour of Fire, which we see gives that colour to faces formerly pale, to hot Iron and burning Wood; but a superfluous humidity supervening stifles, and extinguishes this heat, and leaves behind it the colour of corruption; as we see the whitest skin grows black by heat upon travelling Southwards; the contrary happening to those that go Northwards.

The Second said, That, if heat alone made Blackamoors, those that are most expos'd to the Sun-beams should be the blackest; but they are not so, there being many Nations of the New World, where it is so hot, that they go all naked, of an olive colour; whereas in *Guinea*, *Ethiopia*, and other places inhabited by Moors, they are cloth'd and feel more cold. And because this colour may be ascrib'd to the reciprocation of heat and cold, which is more likely to alter men's bodies in all other qualities, than in a permanent one; there are found both black and white people under the same parallels and elevation of the Pole; as in the Isle of *Sumatra*, where the Inhabitants are white. Wherefore this colour must not be attributed to the Heaven but to the Earth, which produceth all other varieties of Animals, especially of men, as is observ'd in the *Patagons*, who are Gyants: To whom are oppos'd the Pigmies which their soil likewise produceth. And to shew that the tincture of the skin is not the only particularity observable in Negroes, they have many other Properties whereby they are distinguish'd from other Nations; as their thick lips, saddle-noses, coarse short hair, the horny tunicle of the eye, and the teeth whiter than the rest of men. Besides, they are not only exempted from the Pox and other Venereous Maladies, but their Climate alone airs the same. Not to mention the Qualities of their minds, which are so ignorant, that though they have plenty of Flax, yet they want Cloth, because they want skill how to work it; they abound with Sugar-canes, yet make no trade of them, and esteem Copper more than Gold, which they barter for the like weight of Salt; and are wholly ignorant of Laws and Physick. Which ignorance renders their spirits more base and servile than those of other Nations; and they are so born to slavery, that even free men among the *Abyssins* (the most considerable people of all *Ethiopia*) when they are employ'd by any one, take it not ill to be lash'd with a Bull's Pizzle, provided they be paid; and when their Priests exhort the people, they whip them till the blood comes, for the better inculcating of their Instructions, those being held in most reverence, who whip them most severely; though they were the first Pagans who were converted to the Faith by Queen *Candace's* Eunuch, who was instructed by *S. Philip*. And as pusillanimous persons are commonly the most treacherous,

treacherous, (these two vices having both the same principles) and presupposing ignorance of the point wherein true Honour consists; so the Moors are ordinarily base and unfaithful to their Masters, as is verifi'd by abundance of Histories; which meanness and poorness of Courage, reaches from the second next the King's person to the most inferior amongst them; all bowing down and touching the ground with their hand when they hear the name of their King *Prete-Jun*, before whose Tent they make a Reverence though he be not there, and flatter him so excessively that if one of their Kings happen to lose an Eye or other member, they deprive themselves of the same too. Moreover, they are so credulous that they perswade themselves that this King is descended in a direct line from *Solomon* and the Queen of *Sheba*, (who, they say, was nam'd *Maqueda*) when she came to see him, as they report, for some other cause besides admiring his Wisdom.

The Third said, That the case is the same with the Negroes, in respect of the color of their skin, and the other above-mention'd particulars, as with the long heads of the Children of *Paris*, which Nature produceth at this day of herself, ever since the Midwives had form'd the first after that manner, upon a belief that this figure was more becoming and suitable to the functions of the Soul than roundness. So likewise the heat of the Sun first blacken'd the skin of the Moors of either Sex by little and little; amongst whom, the blackest hides, the thickest lips, and most evers'd being in esteem, every Mother endeavor'd to make her Childrens lips and nose of that figure; and Nature, helpt by their Imagination mov'd by the occurrence of like objects, hath produc'd such ever since. But 'tis no wonder if the people of some Countries, under the same parallels and latitude indeed, but defended from the heat of the Sun by opposite Mountains, are exempt from the effect of that heat; as there are places in *France*, where upon the same reason fruits are a month or two later in ripening than those of their Neighbors. Moreover, the frill'd short hair of Negroes is an effect of the same heat, as also their being exempted from the Pox, which being a phlegmatick cold poyson, as appears by its invading the spermatick parts, and the encreasing of its pains in the night more than day, 'tis more reasonable that the Temperaments opposite thereunto, such as theirs whose flesh is very dry and void of Phlegm, be free from the same. Now that Negroes abound not in Phlegm and Moisture, appears in that they never spit in their Churches, not only out of custom, but express Law, which would never have been made if it had not been easie to observe. Moreover, the whiteness of their teeth is augmented by the blackness of their faces: And as for their wits, *Scaliger* thinks them not really dull, but only out of design and craft, which always argues wit. Whence Geographers, who reckon Southern people amongst the most ingenious, say, They could never be brought to their duty

by Reason, but suffer themselves to be rul'd only by Religion: Because where Humane Reason holds not, as in matters of Faith, there the greatest wits are oblig'd to become subject to the less, when they speak to them as from God. Besides, their Characters are handsomer and more agreeable than either the Arabick or Turkish. They are addicted to Navigation, and have a Military Order under the protection of Saint *Anthony*, to which every Gentleman is bound to design one of his three Sons, except the eldest, which serves for their King's Guard, and amounts to 12000. Horsemen. And if there be no other reason to esteem them ignorant but their having no wrangling Lawyers, many other Nations would be happy if they had none neither. And though Physick be not reduc'd to an Art, nor taught by a Method amongst them, (as neither was it of old amongst us) yet they want not Remedies useful for health. Their want of Linnen proceeds from their abundance of Cotton; and the comparison of Gold and Copper depends upon Phansie: And, lastly, the paucity of the people finding food enough at home, have less cause to be eager upon Trade abroad.

CONFERENCE CCXII.

Of Ecstacies.

THough the union between the Body and the Soul be so strict, as to serve for a model to all other unions observable in Nature, yet is it not so strong but that sometimes it admits of a dissolution, which the Philosophers conceiv'd possible, both those parts continuing entire. This separation is call'd an *Ecstasy*, wherein the *Platonists*, who first brought it into *Vogue*, plac'd the *Summum Bonum*, or greatest Felicity, inasmuch as they pretended, that mens minds were thereby disengag'd from all material things; nay, from their very Bodies, by the clouds and humidities whereof they imagin'd, that the mind was disturbed in its functions, which, being equally spiritual, are the more completely perform'd, the more the Understanding whereby they are produc'd, is disengag'd from this corporeal mass. Whence it comes, that old men, especially such as are near death, or in their sleep, have clearer visions, and more certain predictions than young men, and those who are in perfect health, of a moist Temperament, who are waking, and perform all their other functions. And whereas there is no great road between the highest wisdom and the greatest extravagance, it may be further inferr'd, that those who are of a more dry Temperament, whereof it is as likely that fools as well as wise men, may be, frequently have such visions, and fall into those *Ecstacies*; and upon this account,

count, that they mind not their own thoughts, are easily susceptible of external impressions, and the first objects which present themselves to them. So that we may make a distinction of *Ecstacies* into two kinds. The former is to be attributed only to great and contemplative persons, and may be said to be only a disengagement of the mind, which is so taken up with the apprehension of an object, that it quite forgets all its other functions. For the case is the same with the *Understanding*, in reference to its object, which is *Truth*; as it is with the *Will*, in respect of its proper object, to wit, *Good*, which it so passionately affects, that it is not so much where it *lives*, as where it *loves*. In like manner, the *Understanding* being forcibly engag'd to a taking object, whereof it makes a particular observation of all the differences, is so transform'd into it, that it ceases to act any where else. Now the reason of this, is, that knowledge or apprehension, as well as all the other functions, is wrought by a concurrence of spirits, which being by that means, in a manner all employ'd in that transcendent action, there are not enough remaining for the performance of other actions, the small portion that is being wholly employ'd about respiration, nourishment, and the other actions necessary for the Conservation of Life. Accordingly, this kind of *Ecstasy*, or cessation of the functions is not only observ'd to happen in that conflict and contention of the mind, when it is wholly bent upon the examination of some object, but also in all the other actions which are perform'd with excess: such as for example, the Passions are the extraordinary violences whereof occasion *Ecstacies*, an extream grief casting a man down so much, that he becomes as it were stupid and insensible. The same thing happens also through joy by a contrary effect, as well as in Anger, Fear, Audacity, and the other perturbations of the irascible and concupiscible Appetites, by reason of the great diffusion or concentration of the spirits. Whence it follows, that it is not more strange to see a man ravish'd and fallen into an *Ecstasy* as it were out of himself, in the contemplation of some object, than to see some persons so over-joy'd, as to die out of pure joy. For Knowledge being an action of the *Understanding*, whereby it raises and elevates to a spiritual and incorporeal Being things that are most material, which are advanc'd in the *Understanding* to a new and more perfect Being, than that which they had of their own Nature, the *Understanding* renders them like it self, and is so united to them, that there cannot be a greater conformity than what is between the object and the power whereby it is known. When therefore that object is of its own Nature spiritual and immaterial, the *Understanding* having disengag'd it self from every other Subject, is so over-joy'd at its own knowledge, that it forgets all other actions of less consequence.

The other *Ecstasy* is properly attributed to Lunatics and distracted persons, and is by Physicians plac'd among the highest irregularities, caused by black Choler in the minds of such as

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are much inclin'd to Melancholy; in whom it causes an alienation of Spirit, which inclines them to imagine, speak, or do things that are ridiculous and extravagant; sometimes with fury and rage, when that humor is inflam'd, and converted into black Choler, and sometimes with a stupid sadness, when it continues cold and dry.

The Second said, That the *Greek* word signifying an *Ecstasy*, is ordinarily taken for every change of condition whatever it may be; sometimes for a transportation and elevation of mind, whereby a man comes to know things absent, as it was explicated in the precedent part of this discourse. Such peradventure was the taking up of Saint *Paul*, even while he liv'd, into that blisful Seat of the Blessed, which he calls the *Third Heaven*, allowing the Air to be one, and the starry-sky to be another: And that of Saint *John* the Evangelist, which he speaks of in the *Revelation*; Nay, before them, such were those of the Prophets, and, after them, those of many other persons, if we may give any credit to Historians. Such was that of the Abbot *Romuald*, who, finding a great difficulty to read the Psalms of *David*, became, in an *Ecstasy* he had as he was saying Mass, so learned, that he was able to interpret the most intricate passages of them. Such was that of Saint *Francis*, the Founder of the Order of *Franciscans*, who, in a ravishment, receiv'd upon his body the marks of our Saviour's Passion. Such was Saint *Thomas Aquinas*, who frequently fell into such an *Ecstasy*, that he seem'd dead to all that were about him. Such was *John Scot*, commonly known by the name of the subtle Doctor, to whom the same thing happen'd so often, that his most familiar friends seeing him as he sat reading or writing, found him many times immoveable and without sentiment, insomuch that he was carry'd away from the place for dead; and yet these two last were rais'd up so illuminated from that Philosophical Death, that they have left but few imitators of their great Learning. The same thing is affirmed of a certain Virgin, nam'd *Elizabeth*, whose Senses were sometimes so stupif'd, that she continu'd a long time in a manner dead; from which kind of Trance being come to her self, she fore-told some things, which afterwards came to pass according to her predictions. To be short, there are few Monasteries of either Men or Women, but affirm as much of their Founders. And that it may not be imagin'd, that such a separation of Body and Soul happened during this Life only to Enthusiasm, or a highly-contemplative meditation of divine things, which nevertheless must be acknowledg'd the common cause of it; we read of *Epimenides* of *Crete*, and *Aristeus* the *Proconnesian*, eminent Poets and Philosophers, that sometimes they left their Bodies without Souls; which, having taken their progress about the world, return'd after a certain time, and re-animated their Bodies. Nay, *Pliny* hath a pretty remarkable Story, how that the Soul of this *Aristeus* was many times perceiv'd to take her flight out of his Body,

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under the form of a Crow; and that his Enemies having observ'd it, and on a time met with his Body in that posture, burnt it, and by that means disappointed the Bird of her nest. *Apollo-nius* relates a Story yet much more prodigious, of *Hermotimus* the *Clazomenian*, to wit, that his Soul made Voyages of several years; having left his Body, during that time, without any sentiment, while she went up and down into divers parts of the world, fore-telling Earth-quakes, great Droughts, Deluges, and such other remarkable Accidents. And further, that this thing having several times happen'd to him, he had given his wife a strict charge that no Body should touch his Body during his Soul's being abroad upon the account aforesaid; but some persons of his acquaintance bearing him a grudge, having with much importunity obtain'd of her the favour to see his Body lying on the ground in that immoveable posture, they caus'd it to be burnt, to prevent the Soul's return into it; which yet it being not in their power to do, and the *Clazomenians* being inform'd of that injury done to *Hermotimus*, built him a Temple, into which Women were forbidden to enter. And *Plutarch*, in his Book of *Socrates's* Dæmon or Genius, confirming this Relation, and allowing it to be true, affirms, that those who had committed that crime, were then tormented in Hell for it. Saint *Augustine* in his Book of the *City of God*, Lib. xiv. relates, that a certain Priest, named *Resitutus*, when-ever, and as often as, he was desir'd to do it, became so insensible at the mournful tone of some lamenting voice, and lay stretch'd along as a dead Carcase, so as that he could not be awak'd by those who either pinch'd or prick'd him; nay, not by the application of fire to some part of his Body, inasmuch as he could not feel any thing while he continu'd in the *Ecstasy*, only afterwards it was perceiv'd that he had been burnt, by the mark which remain'd upon his Body after he was come to himself; before which time he had not any respiration, and yet he would say, that he had heard the voices of those who had cry'd aloud in his Ears, calling to mind that he had heard them speaking at a great distance. The same Author in the xix. Book of the same Work, affirms, that the Father of one *Præstantius* was apt to fall into such *Ecstasies*, that he believ'd himself chang'd into a Pack-Horse, and that he carry'd Provisions upon his back into the fields with other Horses, when all the while his Body continu'd immoveable in the House. Among other Examples of this kind of *Ecstasy*, *Bodin* in his second Book of his *Demonomania*, chap. 5. relates a story of a certain Servant-maid living in the *Dauphine*, having been found lying all along upon a dung-hill, in such a dead sleep that all the noise made could not awake her; nay, her Master's banging her with a switch not prevailing any thing, he ordered fire to be set to the most sensible and tenderest parts of her Body, to try whether she were really dead or not. Which being upon tryal believ'd, they left her in the same place till the morning; and then sending to look after her,

her, she was found very well in her bed. Whereupon the Master asking her, What she had been doing all the night before? Ah, Master, said she, how unmercifully have you beaten me? Upon that discovery she was accus'd for a Witch, and confess'd it. To be short, *Cardan* in his eighth Book of the *Variety of Things*, affirms of himself, that he fell into an *Ecstasy* when he pleas'd; in so much that he sleightly heard the voices of those who spoke to him, but understood them not; Nay, what is more, was not sensible of any pinching, nor yet feeling the exquisite pain of his Gout, whereto he was much subject; as being not sensible at that time of any thing but that he was out of himself. He afterwards explicates the manner how that *Ecstasy* is wrought, affirming, that he felt it begin at the Head, especially in the hinder part of the Brain, and thence spread it self all along the Back-bone. He affirmed further, that at the very beginning of it he was sensible of a certain separation about the Heart, as if the Soul with-drew at a kind of wicket, or sally-port, the whole Body concerning it self therein; and adds, that then he sees what-ever he would with his Eyes, and not by the strength of the Understanding, and that those Images which he sees are in a continual transiency and motion, in the resemblance of Forests, Animals, and such other things: The Cause whereof he attributes to the strength of the Imagination, and sharpness of the Sight. He further relates of his Father such things as are much more miraculous, and occasion'd the suspicion of his being a Magician.

Now from all these Sacred and Prophane Histories, it may be inferr'd that of *Ecstasies*, some are *miraculous*, and others *natural*. The former not submitting to ordinary Causes any more than all the other things do that concern Religion, which stands much upon the preheminance of being above Reason. The latter proceeding from the great disproportion there is between the Body and the Mind, the one being extremely vigorous, the other extremely weak. Whence it follows, that there are two sorts of persons subject to *Natural Ecstasies*, to wit, those transcendent Minds which are dispos'd into weak Bodies, and weak Minds in strong and robust Bodies; inasmuch as there being not a perfect connexion and correspondence between them, the Soul finds it no great difficulty to disengage her self from the Body, or the Body from the Soul, which by that means obtains a freedom in her operations, it being suppos'd that they do not all at depend one upon another, as may be seen in the Formation of the Embryo, wherein the Soul making her self a place of aboad plainly shews, that she is able to act without it, as also in swooundings and faintings, during which, the Body continues so destitute of sense, that no active faculty, at least no operation of the Soul, is observable in it.

The Third said, That the Vegetative Soul, which is without motion, being the first whereby we live, it is not to be much admir'd,

mir'd, if the other two Souls, to wit, the Sensitive and the Rational do sometimes separate themselves from it; and this is that which they call *Ecstasy*: whereof we have a certain instance in all the faculties, which are in like manner separated one from another, without the loss of their Organs. Accordingly, he who is most sharp-sighted as to the Understanding, hath commonly but a weak corporeal sight; the most robust Body is ordinarily joyn'd to the weakest Mind: Those persons who walk and talk in their sleep, do also shew that the Rational Soul does quit the Government of the Body, and leaves it to the direction and disposal of the sensitive; and the same thing may be also said of the Vegetative exclusively to the other two. To come to Instances: we have at this day the experience of some, who continue a long time in *Ecstasies*, and that not only in matters of great importance, but also in some things of little concernment, which they are not able to comprehend; nay, there are some have the knack of falling into Trances and *Ecstasies* when they please themselves. And this hath been affirm'd to me of a certain person who was able to do it, without any other trouble than this: He caus'd to be painted on the wall a great Circle all white, in the Centre whereof he set a black mark, and after a long continu'd looking upon it, the Visual Spirits being by degrees dissipated, brought his Soul into a *Vertigo*, or Dizziness, which occasion'd the *Ecstasy*.

The Fourth said, That the opinion of *Bodin*, which allows a separation between the Souls and Bodies of Witches and Sorcerers, having been invented only to render a reason of what they affirm they had seen, during the time their Bodies had been immoveable, is not to be believ'd without some further proof; since it is impossible even by that to explicate the Relations which they make of those places, where they say they had been, and the things they had there done; inasmuch as they positively affirm, that they had made those progresses with their Bodies and all their members, and that they had made use of them in eating, drinking, and performing such other actions as are purely corporeal, and cannot be imagin'd done in a state of separation, as being not compatible to separated Spirits, which being immaterial, stand in need of Bodies to assume corporeal affections, and perform those beastly Actions whereof Sorcerers talk so much.

To this may be added, that this separation cannot be wrought without death, and, that suppos'd, it were impossible the Souls should re-enter into their Bodies otherwise than by a real resurrection, which is an act that God hath so reserv'd to himself, that the Devil is not capable of doing it: Nay, though it were in his power, it is rather to be imagin'd that he would be far enough from taking souls out of their bodies, and disrobing them of their sensual inclinations, inasmuch as he does all lies in his power, to involve the Souls of Men more and more into their Bodies, and

make them wallow in sensuality, and render all their affections corporeal. Accordingly, great and generous Souls, such as are most disengag'd from the Body, are not fit for that purpose; since *Agrippa*, and all the other Masters of that detestable profession, require Simplicity in those who would be Sorcerers, as a necessary and previous disposition. So that if the Souls of Sorcerers, which are at first engag'd, and afterwards continu'd in the Devil's service, only in prosecution of the concerns of the Body, came to be divested of that heavy mass whereby they are encompassed, and stripp'd of the inclinations of the Body, no doubt they would break off so disadvantageous a bargain, at least they would not find any delight in the diversifications where-with the Devil does amuse them. It is therefore more probable, that the Devil should sometimes cast Sorcerers into a certain sleep, and bind up their common sense, so as that they are rendred incapable of receiving external impressions, and that in the meantime, he should joyn together the different species of Memory, and raise in the Imagination such representations thereof as are conformable to the truths which are made else-where. So that the Understanding not receiving any thing from without, which might undeceive it, is wholly taken up with the species it hath within; the apprehension of Sorcerers being much like those of some persons, who having their brains either weakned by Diseases, or naturally receive such an impression from their dreams, that when they awake, they are hardly able to distinguish them from the things they have seen. That therefore which is commonly called a Diabolical *Ecstasy*, deserves not the name, since it is only the casting of one into a dead sleep. Those Diseases which Physicians call *Ecstasies*, as *Catalepsies* and *Madness*, are only such improperly; and the same thing is to be said of those kind of swoundings, which have frequently been taken for *Ecstasies* in some persons, who having continu'd their Contemplations beyond the strength of their Bodies, and thereupon swoounded out of pure weakness, have upon the recovery of themselves, imagin'd, that their Minds had been transported into real *Ecstasies*, and yet can give no account of what had pass'd during the time of their Trance. The precedent stories, and those which may be thereto added, of *Socrates*, *Archimedes*, and some others, do not prove that, naturally, there can be any *Ecstasy*; for either those stories seem to be palpably fabulous, or only shew that the Souls of those Ecstatical Persons had not broke off all correspondence with the Body, nor quitted the assistance of the senses and their Organs, that they might be wholly involv'd in themselves, and so resign themselves to Meditations purely Intellectual. For he who shall examine the example of *Socrates*, as it is related in *Plato*, will look upon that action rather as a tryal, which *Socrates* made of his own Patience, than as a real *Ecstasy*, especially since *Socrates* is imagin'd standing; a posture requiring the motion of the Muscles, which presupposes sentiment

haply gave the *Lacedæmonians* occasion to sacrifice a Cock when they had overcome their Enemies.

This Creature was also dedicated to *Mars*, and the Poets feign, that he had sometime been a young Souldier, whom that God of War order'd to stand sentinel when he went in to *Venus* to give him notice of *Vulcan's* return; but he having slept till after the Sun was risen, and by that neglect of duty *Mars* being surpriz'd with her, he was so incens'd that he metamorphos'd him into a Cock; whence it comes, say they, that being ever since mindful of the occasion of his transformation, he ever crows when the Sun approaches our Horizon. This fable, how ridiculous soever it may be thought, is as supportable as that of the *Alcaron*, which attributes the crowing of our Cocks to one which it saies there is in Heaven; a Cock of such a vast bulk, that having his feet on the first of the Heavens, the head reaches to the second; and this Cock crowing above, awakens and incites all those upon Earth to do the like, as these last set one another a crowing, as if they all crow'd at the same instant all over the world.

The Cock was also dedicated to the *Sun* and *Moon* to the Goddesses *Latona*, *Ceres*, and *Proserpina*; whence it came that the Novices, and such as were initiated in their mysteries, abstain'd from the eating of it. It was also the same to *Mercury*, in regard that vigilance and early rising are requisite in Merchants. And thence it came that he was painted under the form of a Man sitting, having a Crest or Comb on his Head, Eagle's claws instead of Feet, and holding a Cock upon his fist. But there was a particular consecration made of him to *Æsculapius*, which oblig'd *Socrates* at his death to entreat his Friends to sacrifice a Cock to him, since the Hemlock where-with he was poyson'd had wrought well. The Inhabitants of *Calecut* sacrifice him to their divinity under the form of a he-goat: And *Acosta*, after *Lucian*, affirms, that anciently the Cock was ador'd as a God; which Christianity not enduring, hath order'd them to be plac'd upon Churches & on the tops of steeples, and other very high structures, that by their turning about they might tell the beholders which way the Wind blew; unless haply some would refer it to the repentance of Saint *Peter*, at the second crowing of one of them. As concerning the crowing of this Creature, it is commonly attributed to his heat, and may be a certain discovery of his joy at the approach of the Star of the same temperament with him. And whereas he is more susceptible than any other of the impressions of the Air, (whence it comes that being moisten'd by the vapors, he crows with a hoarser voice, which Labourers look on as a prediction of Rain) it may be thence consequent, that he is the first sensible of the coming of the Sun. Moreover, whereas there is a Solar Animal, such as is also the Lyon, but in a lower degree than he, the species of Birds being hotter and dryer, as being lighter than that of four-footed Beasts; it thence follows, that

that the Cock hath an ascendent over the Lyon, which no sooner hears his crowing, but it awakens in his Imagination those species which cause terror to him: Unless we would rather affirm, that the spirits of the Cock are communicated to the Lyon, by that more than material voice; and as such more capable of acting, than the spirits issuing out of the Eyes of sick persons, which nevertheless infect those who are well, and look on them; nay, if we may believe the Poet, bewitch even innocent Lambs.

The Second said, That this error of the Lyon's being terrifi'd at the crowing of the Cock, was to be added to the number of all those vulgar ones, which had occasion'd so much beating of the Air in the schools and pulpits about Maxims which are discover'd to be absolutely false in the Practick; it being a thing not impossible, that some Lyon which had been tam'd, and by change of nourishment become cowardly and degenerate, had been a little startled at that shrill crowing of the Cock, grating of a sudden upon his ears. And this conjecture will not be thought strange by those, who, about the beginning of *March* last, 1659. were present at an engagement which had been appointed between such a Lyon and a Bull in a Tennis-Court at *Rochel*: The Lyon was so frightned at the sight of the Bull, that he got up into the Lights precipitating the Spectators, who had planted themselves there in great numbers, as esteeming it the safest place of all; and thence he slunk away and hid himself, and could never afterwards be gotten into the lists. It may also be imagin'd, that the strangeness and novelty of that Crowing might surprize some Lyon that had never heard it before, by reason of his living at a great distance from Cities and Villages, where those Creatures are commonly bred, and that thence it came the Lyon was startled at that first motion. Moreover, 'tis possible, nay, it may be more than probably affirm'd, that some have taken that startling out of indignation, observable in the Lyon when any thing displeases him for an argument of his fear, whereas it was a discovery of his being incens'd. For to imagine a real and general fear in that generous Creature, upon so sleight an account as the crowing of a Cock, I cannot see any probability for it, in regard that correspondence and conformity which is attributed to them, should rather occasion a Sympathy in them, than any thing of aversion, which being fully as great as that which the Sheep hath for the Wolf, should no more frighten the Lyon, than the bleating of the Sheep does the Wolf. Nor is it so much out of an aversion and Antipathy which the Wolf hath for the Sheep, that he devours and converts it into his substance, as out of kindness and love to his own preservation; and there are commonly seen about those houses, where Lyons are kept, several Cocks and Hens, and yet the Lyons never make any discovery of their being frighted at their crowing or crakling. Nay, for a further confirmation hereof, it comes into my mind, that I have seen a young Lyon devour a
Cock,

sentiment in the exterior parts. Accordingly, dead bodies, as also those wherein the action of the Soul is check'd and hindred, are not found standing, though the *Athenians* have shuffled in, among their stories, a tale of one of their men who stood upright after he had been kill'd. The other Instances are of persons who meditated with such earnestness and attention on their own thoughts, and directed their minds with so much violence towards that sense, whereof they had most occasion, that the other senses were destitute of Spirits and without action, not discerning their own proper objects if they were not extremely violent, which is no real *Ecstasy*, inasmuch as otherwise we must call Sleep an *Ecstasy*. And, indeed, the most refin'd and subtillest Meditations, which we derive from those *Ecstasies*, smell so strong of the Body and Matter, that it is probable, they were not the pure productions of the Soul, no way diverted by the disturbances of the Body and the internal senses, on which she objectively depends, even in the inorganical actions she does; it being a thing impossible for her to meditate alone, since that in her direct actions she stands in need of the Imagination, and must be excited by Phantasms; but above all, she cannot be without Memory, which always furnishes her with the matter of her speculations, and reserves the species of them. Besides, those who are of opinion, that all the faculties of the Soul while she is in the Body are organical, cannot imagine any *Ecstasy* wherein the Soul meditates by her self, without any commerce with the Body and its sentiments; and those, who conceive, that the faculties of the Understanding and Will borrow nothing of the Organs but the objects of their actions, do nevertheless infer, that the Soul stands in need of the senses, in order to the doing of her actions, and is not over-earnest in the doing of them, but when she is excited by the Phantasms, for the stirring whereof the Animal Spirits are absolutely necessary, which takes away all conceit of *Ecstasies*. And those who imagine, that in *Ecstasies* the Soul hath no correspondence with them, and makes no use of them in her actions, do, by that means, instead of establishing destroy the *Ecstasy*; since it must be infer'd, that the Soul during the time of those retir'd meditations, leaves the Spirits in the Organs, whose function it is in the mean time to receive the impressions of the external objects, and convey them into the common Sense, and thence into the Imagination and Memory; whereas 'tis expected, that the *Ecstasy* should leave the Body without action. Whence therefore, I conclude, that there is not any at all, in regard that an *Ecstasy* signifying a state of the Soul, besides that which is natural to her, and besides the natural consequence there is between the actions of the senses, and those that are proper to the Rational Soul; it may be affirm'd, that such a state never happens, and that the Soul shall not be absolutely freed from the incumbrances and distractions of the Body till after Death. And this hath been sufficiently acknowledg'd by

Socrates in *Phædon*, notwithstanding all the *Ecstacies* attributed to him; and *Aristotle*, whose thoughts were more abstracted, and transcended those of all others, would not by any means admit of *Ecstacies* from a natural cause, but attributes them all to God. Which procedure of his hath been approved by *Scaliger* and many others.

CONFERENCE CCXIII.

Of the Cock, and whether the Lyon be frightened at his Crowing.

THE *Germans* being engag'd upon an expedition of War had some reason to carry a Cock along with them, to serve them for an incitement and example of Vigilance. Thence haply proceeded the custom, which some Mule-drivers and Waggoners still observe of having one fasten'd to the leading Mule or Horse; and sometimes for want of that, adorning them with a plume of his or some other feathers. 'Twas upon this account, that *Phidias's Minerva* had a Cock upon her head-piece, unless it be attributed to this, that the said Goddess had also the presidency and direction of War, where there is no less need of Vigilance than Industry; though that Bird belongs to her sufficiently upon the score of his other qualities, as being so gallant and courageous, as many times rather to lose his Life upon the spot, than quit the desire of victory; and when he is engag'd, fighting with such fury, that *Calius Aurelian* relates that one who had been peck'd by a Cock in the heat of fighting, grew mad upon it. For the Passion of Anger being a short fury, 'tis possible it may extreamly heighten the degree of heat, in a temperament already so highly cholerick, that in time the body of the Cock becomes nitrous; and upon that consideration, is prescrib'd to sick persons for the loosening the belly, and that after he hath been well beaten with a wand, and the feathers pluck'd while he is alive before he is boyl'd. It may be further urg'd, that this Courage of the Cock was the motive which inclin'd *Artaxerxes* King of *Persia* to grant him, who kill'd Prince *Cyrus*, the privilege of carrying on his Javelin a little Cock of Gold, as a singular acknowledgement of his Valour. Whereupon the Soldiers of the Province of *Caria*, whereof he who had the afore-said privilege of the Cock was a Native, in imitation of him, instead of Corsets wore Cocks upon their head-pieces; whence they had the name of *Alectryons*, or Cocks, in Latin *Galli*, which possibly is the reason that gave the French that name: And whereas the Cock commonly crows after he hath beaten another, it came also to be the Hieroglyphick of Victory, and that haply

Cock, which, I must confess, crow'd no more than those of *Nibas*, a Village of the Province of *Thessalonica* in *Macedon*, where the Cocks do not crow at all. But if there were such an Antipathy between them, as some would have imagin'd, the Lyon would have thought it enough to tear him to pieces, and not eat him as he did. And therefore it is to be conceiv'd, that what hath given occasion to this error, is the moral sense, which some would draw from it; to shew, that the strongest are not free from a certain fear, which they conceive of those things whence they should least expect it. So that, to put this Question, Why the Lyon is frightned at the crowing of the Cock, is, to enquire for the cause of what is not.

The Third said, That we are not to make so sleight an account of the authority of our Ancestors, as absolutely to deny what they have affirmed to us, and seems to be sufficiently prov'd by the silent acquiescence of so many Ages, under pretence that we are not able to resolve it: Which were to imitate *Alexander*, in cutting the *Gordian* knot, because he could not unty it. It were much better to endeavor to find out in the nature of the Cock and in his crowing, the cause of the Lyon's being frightned thereat. Let it then be imagin'd, that the Lyon being an Animal always in a Fever through an excessive choler, whereof his hair and violence are certain marks; the same thing happens to him as to sick and feverish persons, to whom noise is insupportable, especially to those, in whom a cholerick humor inflam'd causeth pains in the Head: Nay, there are some kinds of sounds which some persons are not able to endure, yet so as that they cannot assign any cause thereof, and so as that we are forc'd to explain it by Specifick Properties and Antipathies; such as we may imagine to be between the crowing of a Cock and the ear of a Lyon. And that is much more probable then the stopping of a Ship by the *Remora*, when she is under all the sail she can make, and a thousand other effects imperceptible to reason, and such as whereof only Experience can judge; and therefore that terror which the Lyon is put into at the crowing of the Cock, is not so irrational; that Sovereign of Animals having just cause to admire, how from so small a Body there comes a voice so shrill and strong, as to be heard at so great a distance, considering with himself what mischief he does with so little noise; and this terror of the Lyon is increas'd if the Cock be all white, inasmuch as that colour promotes the diffusion of his spirits already dispers'd by the first motion of his apprehension.

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CONFERENCE CCXIV.

Of the Sibyls.

THOUGH it be generally acknowledg'd that there were *Sibyls*, yet as to their Names, their Number, their Country, and their Works, nay, the whole story of them, all is full of doubts and uncertainties. The Etymology of the Greek word signifies as much as the *Will or Counsel of God*; the *Æolick* Dialect saying *Sion* instead of *Theon*. The *Chaldeans* call'd them *Sam-betes*. They are cited, and consequently acknowledg'd by *Justin Martyr*, *Theophilus of Antioch*, *Athenagoras*, *Clemens Alexandrinus*, *Tatian*, *Lactantius*, and other ancient Authors. *Varro*, and *Diodorus Siculus*, call them Women fill'd with divinity, fore-telling things to come, whence they came also to be call'd *Propheteesses*. Some conceive that they were before the War of *Troy*, and refer all their predictions only to one of them, imagining that the same thing happen'd to them as had done to *Homer*, who, for his great reputation, gave occasion to several Cities of *Greece*, to attribute his birth to them: in like manner as a great number of Cities and Countrys; as for instance, *Erythræ*, *Cumæ*, *Sardis*, *Troy*, *Rhodes*, *Libya*, *Phrygia*, *Samos*, and *Ægypt*, desirous to attribute to themselves the Birth of that Sibyl, it came to be believ'd, that there were many of them. Amongst whom, *Martianus Capella*, grounding his assertion upon very probable conjectures, acknowledges but two, *Erophila*, the *Trojan* Sibyl, whom he affirms to be the same that others call the *Phrygian* and *Cumæan*, and the others *Symmagia*, call'd also *Erythræa*, at the place of her birth. *Pliny* affirms, that there were at *Rome* three Statues of the Sibyls, one erected by *Pacuvius Taurus*, *Ædile* of the people; the other two by *Marcus Valerius Messala*, the *Augur*. The first of these three, according to the relation of *Solinus* in his *Polyhistor*, was call'd *Cumana*, who prophesy'd at *Cumæ* in the fiftieth Olympiad, and had still her Temple at *Pouzzols*, about a hundred years since, but was burnt in a general conflagration that happen'd there in the year MDXXXIX. under the ruins of which it was then buried; so that there remains now only some subterraneous places, into which a man cannot go upright, yet still express a certain divinity, inasmuch as those reliques of a vast and spacious structure, seem to be all cut out of one stone. The second was call'd the *Delphick* Sibyl, and liv'd before the Wars of *Troy*. The third is that *Eriphyla* of *Erythræ*, who prophesy'd at *Lesbos*. *Ælian* affirms, that there were four, to wit, the *Erythræan*, the *Samian*, the *Ægyptian*, and that of *Sardis*. To that number others add two, the *Judaick* and the *Cumæan*; but *Varro*, desirous to have yet more of them, adds four, and makes them up ten; of which opinion is also *Onuphrius*. They are dispos'd into this order. The

The first and most ancient is the *Delphick*, of whom *Chrysippus* speaks in his Book of *Divination*, by the Ancients called *Artemis*, born at *Delphi*, and it is conceiv'd that *Homer* inserted many verses of this Sibyl in his Works. *Diodorus Siculus* calls her *Daphne*, and says she was the Daughter of *Tiresias*, of whom she had not learnt the Art of Divination, when the *Argians* having taken the City of *Thebes*, sent her to *Delphi* to pay their vows, where having learnt to divine by the inspiration of *Apollo*, she spoke Oracles to those who consulted her.

The second is the *Erythrean*, as is affirm'd by *Apollodorus*, a Native of the same Country: And yet *Strabo* says, that she was a *Babylonian*, and had only given her self the name of the *Erythrean*, whom *Eusebius* affirms to have liv'd in the time of *Romulus*.

The third is the *Cumean*, or *Cimmerian*, so call'd from the *Cimmerian* Town near the City *Cumæ* in *Italy*, whom some call *Deiphobe*; to this Sibyl it was that *Aeneas* address'd himself when he made his escape from *Troy*.

The fourth is the *Samian*, otherwise called *Phyto*, of whom *Erasthenes* says, that she was mention'd in the Annals of the *Samians*. *Eusebius* is of opinion, that she flourish'd in the time of *Numa Pimpilius*, and that she was called *Heriphila*.

The fifth is the *Cumean*, otherwise *Amalthæa*, or *Demophila*, and called by *Suidas*, *Hierophila*. Of this Sibyl is related the story of the nine Books, and according to others of the three, (not of the *Cumean*, whom some unadvisedly confound with this, though they were different) which she presented to *Tarquinius Superbus*, as it is affirmed by *Varro*, *Solinus*, *Lactantius*, *Servius*, *Suidas*, and several others. And *Solinus* gives this further account of her, that, in his time, her Sepulchre was shewn in *Sicily*.

The sixth is the *Hellepontick*, born in the Trojan Country, at the Town of *Marmissus*, near the City of *Gergithium*, whom *Heraclides* of *Pontus* affirms to have liv'd in the time of *Solon* and *Cyrus*, that is, in the L X. Olympiad.

The seventh is the *Lybian*, of whom *Euripides* speaks in the Prologue before *Lamia*, which he writ in the L X X X. Olympiad.

The eighth is the *Persian*, of whom there is mention made by *Nicanor*, in the History of *Alexander* the Great. *Justin Martyr* calls her also the *Chaldean*, in his *Admonition to the Gentiles*; and she is conceiv'd to have been the Daughter of the Historian *Berosus*, and *Erimantha*. She liv'd in the C X X. Olympiad.

The ninth is the *Phrygian*, who prophecy'd at *Ancyra*.

The tenth is the *Tiburtine*, called *Albunea*, who was worshipped as a Goddess on the shores of the River *Aniennus*, in which her Statue was found.

All these ten Sibyls are represented by a Picture hanging up as it were in the Clouds, having their Heads encompass'd with

Light, as our Saints commonly have. But the first holds a Hunter's Horn in his right Hand; the second, a Sword; the third, a Torch; the fourth, a Cross; the fifth, a pair of Gloves in the left Hand; the sixth, a Cradle on her right Hand; the seventh, holds a Lanthorn; the eighth, a branch of a Rose-bush; the ninth, hath a loaf of Bread on one side of her; the tenth, hath a small Wand or Rod. The Painters have presum'd to add two others, to wit, the *European*, holding a Crown of thorns; and the *Agrippinean*, who holds a banner fasten'd to a Cross; but they do it not by any other Authority, than that They and the Poets assume to themselves to attempt any thing. According to which privilege, there are yet divers others, to wit, one named *Elissa*, who prophesy'd in verse: Whereto may be added *Cassandra*, the Daughter of *Priamus*, the *Epirotick* Sibyl, the Thessalian *Manto*, *Carmenta* the Mother of *Evander*; *Fatua* the Wife of King *Faunus*, *Sappho*; and, upon a better title than any of the precedent, *Deborah*, *Miriam*, the Sister of *Moses*, and the Prophetess *Huldah*.

The most famous of all, and she to whom the Ancients gave greatest credit, was the *Cumæan*, who, under the form and habit of an old woman not known to any, came to *Tarquinius Superbus*, to whom she presented nine Volumes of Oracles, which she said he should have for three hundred *philippus's*; whereat the King took occasion to laugh, as if the old woman were grown a child again; to ask so great a sum for such inconsiderable Books: Which she perceiving, went away and burnt three of them; and coming again to make him a second proffer of the six remaining, demanded the same price she had ask'd for all the nine; and the King having laugh'd at her as before; and being confirm'd in his conceit of her being distracted, she burnt three more of them; but returning the third time, and asking of him the first mention'd sum for the three that were left, *Tarquin* astonish'd at that perseverance, consulted the Augurs what he should do; whereto their Answer was, that, in all likelihood, they were some Counsells sent by the Gods to the City of *Rome* for the wellfare of it, which he should not any longer refuse. Accordingly he order'd her to have what she demanded; and having advis'd him to be very careful in the keeping of those Books, she vanish'd, and was never after seen either in that King's Court, or any where else, which much heightned the opinion already conceiv'd of her Divinity. *Tarquin* recommended these Books to the keeping of two persons of good repute, which number was afterwards mutiply'd to ten, elected one half out of the people, the other out of the Senate: And afterwards it came to fifteen, and so increas'd till it rose to sixty, but still kept the name of the *Quindecim viri*, which receiv'd their period with all the other heathenish ceremonies in the time of *Theodosius*. Only those persons were permitted to read the Books of the Sibyls, and their superstition came to such a pitch, that there was not any thing so holy

holy and sacred in *Rome*, as those Books; insomuch that when any thing occur'd, wherein the Roman State was highly concern'd, as the Pestilence, civil War, or when their forreign Wars were not carry'd on with the success they had promis'd themselves; their recourse was to those books of the Sibylls, whence they pump'd out the remedies and advices which they had to give the Senate and People. This was observ'd till the time of the Social War, when, *Cains Norbanus* and *Publius Scipio* being Consuls, the Capitol was burnt, and with it all the sacred things, and among them the Books of the Sibylls. But soon after the reparation of the Capitol, *Scribonius Curio* and *Cneus Octavius* being Consuls, there came out an Edict from the Senate, that three Deputies should go, as they did, to *Erythræ*, and other Citties of *Italy*, *Greece*, and *Asia*, whence they brought to *Rome* about a thousand Verses written by divers persons, with the names of the Sibylls to whom they were attributed. And it is from the ignorance of so many hands, as had been employ'd in the writing of those Verses, that the many faults found therein proceeded; as being such as oblig'd *Tiber*, to correct those errors, and distinguish the supposititious verses from the true ones, to order that every one should bring in to the Prator of *Rome* whatever he had of them, with a prohibition that any should retain Copies thereof save only the *Quindecim viri*, whose Office and Name receiv'd its period at the last conflagration of the Sibylline Books made by the command of *Stilico*, Father-in-law to the Emperor *Honorius*, thinking by that means to raise a sedition against his Son-in-law, and so to transfer the Empire to his own Son *Eucherio*.

And this is all we have of certainty concerning the History of the Sibylls, who may be probably conjectur'd to have prophesy'd by a certain Enthusiasm and divine inspiration, which was granted them according to the acknowledgment of the Fathers, as a reward of their Virginity; it being not imaginable, that the many noble things they have foretold, even to the highest mysteries of our Salvation, should proceed from the evil Spirit, much less from the motion of Nature, the strength whereof is not able to come up to Prediction.

The Second said, That the vain desire, which men of all times have been inclin'd to, of knowing things to come, having put them upon an unprofitable consultation of Heaven, Earth, and Waters, to find out whatever might bring them any tidings thereof, they have not let slip any occasion which they conceiv'd might inform them; their superstition being come to that height as to draw consequences and presages from all things, and oblige them to search into the very entrails of Beasts, and the sepulchres of the Dead: Nay, what is yet more, if they have deriv'd a certain divination from the very chirping of Birds, whence their Augurs receiv'd their name, it is not to be wonder'd, they should give credit to the Discourses and Songs of

young Maids and Women. For, among those who were called Sybills, there were some married, especially she who writ the first book of the Oracles attributed to them; which Sibyll says she had been in Noah's Ark, with her Husband, her Father-in-law, her Mother-in-law, her Brothers-in-law, and her Sisters-in-law, who consequently had not the gift of Prophecy bestowed on them, upon the account of their Virginitie: And though, according to the testimony of *Eusebius*, and most of the other Ecclesiastical Authors, there was not any Sibyll more ancient then *Moses*; yet does the Sibyll before-mentioned foretell the coming of *Moses*, and the Deluge, at which by that means she could not have been present; for things present are never fore-told. But what brings the credit of their Works into greater suspicion, is, that those Verses do themselves discover, that they were written fifteen hundred years after the beginning of the *Grecian* Empire, and consequently, whatever they tell us of *Moses*, the reign of *Solomon*, and the Empire of the *Lacedæmonians*, all which preceded that time, are *Histories*, which they obtrude upon us for *Prophecies*. And all the Mysteries of our Salvation contain'd in the Sibylline Verses, are, in all probability of the same Nature. And, in the fifth Book of the Sibylline Writings, the Sibyll says, that she had seen the second conflagration of the Vestal's Temple; which, according to *Eusebius*, happen'd in the year of our Lord CXCIX. under the Emperour *Commodus*. And then it was indeed, that those Verses first appear'd in the World, nor were they seen before, nor cited by any one, and the Prophecies contain'd in them, have not ought to say of what should come to pass after that time, inasmuch as they could not have done it with any certainty. As to her saying, That there should be three Emperours after *Adrian*, to wit, the two *Antoninus's*, *Pius*, and the *Philosopher*, and the Emperour *Commodus*, and then the times should end, being found false in respect of what was to happen afterwards, as being things absolute besides her knowledg, it was not to be imagin'd, she should set down the names of the Emperours, or given the first Letters thereof, as she had done those of the fifteen, who preceded, of whose History she gives as particular an account as those Authors who speak affirmatively thereof, and with all circumstances after their death. Add to this, the erroneous opinions of some Christians of that time, which are inserted into their Works; as for instance, that the damned should be deliver'd after certain Ages; and that *Nero* should remain conceal'd to be Antichrist in the last times. Besides, the too exact observance of order in those Writings, is an argument that they were not the productions of persons subject to Fanaticism, such as some would have the Sibylls to be, who writ upon the leaves of Trees, the Verses which their Enthusiasm dictated to them. And to conclude, there is no probability, that the Prophet *Esay*, who hath spoken more clearly of the Incarnation than

any

any other, should think it enough to say, *A Virgin should bring forth a Son*; and that the Sibyll should say, before the thing came to pass, *The Virgin Mary shall bring forth a Son named Jesus in Bethleem*: there is no probability, I say, that God should bestow greater illuminations on those Women, whom Antiquity ranked among the Priestesses of *Bacchus*, than on the most inspir'd among his Prophets. Whence it is to be justly imagin'd, that some Christians were the Authors of those Verses, who piously thought to make some advantages thereof against the Pagans, who gave credit to other Writings which were then in vogue and repute under that name: as there are some in our days who father on *Nostradamus* such things as he never thought of, and that after they are come to pass; under pretence that there is some mention made thereof in that confusion of matters, whereof he treats. This will not be thought strange by those, who considering the multitude of accidents, which that Author hath shuffled into his *Centuries*, whereof the varieties are so great, that it is no hard matter to find therein most occurrences of humane life; as we see that in syllables diversly transpos'd and put together, all things in the world may be found.

The Third said, That the Ancients are not to be thought so credulous, as to attribute such authority to the Sibylls, if there had not been some young Maids and Women, who had effectually fore-told things to them. True it is, chance may be fortunate in one or two cases, as a blind Archer may casually hit the mark; but it is very unlikely, that one who cannot shoot at all, should have the reputation of a good Archer all the world over. And yet Authors are full in asserting the authority, wherein the answers made by those women were. *Virgil* grounding his discourse on that common perswasion says,

Ultima Cumæi venit jam carminis ætas :

And the *Satyrist* confirms what he had said, with another verse, to wit,

Credite me vobis folium recitare Sibyllæ.

And it was ordinary to inscribe on Monuments the names of those who were appointed for the keeping of those books of the Sibylls and took care for the Sacrifices, which the *Romans* offered up, to appease the wrath of the Gods, according to the counsel, which, as occasion requir'd, they took from their verses. Nay, there was such a strict prohibition that any should have them in their private Libraries, that one of those who were entrusted with the custody of the Sibylline Books, named *Marcus Atilius*, was sown up in a bag, and cast into the Sea, for lending *Petronius Sabinus* one of those Books to be transcrib'd, or, as some affirm, only their simple Commentary, containing the secrets of the

the Sacrifices which were made according to them. Upon the same consideration that it pleas'd God to sanctifie *Job*, though out of the *Judaick* Church, the only one wherein salvation was then to be found, I may say, there is no inconvenience to imagine, that he might as well bestow the Spirit of Prophecy, on those Virgins at least commonly accounted such. And consequently, what is said to the contrary, deserving rather to pass for adulterate and supposititious, then that there should be any question made of what divers of the holy Fathers have affirmed of them: the gift of Prophecy having been communicated also to *Balaam*, and God having miraculously opened the eyes, and unloos'd the tongue of his *Ass*. What remains to this day imprinted in the minds of a great number of persons, concerning *Merluzina*, and other Fairies, contributes somewhat to the proof of what hath been said; some illustrious Families deriving their origin thence. For, as to the inserting of some supposititious verses into the body of their Works, it should be no more prejudice to them, then it is to those of the most excellent Authors, among which the spurious productions of others are sometimes shuffled in. And if it be true, that *Homer's* Verses were at first confusedly pronounced by him, and that it hath been the employment of others, to reduce them into that noble order, wherein we read them, Why should the same observance of order be censur'd in the disposal of the Sibylline Verses? *Plato*, in his *Theagines*, affirms, That *Socrates* acknowledged them to be Prophetesses; and in his *Phædon*, the same *Socrates* shews, by their example, That extravagance or distraction of mind does many times bring great advantages to Mankind. *Aristotle*, in the first question of the thirtieth Section of his *Problems*, affirms, That Women become Sibylls, when the brain is over-heated, not by sickness, but through a natural distemper. And elsewhere he describes the subterraneous Palace of a Sibyll, whom he affirms, according to the common report of her, to have liv'd a long time, and continu'd a Virgin. *Plutarch*, in his Treatise, *Why the Prophetess Pythia renders not her Answers in verse*, affirms, that, by a particular favour of God, a Sibyll had spoken things during the space of a thousand years; and elsewhere, that she foretold the destruction of several Cities that were afterwards swallow'd up, the fire of *Mount Gibe*, and divers other things, setting down near the time when what she had said should come to pass. *Pausanias* affirms, that the Sibyll *Herophila*, had certainly foretold the bringing up of *Helen* at *Sparta*, and that it should occasion the destruction of *Troy*. *Justin*, having related what account *Plato* made of persons who foretold things to come, who he says, deserve the name of Divine, though they do not themselves comprehend the great and certain things which they predict, says, That that is to be understood of the Sibylline Verses: the Writers whereof, said he, had not the same power as the Poets have, to wit, that of correcting and polishing

polishing their works; inasmuch as the inspiration ceasing, they do not so much as remember what they had said, though some have been of opinion, that the agitation of Mind, wherewith they have prophesied, seem'd to be the Effect of the evil Spirit; producing, as a confirmation of this opinion, one of the Sibyls, who sayes of her self, that, for her enormous crimes, she was condemn'd to the fire. Yet allowing these Verses to be ranked among the supposititious, there is still a greater probability inclining us to judge otherwise of them, when we consider the good instructions given us, and the mysteries of our Salvation contain'd therein; it being not the function of Devils and evil Spirits to encourage us to piety. But however it be, this is clearly evinc'd, that there have been *Sibyls*, and that they fore-told things to come.

CONFERENCE CCXV.

Whether of two Bodies of different weight, the one descends faster than the other, and why?

OF Natural Bodies, some move from the Centre to the Circumference, as Fire; others, from the Circumference to the Centre, as the Earth; others, are in the mean between both, as Air and Water, the latter whereof inclines downwards, but both of them are principally design'd to fill the *Vacuum*. Whence it comes, that the Air descends as much, nay, faster to the bottom of a Well when it is dry'd up, than the Water had done before; which consideration, hath given occasion to some to attribute a mean, or circular Motion to those two Elements, as they have done a direct Motion to the two first. And whereas these two kinds of Local Motion, to wit, the direct and the circular, are the Principles of the Mechanicks, the most profitable parts of the Mathematicks, and that among the said Motions, that which tends downwards, which proceeds from weight, is the most ordinary Agent, and such as is the most commonly us'd in Machins or Engins, where it is the most considerable, either for the assistance it gives to fixt and settled instruments, or for the obstruction it gives those which are moveable; thence comes that famous dispute there is, concerning the causes of Motion from above to beneath. Which since it must needs proceed from one of these three, to wit, the weight of the Body descending, and lightness of the mean through which the descent is made; or from the impulsion of the said mean: Or, lastly, from the attraction made by the Centre; the Question is, To which of those three Causes that Motion is to be refer'd? If it be attributed to the weight, it will follow, that the

the heaviest Body shall descend soonest; if to the impulsion, the celerity or slowness of the Agent shall accordingly render that Motion swift or slow; but, if only the attraction made by the Centre be the Cause of it, the lesser weight shall descend as fast, nay, faster than the greater, upon the same account as that the same piece of Loadstone more easily draws a small needle than it does a great key. Nor can Experience always assist us in this case, in regard the different compofure and form of heavy Bodies, as also the diversity of the means, and the variety of the Agents, whereby they are thrust forwards, will not permit us to make an allowable Comparison between them. Thus a ball of Cork, which descended as fast in the Air as one of Lead, shall not do the like in the water, to the bottom whereof the Lead shall fall, but not the Cork. And again, the same Lead being put into the form of a Gondola, or other hollow vessel, shall swim on the water, which it could not before: A Cloak, folded close together into a bundle, shall have a speedy descent in both Air and Water; but let a Man fasten the same Cloak under the arm-pit, so as that it may spread into a circle, it shall so sustain him the Air, that he shall fall very gently, and receive no hurt by his fall. Hence it also comes that many Women have been sav'd, when, falling into the Water, their Clothes were spread all abroad. The same thing may also be observ'd in those frames beset with Feathers, or cover'd with Paper, which Children call Kites, and sustain in the Air, and suffer to be carryed away with the Wind, giving them ever and anon little checks or jerks by drawing the pack-thread to them whereby they are held, imitating in that action the beating of the wings in Birds. In fine, the different manner of giving the first shock to weighty Bodies, does accordingly diversifie their Motion towards the Centre. For as the impulsion made downwards hastens its bent towards the Centre; so when it is forc'd circularly, it is retard-ed. Whence it comes that a glass so cast down that it hath certain turns by the way, does sometimes fall to the ground without breaking. But to speak absolutely, all conditions being suppos'd equal, it should seem that the more weighty a Body is, the sooner it falls to the Centre: And this is made good by daily Experiences, as may be seen in the weighing of Gold and Silver in the balance, which hath a speedier and shorter cast, when the piece is much weightier or lighter, than it hath when there is but half a grain difference between both the scales.

The Second said, That the Nature of weight or heaviness was to be number'd among the occult things. *Aristotle* defines it to be a Quality inclining Bodies downwards and towards the Centre. Others would have it to be an Effect of density, which proceeds from the great quantity of Substance and Matter, comprehended and contracted in a small room. There are yet others, who would have it to be an impulsion or fastning of one Body upon another, in order to Motion downwards: But, to come nearer the

the business, it is only the relation or report there is between a Body and its mean, and its comparison with another Body. According to this account of it, the same piece of Gold is said to be light in respect of one weight, and heavy in respect of another; Wood is heavy in the Air, and light in the Water; Tin is light in comparison of Gold, though very weighty in respect of Wood. Whence it follows, that weight hath only a respective being, and such as depends on some other thing, and not on it self: The Cause of it therefore is not to be sought in it self, but else-where; as must be that of the recoiling of a Tennis-ball, which is not in the Ball, nor in the arm of him that playes, nor yet in the walls of the Tennis-Court, but resulting from all these three together. And whereas Experience seems to decide the Question propos'd, 'tis fit we should refer our selves to it. Now it is certain, that of two Bodies of unequal weight, and of the same Figure and Matter, equally forc'd, or suffer'd to fall, the one will as soon come to its Centre as the other; as those may see who shall let fall at the same time from the top of a Tower, two leaden bullets, one of two pounds, and the other of a quarter of a pound, both which will come to the ground at the same instant; the reason whereof is, That the stronger impulsion in the bullet of two pounds, meets with a stronger resistance of the Air to break through as it falls, than that of quarter of a pound. Whence we are to make a distinction between the greater impulsion which the weightier Body makes upon another Body, and the celerity or slowness of the Motion wherewith it descends; a hundred weight being heavier on the shoulders of a Porter, than one pound, but not coming sooner to the ground than it. In like manner, a stone descending so much the more swiftly the nearer it comes to its Centre, clearly shews, that it derives the force of its Motion from the Centre, as its principle; as we conclude, that the strength of a bullet is spent, and the Motion of it grows fainter, the further it is at a distance from the arm and gun from which it came, and which we hold to have been the cause and principle of it.

The Third said, That the weightiest Bodies make the more haste to their Centre, the nearer they approach it; for their weight is increas'd by their approaching of it; gravity, in the descent of weighty Bodies, increasing by the continuance of Motion, quite contrary to violent Motion, which admits of remission thereby; artifice, it seems in this point giving place to Nature, so as that the latter never grows weary, nay, is infallible in all her Motions, and that such a propension of weight to the centre, is the only certain rule to draw direct lines to that centre; and which is yet the more certain, the greater the weight is. And whereas the Mind of Man judges the better of things when they are oppos'd one to the other, behold one of those little Atomes which dance up and down in the beams of the Sun striking in at a window, it is a Body sustain'd in the Air only by its smallness,

and requires a long time to make an impression in that part of the Air which is under it, which thing cannot be said of a Musket-bullet: It is therefore deducible thence, that the heaviest Bodies descend fastest to the Centre.

The Fourth said, That we are not to seek for any other reason for the speedier descent of heavy Bodies, than there is in all the other Motions of Nature, which proceed from the instinct imprinted by her in all things, of loving their good, which is their rest and natural place, which till they have attain'd, they are in perpetual disquiet; and whereas the heavier a Body is, the more parts there are in it, concern'd in the pursuance of that good, it is not to be wonder'd if it happens to them as to divers solicitors in the same cause, who press it more earnestly than one alone would do. We may therefore say, that the same natural instinct that makes the Mulberry-tree expect till the cold weather be over before it buds; and the Halcyons till the tempests be past, before they build their nests, and makes them to secure their young ones before the Rain, may much rather cause the most massie and weighty Bodies to make more haste. For these, fore-seeing that the Centre is not able to lodge all the Bodies tending thereto, endeavour to get to it as soon as they can, adding to their haste the nearer they approach it. But the most certain reason of this speedier Motion, is the general rule, that the more the Cause is increas'd, the more is the Effect augmented; whence it follows, that if weight be the Cause of Motion downwards, the greater the weight is, the more intense ought to be the Motion.

CONFERENCE CCXVI.

Of the Silk-worm.

THE use of Silk was brought over from the *East-Indies* into *Europe* above a thousand years since, and was particularly introduc'd into *Italy* by two Religious Men, who brought thither the grain of it somewhat above three hundred years since; in which Country of *Italy*, that commodity hath been much cultivated, and that upon several accounts; as, the preciousness of it, the easie transportation from one place to another, by reason of its lightness: And, lastly, for that it is one of the principal instruments of Luxury, which never wanted Partizans and Abettors in any Age, not to mention the great advantages and wealth attending the manufacture of it. The Latine word *Sericum*, is receiv'd from that of *Seres*, an Oriental people, who were more sedulous in the cultivation of it than any other: and the same thing hath happen'd to this, as to many other excellent Pro-

productions deriv'd from mean and despicable Principles. For the Animal, from whose labour we have the silk, is an Insect, as are all those which spin, to wit, the Spider and the Caterpillar, and it differs in nothing from this latter, save that the Caterpillar hath a little hairiness, and the silk of the Silk-worm is stronger than the web of the Caterpillar, and of another colour, but as to figure and bulk there is little difference between them. Whereto may be added, that their production is much at one, as being as it were hatch'd of certain eggs, living on leaves, enclosing themselves in certain webs, out of which they make their way, after they are become a kind of Butterflies, by a strange Metamorphosis, which forces them from one extremity to another, that is, from the nature of Reptiles to that of Volatiles: which transformation is such, as, were it not for the frequency of it, might be plac'd among the greatest miracles of Nature, considering the great difference there is between those two forms. And that indeed is such as hath given some occasion to doubt, whether the Silkworm becoming a Butterfly did not change its Species, as it would be true, were it not that every thing produces its like; and the Silkworm deriving its birth from the seed of the Butterfly, it is an argument that both are of the same Species. Thus much as to their progress. The Kingdom of *Spain* commonly furnishes us with the best grain or seed of these worms, which are like heads of pins, but black, or resembling Rape-seed somewhat flatt'd on both sides: This grain, sometime in the Month of *April*, being put between two warm pillows, or expos'd to the Sun, enclos'd in the linings of ones cloaths, or otherwise chafed by a moderate heat, but without any moisture, there are produc'd of it little certain worms of the same colour, that is, black at their first coming forth, which by reason of their smallness, as resembling the points of needles, pass through certain little holes made in a paper, wherewith they are cover'd, and fasten themselves on the Mulberry-leaves, which are also placed on the said paper full of little holes, upon which leaves all the best grain being hatch'd, within five or six days, goes creeping after the first worm that gets out of her shell; all that is hatch'd afterwards never coming to any good. These worms are thence transported, with the leaves laid upon little boards or hurdles, into a temperate place, and dispos'd in a lightsom and spacious room, where they are entertain'd with fresh leaves twice a day, among which those of the white Mulberry makes finer silk than those of the black; for want whereof the leaves of the Rose-bush, Lettice, and some others may be used: but though the Worm makes a shift to subsist by that nourishment, yet either it will not spin at all, or the Silk will be like the web or clue wrought by the Caterpillars. Thus it feeds for the space of forty days, during which it becomes grey, and changes its colour four times, not eating for some days before each change, by reason of the fulness it is then sensible

fible of. The Worm is subject to certain diseases; and those oblige such as have the care of them to remove them out of one room into another, and that even when they are dying in great quantities; Perfume, Incense, Benjamin, Vinegar, and Wine recovering and comforting them; as also the smell of broyl'd Bacon. To prevent which Diseases, and the assaults of Flies and Pismires, who will make havock among them, they are very carefully to be kept clean, the boards on which the leaves lie to be rubb'd with wormwood, or sprinkled with Wine, which must be well dry'd up before they come near them, all moisture being hurtful to them, as also salt, or the hands that have handled it. All harsh sounds, as those of the discharging of Muskets, Bells, and Trumpets, destroys them; nay, the strong breaths of those who come near them, especially such as have eaten or handled Garlick or Onions, are very prejudicial to them. When their time of spinning draws nigh, which is about six weeks after their being first alive, at which time they are about the bigness of a man's little finger, more transparent than they use to be, and the little snout so lengthen'd as that it represents the form of a Nose, the Animal by an extraordinary motion, expresses the inconvenience it endures by reason of its burden: Then is it cleans'd oftner, and there is so much the less given it to eat, and afterwards they set on the boards some dry'd branches of Heath, Broom, or Vines, and above all of Birch, as being the most delicate and least prickly, lest it should prick the Worm, or entangle the Silk. Then you shall see them fasten their first threads, and casting out of their mouths a kind of coarse sleeve silk, and afterwards that which is finer and more perfect, in one continu'd thread, accompany'd by a gum, which makes it stick one to another, so that the worm does encompass it self with that silk, which is commonly yellow, very seldom greenish or white, and being come to the end of the clue, hath only so much room as it takes up. Then, for the space of fifteen days, it remains immoveable, and is cover'd with a skin or film like that which covers the fruit of the Pine-tree, under its shell, and which appears not till after that is broken. But these fifteen days being over (of which those will abate some, who are desirous to make advantage of the Silk, and trouble themselves not what becomes of the grain) the Silkworm, though it seem'd to have been dead, breaks through its web, and comes out in the form of a white and horned Butterfly, bearing a certain image of the Resurrection; then coming together, the Male, which is smaller coupling with the Female that is bigger, the latter sheds her seed upon a clean paper, spread under her for the reception of it. The seed being carefully put into a box is either kept for the next year, or sold by the ounce; they commonly keep as much as comes from a hundred Males, and so many Females; the grain or seed whereof before their copulation is barren. Now if

if they be desirous to get silk out of it, which is the principal advantage, in order to which the Worms are kept, about fifteen days after they are compleated, these webs are cast into water, somewhat better than luke-warm, and the Women and Children employ'd about that work, stir the water with an handful of Birch, till they have fasten'd on seven or eight ends of silk, which having done, they wind it up into skains, and that is the raw silk.

The Second said, That it is to be imagin'd the use of Silk was absolutely unknown to the *Jews*, especially when we consider, that in the works of that magnificent Temple of *Solomon*, wherein they spar'd not any thing of what they thought most precious, there is no mention made of Silk, instead whereof they made use of Goats-hair, and other precious Fleeces. But it was no strange commodity to the *Greeks* and *Romans*; not to the former, since that *Parisatis*, the Mother of *Cyrus*, was commonly wont to say, that Kings were always to be spoken to in *silken* words; nor yet to the latter, inasmuch as they had some garments all of Silk, which they call'd *Vestes holosericas*. Which is the more creditable, in regard that the Inhabitants of *China* who made use of it above a thousand years before us, have very ancient Books, whereof the paper is made of Silk. In the interim, through the revolution of times, which makes that unknown in one age, which was familiar in another, it hath happen'd, that *Pliny*, never having seen any, relates strange stories of it, calling the Silk-worm a Fly, though it be not transform'd into a Fly, as was said before, till after it hath finish'd its working of Silk. He further affirms, that this worm makes its nest in dirt, or clay, and that so hard, that instruments of iron cannot penetrate it; that in the said nest it makes more wax, than Bees do, and leaves in it a Worm, bigger than the other Flyes. Afterwards not being satisfi'd with himself, he brings in a discourse, which shews indeed that he had heard some talk of our Silk-worm, but that he had never seen any, nor met with any certain account thereof, when he says, That Silk came from a Worm that had two horns, which worm brings forth certain Caterpillars, which engender that which is call'd *Bombylius*, out of which comes the Worm, which produces that, which makes the Silk, and all these productions, and the making of the Silk perform'd in six Months: the last Worms, saith he, making a web of silk like that of a Spider, and that the first who ever found out the invention of unweaving and unravelling that web, that so some use might be made of the Silk, was *Pamphila*, the Daughter of *Ladona*, of the Island *Coos*. In fine, to make the story yet more fabulous, he says, that in the Island of *Lango*, the Silkworms are engendred of the Flowers, which the Rain causes to fall from Turpentine-trees, Ashes, Oaks, and Cypress Trees, enliven'd by the vapours which exhale out of the earth; being at first little naked Butterflies, which afterwards get a little hairiness, to secure

secure them from the cold, and their feet are so rough that they fasten on all the Cotton they meet upon the leaves of Trees, and make their silk of it; then they break it with their feet, card it with their claws, and having reduc'd it to silk, hang it up between the boughs of Trees, where they comb it, to make it the finer, and that done, they wind themselves within it, as within a botom of silk; and then are they dispos'd into earthen pots to be kept warm, and are nourish'd with noise, till they are renew'd again, and re-assume their wings, as they were before they had done their work. So pitiful a thing is a deviation from Truth, and so hard is it for a man to meet with her, when he is once got out of her own path.

CONFERENCE CCXVII.

Why Ice being harder than Water is yet lighter.

IN this Question, there are several others comprehended; the first, Why Ice is harder than Water; the second, Why it is lighter, inasmuch as lightness is an inseparable accident of softness, as this latter is an inseparable accident of lightness. On the contrary, density, hardness, and compaction is a sign, or rather a cause of weightiness, as it is observable in Meal, Ashes, and other Bodies of the like Nature, which weigh heavier, when they are close thrust together in the Bushel. Nay further, this Question comprehends in it self the Efficient Causes of Ice, which is the coldness of the Earth, the Water, or the Air. It is not the first, because, if it were, Rivers and Lakes would be frozen at the botom, which, on the contrary, is most temperate, and serves for a retreat to the Fish, while the surface of the Water is frozen up, which freezing if it be so violent as to reach the Center, it is communicated by degrees from the surface. Now that Rivers begin to freeze on the sides, does proceed hence, that the Water there moves more slowly; the channel, or current of the Water, which is rougher in the midst, being interrupted by the inequality of its course. For motion prevents congelation; not upon the account that it warms, inasmuch as that effect happens not to it, otherwise then by the collision of two or more solid bodies, but because there is no change made, but upon some solid foundation, which cannot be imagin'd in Water, as long as it is in motion. Nor is the Water congeal'd by that Cold, which is Nature to it self; for that which is in Caves and places under ground, where it continues in its own nature, is not frozen. Nor yet that which lies expos'd to the influence of a cold air, especially when it may easily insinuate it self into it. Whence it comes, that to cause water to freeze
in

in a short time, it must be warm'd before it be expos'd to the Air, which, finding its pores open by the heat, so much the more speedily insinuates it self into it. For as to what is maintain'd by some Physicians, to wit, that the Air is hot and moist, seems to have been advanc'd by them, rather to make a correspondence of the four possible combinations of qualities to so many Elements, than for any convictive reason; since the Air is never hot if it be not warm'd by some other heat then it hath in it self, such as is that of Fire or the Sun-beams, and these too must be reflected by the Earth. On the contrary, when it continues in its own nature, as it does in the night-time, during the absence of the Sun, it is actually cold: nay, even in the greatest heats of Summer, it keeps its coolness, provided there be no application made to a hot body, as may be seen in our Ladies Fans, who forcing away the Air from their hot faces, are refresh'd by its coolness, which then cannot proceed from any other principle than the proper nature of Air, inasmuch as motion would be more likely to imprint heat on them, then cold. And this is further confirm'd by the Air we breathe, the reciprocation whereof cools our Lungs, whereas it should warm them, if it were hot, as the *Peripateticks* would have it. It happens therefore that the Air, for that reason call'd by some Philosophers *primum frigidum*, the first cold, insinuating it self into the Water, produces therein the effect which *Aristotle* attributes to it, to wit, that of congregating all things as well of the same as of several kinds. And whereas our common water, what simplicity soever there may be in it, consists of all the Elements, especially Earth and Air, the Air joyning it self to what it meets withal of its own Nature, does in the first place render that cold; and being by that means united to the other parts, viz. to the Earth unperceivably intermixt with the Water, and to the Water it self, contracts and compresses them so as that they take up less space then they did before; as may be seen in a Bottle fill'd with water, and frozen up, which though it had been full, is nevertheless found to contain air in its upper part. And yet this compression cannot be so well made, but that there remain several particles of Air enclos'd in the Spaces of the Ice, which, were it not for that air, would be vacuous; and this, by reason the surface, as was said before, freezing up first, it from thenceforward hinders from making their way out, those parts of air, which either were got in before, or caus'd by the avoiding of vacuity, when the Center and other parts of the Water are forc'd by the Cold to take up less place then they did before. We conclude therefore, and say, that though the Ice be dense and hard, by reason of that compression of all its parts, yet is lighter than Water, because there is air enclos'd within it, which cannot return to its sphere, as that does which gets into the Water, which by reason of its liquidity makes way for it. So that it is no more to be wonder'd at, why Ice is lighter than Water, then that

that cork, being harder, is lighter than the same water. Otherwise, had the Ice no Air inclos'd within it, as it happens to that engendred in Mines, which in process of time comes to be Crystal, it would fall to the bottom of the water as the other does. The same thing may be instanc'd in porous wood, which swims upon the water; whereas Ebony, by reason of its solidity and want of pores, will sink.

The Second said, That whether the Air be granted to be light, or not, or that it pass only for a body less weighty than the water, as this latter is less heavy than the earth, certain it is, that the intermixt Air, not that comprehended within the concavities, but that diffus'd through the least parts of the Ice, is that which makes it lighter; inasmuch as it augments its sinuosities, as may be observ'd in a bottle fill'd with water, which breaks when the water is congeal'd, in regard that being converted into Ice, the bottle cannot contain it. So that, as Snow is lighter than Hail, so this latter is lighter than Ice; and this last is lighter than water, in regard it contains less matter in an equal space: Accordingly, it is the Air that freezes the water, yet does it not follow thence, that it should be the *primum frigidum*; as the Iron which is red hot burnes more vehemently than the elementary fire, yet is not that red hot Iron the *primum calidum*; that distinction proceeding from the difference of matter, which as it must be the more compact in order to a greater burning; so the cold, for its better insinuation into all the parts of the water, requires the conveyance of the Air. As to the lightness of Ice, it seems to be the more strange upon this consideration, that Physicians explicate lightness by heat, as they do heaviness by cold. But the fiery vapors which are in the water, as may be said of that which hath been warm'd, contribute very much to that lightness, it being not incompatible that these contrary qualities should be lodg'd in the same Subject, considering the inequality of the one in respect of the other; and it is not to be thought a thing more strange, that there should be potentially hot Exhalations in the water, than that the Nile should abound in Nitre, which is of an igneous nature. Now from what matter soever the cold proceeds, 'tis evident by its action that it is not a privation of heat, as some Philosophers would have maintain'd; since that which is not, as privation, cannot have any effect. But those who have referr'd freezing as well as thawing to the Constellations, seem to have come near the mark, in as much as those making certain impressions in the Air, which serves for a mean, to unite the Influences of the celestial bodies to the inferior, diversly affect them, one while contracting, another, dilating them, according to the diversity of matter; there being some not susceptible of congelation, as the Spirit of Wine and Quintessences, either upon the account of their heat or simplicity.

The Third said, That if the first qualities of cold and heat were the Causes of freezing and thawing, they would always happen

happen accordingly ; the former, when it is most cold ; and the other, when the cold diminishes. Now many times we find the contrary, there being some dayes without any frost, on which thaws, we are more sensible of cold ; and sometimes we perceive it yet without any perceivable remission of the cold. Whence we may well take occasion to attribute both to the Influences, which, coming to meet with, and possibly to introduce also into the water the conditions requisite, such as is cold in respect of ice, do insinuate themselves into the water. And whereas there is in these Influences somewhat of a celestial nature, and that they are rather spiritual than material Quintessences, the same thing happens to them as to Spirits, which make those Bodies which they animate, lighter, than they would be if they were inanimate.

CONFERENCE CCXVIII.

Of Masks, and whether it be lawful for any to disguise themselves.

THAT the wearing of Masks, and other ways for people to disguise themselves, is of great Antiquity, is apparent by the prohibition which God made to his own people, that the man should not put on the habit of the woman, which is a disguise commonly made with the Mask, in regard that otherwise the hair and beard of the man would discover his Sex. So that the Question seems to be already decided, and that it follows from this prohibition, that Masks are not to be allowed. But however, we may enquire, What repute they were in among other Nations. And we find, that they were frequently us'd among the *Romans*, who, about the beginning of the Spring, celebrated a Feast in Honor of the Mother of the gods ; in the pomp of which solemnity, it was lawful for any one to mask and disguise himself, and to represent what person or part he pleas'd, which was done bluntly enough, as the *French* Comedians were heretofore content to have only a certain powder or meal cast over their faces, as they still have in the Farce. To shew the viciousness of that posture, we need only urge the indecency of it, and alledge that the use of it ought not to be allow'd, in regard that all Dissimulation and Hypocrisie is a great sin in the sight of God and men : Now the Mask is so hypocritical, that the very word it self is commonly taken for Hypocrisie. Thence it comes that *Seneca*, defining the masked or hypocritical person, gives him this Character, *Cum præ se fert aliquis quod non est*, When any one would seem, or appear to be what he is not. Besides, if Painting be forbidden, and be accounted a capricious humour so prejudicial to decency and good manners, that there

is no Maid nor Woman, but thinks it an injury to be reproach'd with painting her self, what opinion ought we to conceive of those who disguise themselves? For it is imagin'd done out of no other end than to cloak their lewd actions, who make use of it; as we frequently find in the informations for Murthers and Felonies, that they are committed by disguis'd persons, who thereby would prevent the discovery of their crimes. Let therefore the use of the Mask be utterly discarded, as a thing which is contrary to that uprightness of disposition, the signs whereof are modesty and shamefastness, and by a prevention of blushing, ushers in impudence, abusiveness, and a contempt and falsification of God's Image imprinted on the face of man.

The Second said, That in times of War, the Horsemen, who are commanded out against the Enemy, having close head-pieces over their faces, seem to be so mask'd and disguis'd that they are not to be known; not so much to prevent their being wounded in the face, as to elude their Enemies, so as that they may not discover the Commanders and persons of quality, upon whose safety the gaining or loss of a battel depends. And this Dissimulation hath sometimes been practis'd with great advantage, when some private Souldier hath put on the armour, and rid the horse of the General of the Army, so to draw the Enemies Forces from that side, while they unexpectedly charge him on the other. And whereas he is commonly the Master of his desires, who can discover the counsels of his Enemy, and those cannot be known otherwise than by Spies, who would never be admitted either into Cities or the Enemy's Camp, if they did not in their habit and demeanour imitate him; what Question is to be made, but that it is lawful to put on disguises upon such a design, to get the more certain intelligence? To divert from Military Affairs to Merchandize, it is the safest way for him who would travel to dissemble his condition; and whereas Poverty is that which is least of any expos'd to dangers, unless a man will follow the example of *Ulysses*, who counterfeited himself a Beggar or Pedlar, of which profession all are not equally capable, it will not misbecome a great Lord to demean himself as an ordinary Gentleman, and sometimes to avoid surprizes, to act the part of his Servant, while the Servant acts that of a Prince. Let us divert thence, and make our appearance before the Courts of Justice; and we shall there find, that Attorneys and Lawyers, when they speak, are ever mask'd & disguis'd in laying open the Causes of their Clients, who on their side are also apt enough to dissemble & conceal whatever they think might prejudice them. So that the Painters had much more reason to represent the Lawyers, Attorneys, and their Clients, with a veil over their Eyes, than Justice; since that among them, he hath the reputation of the bravest man, who is the greatest Orator, and hath the best Lungs; and according to their saying, who have best defin'd the Art of Oratory; It is the Art of perswading people to what they please, by making great things
little,

little, and little things great, which, in other Language, is for a man to disguise all things, and himself into the bargain, inasmuch as he seems to believe the contrary to what he says and knows, and that among the rules of Oratory, this is one, that the Orator is to personate even to his voice and gesture, and accommodate himself to what he says, which is properly to mask himself, and that not only the face, but also the feet, the hands, the tongue, and all those parts of the body which are employ'd in pronunciation, elocution, and the gestures suitable to the thing treated of. Nor is it to be expected that Divines and Physicians are absolutely exempted from these kinds of disguises, since that, the better to insinuate into the affections of their Penitents and Patients, which is the way to gain their hearts, and by that means to Convert and Cure them, they ought to be very complaisant towards them, comply with their infirmities, and accommodate themselves to their humors in all things indifferent, that they, on the other side, may submit to their advice in those things which are necessary. And not to descend to particular Instances which might be made in all other Professions, this will be the result, that those who will find fault with Masks and Disguises, must, with the same breath, cast an aspersion on all humane society, which, as *Augustus* said at his departure out of this world, is nothing but a Comedy, wherein every one acts his part under a disguise. The same thing was said by one of the Satyrists, but much more pleasantly; for being, as we say here, upon the *Save-all*, that is, ready to give up the last gasp, he cry'd out to his friend, *Draw up the Curtain, the Play is done.* For the greatest part of our Complementments being only so many fictions and flatteries, Traffick and negotiations being so many disguises, and humane life consisting in those actions, the consequence is, that all the world is under a Mask, and that the less dangerous, since there are some make it their Profession to be mask'd, as do also Ambassadors and other persons of quality in some places of *Italy* when they have a desire not to be known. And as to what hath been said against Painting, it seems to be a little too severe to blame that pardonable curiosity, which the women are only guilty of, to preserve and heighten their greatest Treasure, that is, their Beauty, upon the account whereof they are principally recommendable to men; who, were it not for that, would be apt to sleight them much more than now they do. For what do the poor women do more in that than is daily done in Medicine, whereof one part treats of *Cosmeticks*, that is, of Painting, and is brought in for the reparation of the defects and deformities of Nature.

The Third said, That the Mask or Vizzard, by the *Latines* called *Persona*, either upon this consideration that it changes the condition of the person, causing him to be taken for some other; or haply *à per-sonando*, by reason of the new sound he gives the words pronounc'd through the Vizzard. This invention of Vizzards, as also that of speaking Prologues before Playes,

is by some attributed to one *Thespis*, an Athenian Poet, of whom it is said,

*Et planstris vexisse poemita Thespis
Quæ canerent agerentq; peruncti sacibus ora.*

By others, to *Æschylus* the Tragician,

*Post hunc personæ palleg; repertor honestæ
Æschylus.*-----

At first they painted with divers colours the faces of those Comedians, who were carry'd about the streets in Chariots; but that humour not taking so well, because the same Actor by that means found it very troublesome to act several parts, they found out the convenience of Masks and Vizards, made as near as they could like those whom they were to represent, till such time as the *Macedonians* became formidable in *Greece*. For these meeting with some persons in Vizards who resembled them, the Actors were somewhat at a loss how they should handsomely come off: whereupon the business being taken into deliberation, it was resolv'd, that those made thence forward should be for the representation of extravagant or ridiculous persons, or such as might frighten the Spectators; such as were those which the *Greeks* called *Mormolyceæ*, bug-bears, and *Oxyodentas*, and the *Latines*, *Larvæ*, (where with the Mothers threatned their little Children) *Gumias*, *Lanias*, *Sillox*, &c. These last represented the countenances of ridiculous and abominable women,

Cum personæ pallentis biatum

In gremio matris formidat rusticus infant.

She was also----- *Magno manducus biatu.*

They were at first made of the leavs of the Fig-tree, then of a certain herb that had large leavs, and, from its being us'd upon that occasion, called *personata*. Afterwards the said Vizards were made of the bark of Trees; whence came this expression,

Oraq; corticibus fumunt horrenda cavatis.

And at last they came to be of wood, whence this other,

Ut tragicus cantor, ligno tegit ora cavato.

Whence it may be infer'd, that the design of using Masks and Vizards upon the Stage, where it is most us'd, is in order to imitation, and to heighten the confidence of the Actors, who by that means are not known. And the convenience and decency of that

that custom is such, that one of the greatest reproaches lying on the memory of *Nero*, is, that having brought some persons nobly descended upon the Stage for to be Actors, he caus'd them to put off their Vizards while they play'd on the Flute, and forbad the Comedians to appear vizarded upon the Stage. To this may be added, that, according to the Counsel of the Holy Fathers, women and young maids, when they walk abroad, nay, when they go to Church, ought to be not only mask'd, but also veil'd, to prevent the temptations which the full sight of them might cause in men, and the distraction of their own and the others devotion. Now the female sex making up above one half of the world, we cannot, upon any rational grounds universally find fault with that thing or custom, the use whereof is allow'd to the greater part.

CONFERENCE CCXIX.

Of Fables and Fictions, and whether their conveniences or inconveniences be greater?

OF all the flowers of Rhetorick, lying is one of the worst, and withal so much the more pernicious, the more full it is of artifice. For if the saying of *Aristotle* be true; That the liar always deserves to be blamed, there is a certain resemblance between him who simply tells a lie, and him who simply takes away another man's life by poyson; inasmuch as the latter infects the Heart, and the former viciates and corrupts the source of our Ratiocination; the end whereof is only to come to the knowledge of Truth. As therefore the poysoning of a man is always a heinous and punishable crime; but that Steward who should poyson his Master, when he gave somewhat to eat or drink, when the other pretended to be extreamly hungry or dry, would be the greatest villany in the world, and deserve a far greater punishment: So he who simply tells a lie is not so much to be blamed, as he who covers and disguises his lie under the appearance of some probable history, which is clearly receiv'd by our understanding; and this thus drawn in by the liklyhood of the relation, grows less distrustful of it, than of the other kinds of falshood, which are deliver'd without any artifice. So that lying, and consequently Fables, and all the species thereof, have the same proportion to our Understanding, as Monsters have to Nature; our Understanding cannot endure them, whereas Truth is its sustenance. Thence it comes that those Fables which are destitute of the ornament of Truth, which is probability, are not heard with any patience, such as are old Wives Tales, and the like absurd relations, which are so ridiculous, that only the ignorance of Children is capable of entertaining them with any pleasure; but with so much the greater danger to themselves, in regard

gard that those tender Tables receiving the impressi^on of some false perswasion, will not afterwards so easily part with it; nay on the contrary, it commonly continues there to the end, at least some part of it, as if Time were not able so fully to eat it out, but there may be seen some lines of the first draught. Whence it comes that some eminent persons do account it a great oversight in the education of Children, to entertain them with Tales and Stories: instead whereof, those weak minds, wherein, as in soft wax, a man may easily imprint what he pleases, should rather be acquainted with History, which, by reason of its variety and truth, would be equally delightful, but much more advantageous. And indeed those who make use of Fables, thinking by them to teach truth, take a very preposterous way to do it. For all the advantage which may be deriv'd from Fables, is only to draw on mens minds with greater delight to the knowledge of true things: and it is easily found to be a way as unlikely to prevail, as if a man should make use of some place infamous and notorious for lewdness, as a School wherein he should read Lectures of Chastity to young Men and Maids; or lodge a Fuller or Whitener of Cloth with the Collier, one soyling all that the other had cleans'd.

The second said, that Man's understanding having its distasts and humourfomness, as well as his body, and Content being equally requisite for the sustenance of both, in regard that a coarser dish of meat taken with a good stomach is preferr'd before better chear forc'd down against Appetite; it is but necessary, that the same remedies should be used to recreate our minds, when they are wearied, and out of humour with an over-earnestness of study, as are us'd to retrieve and sharpen the languishing appetite. This latter is recover'd by feeding on some dish excellently well-order'd, such as by its haut-gousts, and picquancy will rather excite, then satisfy the Appetite. Such is the bitterness of the Olive, Vinegar in Sallets, and the like; which have the same effect as the stepping back of such as leap, or the appearance of a Fly on a face of an exquisitely fair complexion. These Fables are invented to reduce the wandering and wearied Understanding to its former interrupted pursuance of Truth. There are two kinds of them: One may be called a simple *Fiction*, such as are old Wives Tales, which deserve not the name of fabulous Relations, unless it be upon the account of their absurdity; and yet it ought to be season'd with something that is miraculous and delightful. The other is *Mythological*, which may be divided into four kinds. First, the *Poetical*, in one continu'd Relation, such as are the Metamorphoses of *Ovid*; or Drammatick, and accommodated to Persons, such as are Comedies and Tragedies. Secondly, the *Emblem*, or *Devise*, which is a real explication of some feigned thing, painted, or otherwise represented. Thirdly, the *Apologue*, such as are the Fables of *Æsop*; and these are divided into three sorts, the

the *Moral*, the *Rational*, and the *Mixt*. The *Moral*, are those, wherein irrational things are introduc'd, such as is the Fable of the two Pots, the earthen and the brazen; or that of the distribution of the prey between the Lyon, the Ass, and the Fox. The *Rational* are only of Men, such as is that of the Satyr and his Entertainer, whom he leaves, because he blew hot and cold out of the same mouth. Of the *Mixt*, we have an example in the Fable of the Fowler, and the Stork, taken in the net with the Cranes. The fourth kind is the *Romance*: The benefit and advantage of all which kinds of Fable is notorious to all: For besides that they comprehend that common recreation, which is opposite to the conflict of Mind, and serious occupation produc'd by the reading of Histories, the Poetical kind of Fable, I mean that of the continu'd Relation, where the Poet speaks alone, does make extraordinary discoveries of the old Pagan Antiquities, whereof a man cannot be ignorant without a great defect. The Dramatick, where Persons are introduc'd speaking, when it is represented by good Actors, makes a prevalent impression on the minds of the Spectators and Auditors, and hath nothing comparable to the other kinds of writing and expressing: so that it is the most efficacious instrument to move and work upon the Passions. There may also be very great advantages made of the other fore-mentioned kinds of Fable, especially of the *Romance*, which hath the same effect on our minds, in order to their instruction in goodness and virtue, as well-proportion'd Pictures have to teach us the art of Drawing. For, as there are not to be seen now any Pictures comparable, in point of body, to that of the so much celebrated *Venus*, which consisted of whatever was handsom in any Woman or Maid, and borrow'd the hair of one, the complexion of another, the neck of a third, and the breast and other members of others; so is it impossible that History should ever come up to the noble height and delight of the *Romance*. For, History, though it be not absolutely true, yet being oblig'd to represent things past with as much likeness as a picture is taken according to the face of him who is to be drawn, the consequence of that obligation is, that however it may embellish things and actions, yet is it still engag'd to expose them to the eye of the Reader as they are, or at least as they are conceiv'd to be. Now the number of unjust things much exceeds that of the just, and consequently the bad and sad examples will much shorten the Reader's delight. Whence it follows, that History wants those two principal ends, for which it ought to be sought after, to wit, content and advantage: whereas the *Romance* brings both along with it, as being commonly full of the rewards obtain'd by virtue, whereof one is, that a sincere and constant Love should at last be crown'd with the greatest of worldly enjoyments; and on the contrary, there are not wanting the punishments and executions of lewd and vicious persons; whereto add the strange variety

variety of the accidents, represented therein, which being carried on with nobler and more unexpected intrigues, extremely heighten the satisfaction of the Reader.

The Third said, That for any man to endeavour the discovery of Truth by its contrary, to wit, Fables, is to look for light in the midst of darkness; and as a certain Musician among the Ancients demanded a double reward, for teaching those who had been instructed amiss in that Art, for this reason, as he said, that there was a certain time requisite for the forgetting of what they already knew, and as much for learning how to play well: so that Child, who shall have heard of the universal Deluge by the Fable of *Deucalion* and *Pyrrha*, will find more difficulty to disengage his mind of those stones, which, they having cast behind them, became men and women, then he will have to imprint in it the natural Story of *Noah* and his Ark. The same thing may be said of all the other Fables, out of which there is any truth to be deriv'd; to wit, that it is like the ordering of Crabs, where there is much more to be picked away, then there is to be eaten. Nay the *Romans* themselves, who seem to be more instructive, may be reproach'd with this, that they have not represented to their Readers, the State of life and civil Conversation, as it really is, but have entertain'd them with a *Platonical Commonwealth*. And that discourages men very much, when they find the course and customs of the World to be contrary to what they had taken so much pains to read: Whereas the young man will be the less startled to find himself hiss'd by his Auditors, when he speaks well; and slighted by Fortune, when he does well; while the ignorant and the wicked are her greatest Favourites, after he hath read in History of many Persons of worth so treated; than he would be, if he thrust himself into affairs, having never seen any thing but examples of Vice punish'd, and Vertue rewarded.

CONFERENCE CCXX.

Whether it be better to go to bed late, and rise betimes in the Morning; or do the contrary.

THough it be a kind of recession from the common opinion, to prefer going to bed and rising late, before the opposite; yet is it to be noted by the way, that most Persons of great affairs, and the more judicious sort, observing that course of life, are of that judgment; since that to approve a thing is to do it. Now we see that all the great Lords and Ladies about the Court, the most refin'd spirits, and such are best able to judge of all things, nay most men who have any thing more than an ordinary

dinary burthen of affairs, for the most part go to bed late, and rise late; whereof several Reasons may be assign'd. The first and most ordinary, me-thinks, are the affairs themselves, which insensibly steal away the time from us; and that the more unperceivably, the more delightful that business is, about which we are employ'd; the time sliding away faster from him, who takes a pleasure in the doing of a thing, then it does from another who is in some trouble of mind or body. Whence it comes, that a tedious Tale, and a bad Book, are ever thought too long. They therefore are to be thought the happiest, who, if they had their own wills, would go to bed latest; not only for that reason which made a certain King of this part of the World say, That he would be King as long as he could, inasmuch as when he slept, there was no difference between him & the meanest of his Subjects: but also for this, that night surprizing them before they had done all their business, the Supper or Collation must be the later, and consequently the going to bed. The second reason is deduc'd hence, that there ought to be a correspondence between the tranquillity of the mind and that of the body. It being therefore necessary, that he who would take a good sleep should not be subject to any disturbance of mind, & that indisturbance being procured only by that order which every one hath taken in his affairs, it is to be imagin'd, that the later a man goes to bed, the more business he hath dispatch'd, and consequently there remains the less to be done. Upon this score is it, that Merchant's Suppers are accounted the most quiet, for having spent the whole day in trudging up and down about their Trade, they then enjoy themselves with greater serenity. In the third place, a man should not go to bed, till digestion be pretty well advanc'd; from the want or slowness whereof, hideous Dreams, Crudities, Ventosities, nay sometimes Apoplexies, do proceed. Now this digestion is so much the more advanc'd, the later a man goes to bed: which difference will be best observ'd by those, who go just from the Table to their beds, and lie down as soon as the meat is out of their mouths. Fourthly, that Custom is ever the best, from which it is in a man's power most easily to wean himself, and in the change whereof he will be subject to least inconvenience. Now he who hath contracted a habit of going to bed late, will find it a less inconvenience to go to bed betimes, that so he may rise betimes, or upon some other Motive, then he shall, who hath accustomed himself to go to bed betimes, for he will be sleepy, and unfit for the doing of any thing, as soon as his bed-time is come. Fifthly, *Hippocrates* would not have a man enslave himself to an over-strict course of life, grounding his advice on this, that such regular persons find it the greater difficulty to support the miscarriages which oftentimes cannot be avoided in the ordinary course of life; as those who walk upon ropes are more apt to fall, at least find it a harder matter to keep on, then those who walk on the plain ground. Now those who go to bed betimes are commonly more regular in the hours of Supper, and all the other actions of the day, upon the exact observance whereof that of their bed-time does

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depend. Now it is obvious to any one, who shall consider the difference of professions, that there are but few that leave a man at liberty to observe so exact a rule as this is. So that being sometimes necessitated to make a breach of it, the consequence will be, that those who have the more strictly engag'd themselves to the observance of the rule of going to bed betimes, must needs receive a far greater inconvenience from the neglect of it, than they ordinarily do who go to bed late. Sixthly, the same reason that obliges phlegmatick persons, and such as are subject to Catarrhs, to content themselves with little sleep, which is this; that their humidity, joyn'd with that of sleep it self, augments their distemper; besides, that Sleeping which moistens and cools, is not so well procur'd in that part of the day which is most cold and moist, that is, from nine at Night till three in the Morning, but rather towards the Morning, at which time the Blood begins to be predominant, inasmuch as in so doing he abates somewhat of its Heat, and being to dilate it self till ten in the Morning, at which time Choler begins to be predominant, moderates its acrimony; as all those will acknowledge, which Sex soever they be of, who are subject to the Megrim, who find very great ease by that Morning sleep, which accordingly is found to be the most delightful; and hath this further advantage attributed to it, that the Dreams thereof are propheticall, and will come to pass in a short time; whereas the others are accounted superfluous by those who have been Professors in that Art. Moreover, those who rise too early in Morning are subject to the Headach in the Afternoon, and more easily transported with Anger all the rest of the day; to effect which, the consideration of the Temperament does very much conduce. For, as sleeping in the day time is born with in Old Men and Children, and that in both, by reason of their weakness, and for the recruit of their Spirits, and, particularly in Old Men, to take off somewhat of the acrimony of that ferous phlegm which is predominant in them; so, the greater part of Men being subject to Choler, (whence haply proceeded the error of some Physicians, who talk of nothing but refrigeration in all diseases) and the coolness and moisture of the Night correcting that hot and dry distemper, it is the more convenient, that Sleep should do as much in the Day time, by taking off then somewhat of their Choler.

The Second said, That the retrival and restauration of the Spirits obliges the Animal to sleep, which ought to continue at least for such a space of time as amounts to the third part of that a man hath been waking, and should never exceed the one half of it. Far is it therefore from being imaginable, that Nature should be able to endure what is affirmed of the seven Sleepers, or the long nap of *Epimenides*, which lasted fifty years. Nor are we to give any more credit to what is related to us concerning a Plant in the Low-Countries, which will keep people waking many nights and dayes together, without any inconvenience; but the time when we should begin or end our sleep, being left to our

our own discretion, 'tis requisite we should accommodate our selves to the order prescrib'd by Nature, which hath appointed the day to labour, and the night to rest in: Nay, it is also the advice of *Hippocrates*, *Galen*, and all Physicians, who think it not enough to direct rest in the night, and waking in the day, but also conceive very great hopes of those, who, in the time of their sickness, are so irregular therein. Add to this, that darkness, silence, and the coldness of the night being fit to recruit the Spirits, and promote their retirement within; whereas light, noise, and the heat of the day, are more proper to occasion their egress for the exercise of actions; which granted, he who observes not this rule charges Nature with an erroneous proceeding. And that this is her way, is apparent hence, that those Animals which are guided only by her motion, (which is as certain as our reason is ordinarily irregular) go that way to work. Cocks and other Birds go to their rest, and awake with the Sun; if any of our Domestick Creatures do otherwise, our irregularity is the cause thereof and that perversion is of no less dangerous consequence than that of the Seasons, which is ever attended by diseases. And who makes any doubt but that the greatest perfection of the Heavens consists in their regular motion, the principal cause of their duration? Which order since we are not able to imitate, it is but requisite we should come as near it as we can in our actions, among which sleeping and waking, being the hinges on which all the others of our life do hang, if there be any irregularity in these, confusion and disorder must needs be expected in all the rest, as may be seen in the lives of Courtiers of both Sexes, who turn night to day, and day to night, a course of life much different from that which is observ'd by the Superiours and Members of regulated companies. Besides, it is the Morning that not only holds a stricter correspondence with the Muses, but is also the fittest time for the performance of all the functions of Body and Mind. Then is it that Physicians prescribe exercises, in regard that the Body being clear'd of the Excrements of the first and second concoction, is wholly dispos'd for the distribution of Aliment, and evacuation of the Excrements of the third. So that he who spends that part of the day about his affairs, besides the expedition he meets with, does by that means maintain the vigour of his Body and Mind, which is commonly dull'd by sleeping in the day time, which fills the Head with vapours, and when exercise comes to succeed it in the warmest part of the day, the heat which is then commonly greatest makes it less supportable. Therefore Nature, who is a sure guide, inclines us to sleepiness in the Evening, there being not any thing but the multiplicity and distraction of Civil Affairs, which, depriving us of that Function, as it does of divers others, makes the Life of Man so much the less certain, the more he is involv'd in Affairs; whereas the duration of that of Animals, and, next to them of Country-people, and

such as comply with the conduct of Nature, is commonly of a greater length and more certain.

CONFERENCE CCXXI.

*Whether the Child derives more from the Father,
or the Mother.*

IF our Fore-fathers may be conceiv'd wise enough to have known the nature of things, it is to be acknowledg'd, that the Child derives most from the Father, since that they thought fit to bestow on him his name rather than that of the Mother; and that the name is the mark and character of the thing. Besides, the Male being more perfect, larger and stronger than the Female, which indeed is an imperfection and default of Nature, whose constant design it is to make a Male, and is not disappointed; but through want of heat, vigour, and temperament; it is but rational, that what proceeded from these two, should have the denomination from the more perfect of them. Thus a Regiment is known by the name of the Colonel; a City, by that of its Founder; a Law and Ordinance by that of the Law-giver; and a Receipt, the Composition whereof consists of two simple medicaments, hath most of the nature of the stronger, and that which is of greatest virtue. This is further confirm'd by the common Comparison, which is us'd to express the difference there is between the Father and the Mother in the business of generation. For the Mother, and particularly, the Matrix, is compar'd to a field, and the paternal seed to the grain which is sown in that field, which serves well enough in order to its sprouting and shooting forth, but supplies it only with matter, which is determinated by the form of the grain, from which the Plant produc'd of it receives its being. So that the present Question amounts to no more, than if a Man should ask, Whether an ear of Wheat deriv'd more from the ground, or from the seed that had been sown in it? A further proof hereof may be deduc'd from the instruments of generation, which being more apparent in the man than in the woman, are a silent insinuation, that the former contribute more thereto than the latter. And the greatest and most remarkable difference that there is between the Children being that of the Sex, the experiment alledg'd by Physicians, that if the right Testicle be bound, Males will be produc'd, as Females will if the contrary, clearly shews that by the Father's part the Sex is determinated, and consequently, it is from him that there do also proceed the least individual differences and circumstances, wherein the likeness or unlikeness of Children to their Fathers and Mothers, either in Mind or Body doth consist.

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For if the Males especially should retain more from the Mothers than they do from the Fathers, that proverbial saying would prove false, which affirms, that

Fortes creantur fortibus-----

in regard that most women are chargeable with a want of Courage. And daily experience makes it apparent, that one of the greatest and most common causes of Valour is deduc'd from the Fathers side: Upon which principle is grounded the account we make of Nobility, which comes seldom but from the Father's side, whereas the want of Nobility on the Mother's side, does not make the Child less a Gentleman. Nay some have made it a Question, whether the Mother did contribute any thing to the formation of the *fetus*, or only found it nourishment. But those who have treated more nicely of this matter unanimously agree, that the Woman's Seed is much weaker, and more watery than that of the Man, serving only to qualify it, as Water does Wine, yet so as that the Water is converted into the nature of the Wine, and is call'd Wine as soon as it is mixt with it. As to those Children who chance to be more like their Mothers than their Fathers, 'tis to be conceiv'd one of Nature's sagaries, who delighting in variety cannot produce many children, but there must consequently be a great diversity of Lineaments in their faces, and figures in their members; among which the idea of a Woman imprinted in the imagination of the Father may be communicated to his Seed, which consequently expresses that figure.

The second said, That there were three kinds of resemblances, to wit, that of the Species, that of the Sex, and that of the Effigies, as to the Body, and that of manners, as to the Soul. The resemblance of the Species is, when a Man begets a Man, a Woman proceeds from the material Principles of Generation which the Mother contributes more plentifully than the Father: the proof whereof may be seen in the copulation of Animals of different Species. For if a Hee-goat couples with a Sheep, he shall beget a Sheep, which shall have nothing of the Goat in it, save that the fleece will be a little rougher than it is wont to be. And if a Ram couples with a She-goat, the production will be a Goat, whose hair will be somewhat softer than otherwise. But as to what is related of *Aristo's*, having had a Daughter by an Ass, who for that reason was called *Onoscele*; of *Fulvius Stelli* us, having another by a Mare, who was thence called *Hippomare*; and of a Sheep, which brought forth a Lyon, in the pastures of *Nicippus*, to whom it prefaged Tyranny; of *Alcippa*, who was deliver'd of an Elephant, having been impregnated by an Elephant, are to be look'd on as monstrous, and possibly fabulous Productions.

The resemblance of the Sex depends on the temperature and pre-

predominancy of the Seeds. For if the seed of both Male and Female be very hot, Males will be engendred; if cold, Females; and both of them will be either vigorous or weak, according to the predominancy of heat or cold. Whence it follows, that this resemblance does not proceed more from the one than the other, of those who are joyn'd together: but the resemblance of Effigie, and the other accidents of the Body, and of the manners is more hard to resolve, there being a secret vertue in both the Seeds, which, as *Aristotle* affirms, is continu'd in it to the fourth Generation, as may be confirm'd by the story of *Helida*, who having lain with a Negro, brought forth a white Child; but her Grandchild by that was black. *Plutarch* affirms the same thing to have happen'd in the fourth Generation of a Negro. And yet this resemblance proceeds rather from the Mother's side than the Father's; for if the causes, which communicate most to their effects, imprint most of their nature into them; by that greater communication, those effects accordingly retain so much the more of their Causes. Now the Mother communicates more to the Child than the Father does, for she supplies him with Seed, those who have maintain'd the contrary being persons not much skill'd in Anatomy, and after she hath contributed as much as the Father to that Generation, she alone nourishes the *fetus* with her menstrual blood, which then begins not to follow any longer the course of the Moon, whereby it was regulated before. Besides, coming thus to furnish the said *fetus* with nourishment, for the space of nine Months, it is no wonder she should absolutely transform it into her own nature, which is thence accounted but one and the same, in respect of both Mother and Child. Now there is not any thing liker, or can retain more of it than the thing it self; which cannot be said of the Father, who is not only different from the Embryo, whom he hath begotten, but also hath not any thing common with it, after that first action. So that there are many Children *posthumi*, and born long after the death of their Fathers, which thing never happens after the death of their Mothers; nay it is seldom seen that a Child taken out of the body of a Mother ready to dy, ever thrives much afterwards. Though we shall not stick to acknowledge, that what is related of the first person of the race of the *Cæsars*, from whom that Section was called the *Cæsarean*, might possibly happen, according to the Relation; yet is it done with this restriction, that most of the other Stories told of it, are fabulous. But if the Mother comes afterwards to suckle her Child, as Nature and the Example of all other Animals teaches her, which is haply the reason of their being more vigorous, and of a continuance of life more regular than that of the man, that second nourishment added to the former, being drawn from her milk, which derives the quality of the mass of blood, from which it is extracted, makes him absolutely conformable to the Mother. For if nourishment may, as we find

find it to be true, change the Temperament of Persons well advanced in years, with much more reason may it work a remarkable alteration in the Body and Mind of a Child newly come into the World, who is as it were a smooth Table susceptible of any impression. Whence it is to be concluded, that they proceed very rationally, who are so careful of the well-fare of their little ones, (when the Mothers, either by reason of sickness, or upon some other account, are not able to bring them up) as to be very inquisitive about the Nurses they put them to, and the quality of their Milk. Nay, what is more; are not the changes caus'd by Nurses in the Body of the Infant as considerable, as that which happens to the two seeds of Male and Female mixt at the Generation, which recover their increase by the irroration of the Maternal Blood which flows thereto; and, if it be impure, does communicate its impurity to it; as, on the contrary, being pure, it is many times able to purifie the corrupted seed of the Male. Whence Physicians have observ'd, that sound Children have descended from Fathers subject to the Leprosie and such diseases. Add to this, that the safety on the Mothers side is greater than on the Father's. Moreover, they are the Mothers, from whom proceeds the Imagination, which acts upon their Embryo all the time they are with Child; and thence it comes, that they are much more fond of their Children than the Fathers; which fondness is a sign that there may be more of the Mothers observ'd in the Children, than of the Fathers. For the love we have for our selves is so great, that God would have it to be the measure of that which we ought to bear unto our Neighbour; and that which we bear to God himself hath some reference to his affection towards us. Those therefore who would insinuate themselves into the favour of any one, have no surer way to do it, than by complying with his humor, and as much he can become conformable to him.

CONFERENCE CCXXII.

Whether is harder, for a Vertuous Man to do that which is Evil; or for a Vicious to do that which is Good.

BEfore we come to the Resolution of this Question, we are to consider two things; the former, that Man consists of two parts, the Superiour, which is the Soul; and the Inferiour, which is the Body; and whereas these two parts have different objects, and such as which contradict one the other, there happens to be a great Conflict; the body being strongly inclin'd to sensuality, and the Soul endeavouring to raise her self up to spiritual things. But in regard the Organs she makes use of are material,

terial, such as are also the Senses, which assist her in her operations, it is not to be thought she can overcome without great pains; inasmuch as the instruments which she stands in need of, for the exercise of Virtue, hold a greater correspondence with the Body; and as they derive their Being from matter, so they betray the Resolutions of the Soul, reducing her under a Tyrannical Subjection. Whence it follows, that the wicked or vicious person finds it the greater difficulty to do well; inasmuch as being enslav'd to vice and sin, he cannot shake off that yoke, as having a constant inclination to evil.

The Second thing to be consider'd, is good and evil in it self; for, according to Nature, there is no evil in Humane Actions, inasmuch as in appearance they are all good; otherwise the Will, the object whereof is that which is Good and pleasing, would not be inclin'd thereto, since good is that which all things desire. There are therefore two sorts of good, and as many of evils, one Natural, and the other Moral; the Soul is easily inclin'd to the Moral good, and the Body to the Natural; and, consequently, it is much more easie for the Vicious person to do a Moral good, than it is for the Virtuous Man to do a Moral Evil.

The Second said, That it is harder for a good Man to do evil, in regard that to the virtuous man Virtue seems so fair and taking, that he finds it the greatest difficulty in the world to forsake her, and so to embrace Vice, which he looks upon as a hideous Monster, inasmuch as Beings and Substances are more amiable than Privations are odious; in regard that as Love respects the things that are amiable, and aversion is not extended to that which is not; in like manner, Vice is not so much shun'd, as Vertue is belov'd: Whence it follows, that it is a greater trouble for the good man to do that which is evil, in regard he knows the perfection of good, as much as the vicious person is ignorant of it; and, from that ignorance, there must needs proceed a difficulty and backwardness of embracing it.

The Third said, That the vicious person finds it a harder task to do well, in regard that Nature is strongly bent towards that which is evil; and, consequently, the virtuous person, when he does that which is evil, easily falls down into the bottom, according to the descent of humane inclinations; and the vicious person, when he does that which is good, climbs up a high Mountain full of Rocks and Precipices, and engages against Nature her self, being in open hostility against the sensual Appetite, and, according to the Scripture, *We do not the good which we would do, but the evil we would not do, that we do*: To shew that the difficulties men find in the pursuance of good are so great, that Saint Paul himself complains of his *having a Law within him which rebelled against the Law of God*. This Nature of ours being full of the imperfections conceiv'd in Original Sin, hath so great a repugnance to good, that there was a necessity of a Law of Grace to regenerate it, in order to the pursuit of good, a compliance with

with the true sentiments of Religion, and the knowledge of God; not to urge, that Pleasure hath so great attractions and charms, that it is almost impossible to over-master them. Thence it came that *Ulysses* order'd himself to be bound to the mast of his Ship, and caus'd his ears to be stopp'd, that he might not hear the harmonious voices of the Syrens; otherwise his Reason would not have been so strong as to over-master his sensual Appetites, which must be either destroy'd, or so fetter'd, that the Soul may not be drawn away by pernicious temptations.

The Fourth said, That Virtue was natural to Man before *Adam's* Transgression, and, from the time of his rebellion against God, Vice hath seated it self in her place; so that when Innocence forsook our first Parent, all vices and imperfections possess'd themselves of his Mind, and are become so naturaliz'd there, that it begat a necessity of establishing Divine and Humane Laws: whereof some were for the eradication of Vices; others, for the punishment of Crimes; all which trouble might have been spar'd, if there had not been so much difficulty in the doing of that which is good.

The Fifth said, That it being suppos'd, (as indeed it is true) that Humane Nature is more inclin'd to Vice than to Virtue for the reasons before alledg'd, yet is there a certain means to frustrate and destroy that Inclination, and advance the Soul to a sovereignty over the Body, by abolishing and destroying the Senses, and those intellectual powers whereby the Organs are govern'd. For if the Body have the Masterhip, the Soul will be forc'd to obey; but if the Soul commands, she will bring the Body into subjection to all the vertuous actions she pleases her self. And then the Vertues will be naturaliz'd in man, and the Question propos'd will meet with a contrary Solution; for in that Case, it will be much more hard for the vertuous man to do that which is evil, than for the vicious to do well; inasmuch as the virtuous person by that mortification of the Senses, will be in a manner reduc'd to the state of original innocence, and restor'd to the glorious condition Man was in before the Fall.

The Sixth said, That such a moral regeneration is a great Cabalistical Secret, unknown to all the learned; that such a mortification and destruction of the Senses as was propos'd, is a work not yet well discover'd to the Curious, as transcending all common rules. For, if the Soul acts not without the assistance of the Organs, and the interior and exterior Senses, the weakening or destroying of these will contribute to the weakning of the Soul; and instead of making a Prophet, the transformation will be into some Hypochondriack, or extravagant Phanatick, as it happens to those who macerate their Bodies by an indiscreet zeal; insomuch that having not the perfect knowledg of that Science, it were more expedient that men had a recourse to the ordinary means of Morality, to regulate the Passions of the Soul, and bring her to the pursuance of Virtue. Now according to the rules of Morality,

rality, even those who are good, are much inclin'd to evil, and find it no easie matter to oppose it.

The Seventh said, That it is as hard a matter for the vicious person to do well, as it is for the virtuous to do ill, in regard that the inclination, which the good man hath to do good and eschew evil, is equal to that of the wicked person, which is always bent to do evil, it being very difficult for him to embrace Virtue by shunning Vice, by reason of the aversion which he hath to that which is good. And to make this the more clear, we commonly find some persons so naturally addicted to the exercises of Virtues, that what they do seems to be without any study. Whence it may be deduc'd, that the first seeds of Virtue and Good proceed from those natural Dispositions, which are called *Inclinations*, and, consequently, the difficulties in both are concluded to be equal. And that may also be observ'd in *Socrates*, who himself acknowledg'd, that his natural Inclinations were so bent to Vice, that if the dictates of Philosophy had not wrought things in him befitting the person, whom the Oracle had declar'd *wise*, he would have been carry'd away with sensual Appetites, according to his natural Inclinations; there being some Natures truly Heroick, and ever doing well; and others brutish, and always inclin'd to evil. To this we are to add the consideration of the persons, their qualities, and age; inasmuch as there being somewhat particular in any of these circumstances, it changes the resolution in the general proposition, which being universal, and of a large extent, it were necessary, in order to the finding out of the Truth, that we confin'd our selves to these circumstances, yet still following the forementioned opinion. For as fire finds no difficulty to ascend, no more than the water does to flow downwards and make towards its centre; so every one complying with his own Inclinations, stands in an equal bent towards good and evil, without any trouble or difficulty; but to proceed contrary to that motion, the virtuous person finds the trouble attending the doing of a evil action, equal to that of the vicious in doing a bad one.

The Eighth said, That this bent of the Inclinations ceases in those who are one while inclin'd to the doing of that which is good, another, to the doing of that which is evil, as may be observ'd in *Nero*, who, during the first five years of his Government, was the mildest of any of the Emperours, yet afterwards gave himself over to all manner of Cruelty. For what can be said of this alteration, and if a man be naturally inclin'd to good, Why is not the same inclination continued in him? Does this inconstancy proceed from the mind or from the body? If it proceeds from the mind, since the powers thereof have a certain knowledge of the Good, Why does it not embrace that which is good, answerably to its knowledge of the same? If it proceeds from the body, since this hath a dependance on the mind, why does it not follow the impressions which it derives from

from the other? The Professors of Astrology, who give so much credit to their Influences, affirm, that these diversities proceed from those Constellations, whereby that change is caused, and by which the Will is moved, and receives a bent either to good or evil; but if Reason have the sovereignty, it ought to be conformable, and produce such effects as are answerable thereto. There is therefore a great probability, that the causes of good and bad actions are to be referr'd to the regeneration of the Elect, and the reprobation of the wicked, who are left to the pursuance of their sensuality; and thence it will follow, that it shall be as hard for a truly-devout person to sin, as for a reprobate to do well; and so the Question is to be referr'd to the decision of Theology.

CONFERENCE CCXXIII.

Whether a piece of Iron laid upon the Cask prevents Thunder from marring Wine contain'd within it, and why?

Since we are always to begin with that which is undeniable in matter of fact, whereby we are assur'd, that a piece of Iron laid upon a vessel full of Wine, prevents its being corrupted by Thunder, which, without that precaution, would cause it some prejudice; which precaution hath also the same effect in preserving the Eggs which the Hen sits upon, and in keeping Milk from turning; all the difficulty of this Question is only in the latter part of it, and that is, to find out the reason thereof, which must either be referr'd to some occult vertue in the Iron, or to some of its manifest qualities. If it be said that this is wrought by the manifest qualities of that metal; it seems requisite that the Iron should be within the vessel with the Wine, that so it may oppose the poyson of the Air whereby it is infected. But on the other side, to alledge those occult vertues, is an argument of humane ignorance, inasmuch as they are to act by the interposition of some means: So that, all things considered, it is more rationally affirm'd, to be an effect proceeding from the manifest qualities of the Iron, which prevent and hinder that bad impression of the Air. But to give a more evident reason hereof, we are to consult Astrology. That Science teaches us, that *Mars*, by which Planet Iron is designed, hath its House in *Aries*, which is the sign of the Ram; and the Naturalists observe, that the Sun entering into that House, causes the sap and moisture of the Vine to ascend, an evident sign that there is a correspondence between Wine and Iron, and that the one preserves the other by the natural Sympathy there is between them. And to make it appear that the Influences exercise their vertues even upon things inani-

mate, yet deriv'd from the root of what had been Vegetable or Animal, we find that Wine, though it be carried ever so far, is subject to an observable alteration, when the grapes of the same Vine are near their maturity; that distance of Places and Climates not obstructing the Union and Correspondence which there is between the whole and its part, which cannot be joyned together save only by means of the Celestial Influences.

The Second said, That the foremention'd reason deduc'd from Astrology was not evident, and that there is more subtilty in it than Truth, and, consequently, that it is to be sought with greater probability to find it out of Natural Philosophy, which treats of Meteors, where the greatest difficulty is to know whether that effect is produc'd by the expulsive, or by the attractive and retentive vertue. That we should affirm it proceeds from the expulsive vertue, cannot with any probability be done, inasmuch as expulsion is to be wrought by somewhat that is more powerful and more subtile. Now there is not any likelihood, that Iron should be more powerful and more subtile than Air, inasmuch as the Iron is of a more weighty matter, passive, earthy, and hath somewhat of the nature of that Passive Element. We may therefore rather affirm, that this effect is wrought by the attractive and retentive vertue; which opinion is prov'd, in regard there is but one humid matter, which the central fire forces from the deepest part of the Earth; and of the more unctuous and weighty part of this matter Metals are made; of the less weighty, Minerals and Salts; from the subtiler part Vegetables and Animals derive their nourishment; of the most subtile are produc'd the Winds, Thunder, and all the Meteors, which participate of Heat and Drought, which make several combinations in the Air. Now whereas it is from the most imperfect part of this unctuous matter that Iron is made, of an earthy and impure Sulphur, it is deducible thence, that there is a Sympathy between Iron, and the gross vapours of Thunder and Lightning: To make which out a little more clearly, we find that the places through which Thunder hath pass'd, smell of Sulphur; nay, there is fram'd in the Air that which is commonly called the Thunderbolt, which somewhat resembles Steel, as it were to shew the correspondence there is between Iron and Thunder. So that the Air, being impregnate by those noisome terrestrial vapours, which are of the same nature with Iron, meeting with some piece of it laid on a vessel, is joyn'd to the Iron by Sympathy, makes a sudden stop there, and puts a period to its operation; and the Iron by its attractive vertue receives them, as by its retentive it retains them, and by that means prevents their effect.

The Third said, That though that opinion were probable; yet doth it require a more ample discussion, and we are to examine how this attractive vertue operates. Now there are four Natural Vertues which govern all the operations of Nature and Art; the *Attractive*, which is now under consideration, acts by heat
and

and a temperate drought; the *Retentive*, by drought and cold; the *Expulsive*, by moisture and heat; the *Digestive*, by heat and a temperate moisture. The Iron then which is said to attract these vapours, hath indeed those qualities of heat and drought; yet can it not be easily conceiv'd, that a little piece of that mettall can check the malice and infection of a great quantity of Air, spread all over a spacious place; besides that it is also necessary, that the Iron should send forth out of it self the effects of its qualities, that so the attraction might be made, the marks whereof are neither seen on the Iron, nor the effects of the qualities out of the Subject, inasmuch as mettals being quench'd in cold Water, are not evaporated but by a violent fire. So that it may as well be said, that the attraction is wrought by some occult vertue, which draws; yet so as that neither the attraction nor the manner of it can be observ'd.

The Fourth said, That the operations of Nature are not like those of Art; her ways and contrivances are more obscure, and the causes of things are occult; as for example, the Load-stone draws Iron, yet so as that there cannot be any thing perceiv'd of any body of air and smoak issuing out of the Loadstone. And the magnetical Balsom, or Weapon-salve, cures a wounded person, though at a great distance; having only some part of his Cloths, yet can there not any thing be observ'd on the Subject which receives the Plaister; so secret and silent is Nature in her Operations. On the contrary, the designs and contrivances of Art may easily be discover'd, as those of a Clock or Watch. But the reason of this diversity of operations between Art and Nature, is, that Art goes to work publicly and before the Senses, and Nature does her business within doors and secretly; the latter works in the Centre, the other in the Circumference; one produces the seed of the combination of the Elements, whereof she keeps an exact account of the weights and proportions; and the other can neither make nor produce any thing, as being only in a capacity of making use of the substance and materials of Nature, in order to their joyning together, after she had prepar'd and purify'd them. But on the other side, Art hath this advantage, that her works are much more perfect, inasmuch as she makes use of purify'd essences, and the other of accidents and superfluities, having not instruments fit for the purifying of her Materials. So that there are some who doubt of the reality of the effect now under consideration. And therefore, ere we proceed any further to the finding out of the causes and reasons thereof, it were requisite a strict enquiry should be made, whether it be certain that Iron prevents the effects of thunder, by preserving Wine and Eggs under a Hen that sits, from receiving in any prejudice.

The Fifth said, That what was confirm'd by general experience was not any longer to be question'd, and that whoever stood upon the Negative betray'd his own ignorance; that for

us to think to find solutions for all the possibilities of nature, were an attempt somewhat like that of exhausting the Sea; That there are certain secrets in Nature of things dreadful to humane Reason, incredible, according to the principles of Art and of our Knowledge. That Nature is the great *Circe*, the grand Sorcerers, That the Load-stone draws Iron to it; That there is a certain Stone called *Pantarbe* which draws gold to it; That dead Arse-smart being laid under a Stone, cures the wound on which it shall be rubb'd, sooner or later according as the Herb putrifies; That the hair or wool of a mangy beast being thrust in, for a certain time, under the bark of an Aspen-tree, cures the beast of vermine; That the *Menstrua* of Women trouble Springs, spoyl Looking-glasses and Powdering-tubs; And if there be some things that corrupt them, it is not to be imagin'd that Nature is so cruel a Step-mother, but that there may be others whereby they are preserv'd, and so the Remedies may come from the same hand as caus'd the disease; That the Hazel-tree discovers hidden Treasures and Mines; That Talismans are made against Serpents and Insects, nay against some Diseases; That there is a mutual friendship between the Olive-tree and the Myrtle, whereof it would be as hard a matter to give any reason, as it would be to give any, of the enmity between the Vine and the Laurel, and the inclination which the Male-palm hath towards the Female; That the crowing of the Cock frightens Lyons, and that that Bird should be so exact a Fore-teller of the Sun's approach; That the Fish called a Remora, stops Ships under sail; That the eye of a Dog prepar'd after a certain way keeps others from coming near the person that hath it; That the powder of Crab-shells prepar'd, draws out Arrows and Bullets shot into the Body; That there is a certain Stone got out of the Snake, which cures such as are subject to the Dropsie; That Serpents are not found within the shade of Ash-trees; That the Marygold follows the motion of the Sun; That the precious Stone called a Topaze put into seething water, immediately stayes the seething of it; That the Emerald, the Sapphire, the Turqueis Stone, and Coral, change their colours, upon the happening of certain accidents to those who have them about them; That there are certain Herbs which chase away spirits, as well as Musick does; and that the dispositions of a black and adust choler invite and entertain them. Now from all these instances it may be deduc'd, that, as it is a great presumption to think to give reasons of all things, so does it argue a certain weakness of mind to doubt of all that hath been alledged; so great are the abysses and inexhaustible treasures of Nature, whose operations transcend humane belief, in thousands of other things, as well as in the Question now under dispute.

CONFERENCE CCXXIV.

*Of Stage-Plays; and whether they be advantageous
to a State, or not?*

HUmane Life is travers'd by such a vicissitude of distractions and disturbances, that not only the Civil, but also the Ecclesiastical Magistrates have unanimously concluded it necessary, that men should have some divertisements, whereby their minds and bodies, not able to undergo continual labour, might receive some relaxation, for want whereof they would be crush'd under the burthen of their affairs. Now among those relaxations, there is not any brings greater delight with it, then what is perform'd on the Theatre, that is, Plays; which represent unto us things past, heighten'd with all the circumstances they are capable of, which cannot be done by History, as being a thing dead, and not animated by Voice, Gestures, and Habits. But if we add thereto, that this innocent divertisement is attended by those advantages which may be deduc'd from excellent Sentences and Instructions, we must conclude him who finds fault with it, to be of a more than *Timonian* humour, and a profess'd enemy to civil Society. The proof hereof is deriv'd from the Use of it, the true Touch-stone, whereby good and profitable things are to be distinguish'd from such as are hurtful and unprofitable. For there have been an infinite number of things taught by Men, which have been smother'd as soon as brought forth; and there are others also, which the Inventors of them have out-liv'd; but when an Invention finds a kind entertainment through many Ages, it is the best argument that may be of its goodness. And such is that of Comedy, which (how weak or ridiculous soever it might be at the beginning, at which time *Thespis* got himself drawn through the Streets in a Chariot, as he recited his Poëms) presently met with those who made it their business to cultivate and heighten it to that pitch of perfection, whereto it is now come, which is such that it is no wonder the greatest minds should yield to the charms of it. For as those things that are sensible, are more apt to move and make impressions on the spirits of men, then such as are purely intelligible; so Plays, exposing to our eyes all things with a greater circumspection, decorum, and order, then is observable in the actions of men commonly disturbed by unexpected emergencies, and the unconstancy of their passions, accordingly raise in us a greater aversion for crimes, and greater inclinations to virtue. Nay, these cause more apprehensive emotions in our souls, than they are apt to receive from any other representations whatsoever, not excepting even the precepts of Philosophy it self, which

are weak enough when they are destitute of their examples, imprinting in us such Characters as can hardly be blotted out, in regard they force their passage into our Minds through several of our senses; and as History prevails more by its Examples than the reason of its Precepts, so Playes have the advantage of History in this regard, that in the former, things act upon us with greater efficacy. This Influence it hath on us in captivating our Senses and Understanding, is the more remarkable, in that the greatest Wits are incapable of other reflections, while they behold what is represented on the Stage. Besides, if the great business of the world be truly consider'd, it is but a Stage-Play, wherein every one acts a part; he who would avoid Plays, and not see the vanity of humane actions, must find out some way to get out of the world. Nor are all persons in a capacity to learn how they should demean themselves by Books and Precepts, but all are susceptible of some instruction by Playes; since that in these, there are such sensible Lessons, that the most ignorant may find in them certain encouragements to Vertue, which on the Stage appears to them in her lustre, and attended by those honourable rewards which the Poets bestow on Heroick Actions. And as Geographical Maps cannot so well acquaint those who study them with the dispositions of people, together with all the circumstances of places, as Travels and Relations may: In like manner, Philosophy smites not the Senses, as those passages do which are represented on the Theatre, where such as are in Love (the ordinary subject thereof) may observe their own Adventures personated, and take notice of their vain pursuits, and the unhappy events of those which are carried on by unjust ways. In fine, if immortality flatters ours labours with promises to transmit our Memory to Ages; yet at a great distance from us, what greater satisfaction can there be, than to hope that our noble actions shall be represented on Theaters before Princes and Magistrates?

The Second said; That Humane Nature being more inclin'd to evil than to good, those confus'd representations which are made on the Stage, of all sorts of good and bad things, are more likely to make impressions of evil in the minds of men, than to render them more inclinable to that which is good. Whence it is to be infer'd, that the danger and inconveniences of Plays will outweigh their advantages. This consideration occasion'd the banishing of them out of several States. And whereas the Subjects of them are commonly taken from the Loves of some extravagant persons, and the crimes attending them, the end thereof must be answerable to the means, which are lewd Artifices, whereby it is compassed, and where-with mens minds are imbued, and so inclin'd to wicked actions, and such as are most likely to promote the execution of their pernicious designs; which would not happen, were they ignorant of them. Nay, to go to the original of this kind of entertainments, the most ancient of them, acted in the time of *Romulus*, was contriv'd for the surprizal and carrying

of all these Temperaments is most convenient, in order to health, and in the second, whether the same will also be most convenient for the acquisition of a good mind, that is, for the better exercise of the functions of the rational Soul; in a word, whether the most healthy person shall always be the most wise? *Galen* hath writ an express Treatise, to prove that the Manners follow the Temperament of the body, and therefore since those manners are the effects of the Will, the noblest of all the faculties of the Soul, in regard it hath a Sovereignty over all the others, it should seem that the affirmative is to be maintain'd, especially if we lay this for a ground, that those persons who are subject to Melancholy are the most ingenious, forasmuch as they are the most healthy; cold and drought making up a more solid and firm mass, than any other two qualities; and heat and moisture being too variable, and too much subject to corruption. Upon which consideration, *Galen*, in his first Book of the *Temperaments*, chap. 4. denies, *That the Spring is hot and moist; on the contrary, saith he, it is the worst of all the Temperaments of the Air whereby we are encompass'd, and that is commonly the constitution observable in sickly and contagious seasons.* In his eighth Book of the *Method of curing Diseases*, chap. 7. he adds, *That a hot and moist distemper makes our health incline to corruption.* The hot and dry is also too easily inclinable to be inflam'd, as the cold and moist is too much subject to defluxions; and withal to sharp Diseases, such as are putrid Feavers, for the first; Burning Feavers, for the second; and Apoplexies, Palsies, and Dropsies, for the last. On the other side, cold and drought are enemies to corruption, and by those very qualities which are contrary thereto, they more powerfully oppose external injuries, by reason of the solidity of the skin, and the density of its parts; as the dispositions of melancholy persons are not subject to the passionate disturbances of the Choleric, the inconstancy of the Sanguine, the slothfulness of the Phlegmatick; and communicate the same Stability which is in them to the Spirits, which act answerably thereto. Of this Constitution were all those laborious and studious people, and all the great Persons, whose assiduous employments have made them famous in their own and subsequent Ages.

The Second said, That if we may believe the same *Galen*, in the sixth Book of the preservation of Health, the hot and moist Temperament is the most healthy, as being the most proper to man's nature; and he further writes, *That those who are very moist, are long-liv'd, and when their bodies are come to their full strength, they are more healthy than others, and are more robust and hardy than other men of the same Age, and so continue till they grow old. And thence it is, saith he, That all the Physicians and Philosophers, who have diligently examined the Elements of man's body have commended that Temperament.* For, as *Aristotle* affirms in his Book of a long and short life, *Our life consists in heat and moisture, as cold and drought dispose us towards death, and the sooner the ani-*

mal grows cold and dry, the sooner it grows old and dies. But these two contrary sentiments of *Galen* may be reconcil'd well enough, by affirming his meaning to be, that external heat and moisture are enemies to health; whereas on the contrary, the natural heat and radical moisture are friends to it; inasmuch as these are never chargeable with excess, but always moderate, one serving for aliment to the other; and they are so far from being capable of receiving any distemper, that what results from them serves for a rule whereto all the other Temperaments are referred; which the Vulgar improperly calls by the name of the four Humours, that are predominant in them; but that abuse being fortify'd by custom, we must follow it, though for no other reason then that we may be the better understood. Whence it follows, that the Sanguine Temperament is the most healthy, as being the most conformable to life. This Temperament is also the likeliest to produce a good Wit, inasmuch as it exercises better then any other the functions of the Rational Soul, which being distributed between the natural, vital, and animal Faculties, and these being better exercis'd when they most abound with clear and purify'd spirits, it is certain, that the Sanguine Temperament, the only treasury of the Spirits, supplies more plentifully, and with such as are more pure, those in whom it is predominant, then it can be imagin'd to do others, in whom that blood is either puffed up by an excessive froath of Choler, or drown'd in the waterishness of Phlegm, or bury'd in the mud of Melancholy. And this may be observ'd in the gentleness, and the singular sleight, nay the easiness, wherewith persons of a sanguine Constitution demean themselves in all things they undertake, betraying such a smiling cheerfulness in their eyes and countenance, as discovers their interior joy and satisfaction; and is no less delightful to those that are present, then the impetuous fallies of the Cholerick give distaste, the sluggish delays of the Phlegmatick are tedious, and the profound reveries of the Melancholy hateful and importunate. But as for the inconstancy, the only Objection which the other Temperaments make against the Sanguine, it is not to be accounted vicious in them, but look'd on as a divertisement, wherewith they are pleas'd, and which they put themselves upon, only that their labours may, by that change, be the more delightful to them. Which change is so much the more excusable in them, that they court it not to the end they should be idle, but they may apply themselves to some other employment, which suits better with their humour, such as the over-long contemplation thereof might not dry up that noble blood which runs in their veins, and, by converting it into dregs, turn the sanguine into a melancholick Constitution, to which the obstinacy, wherewith it persists a long time in the prosecution of one and the same design, is a greater commendation, than the inconstancy imputed to the sanguine is to that, inasmuch as the latter makes advantage of it to wit, that

that of attempting, and many times executing several designs together, especially when it undertakes such as it is sure to master, such as may be Dancing, Musick, Courtship, well-con-contriv'd Stories, and such other pleasant things. And indeed, it is impossible to exercise the functions of the mind well, when the body is indispos'd; as on the contrary, when the body is in perfect health, the mind acts its part so much the better.

The Third said, That it were very unjust to deprive of the honour due to them, the Heroes and Worthies of the World, whose temperament must needs have been cholerick, by attributing to any of the others the great and noble actions of the mind, which belong to them. Now to demonstrate that the temperament of the Heroes consisted of heat and drought, we need bring in no further evidence, than the suddenness and expedition wherewith they undertake and execute all their designs, as it were complying with the activity of Fire, which hath the supremacy among the Elements, as they have the preheminance amongst men. Nay it may be urged, that great enterprizes would never be executed without some degree of choler, which serves as it were for salt to all humane actions. This premis'd, as out of all dispute, we now come to consider whether the hot and dry Temperament be the most consistent with health. I affirm then, that it is more consistent with it than the Phlegmatick, which abounds in excrements; then the Sanguine, which easily admits of alterations; nay also then the Melancholick, whose gross humours are more subject to obstruction than Choler is, the vivacity whereof is to be seen upon all occasions; those of the Cholerick Constitution having always their Vessels large, and, as such, much more unlikely to be stopp'd up.

The Fourth said, that so far as the soul and body are different, so far are also their qualities such: From which consideration *Aristotle* took occasion to affirm, That robust bodies are design'd to obey, as the weak are to command, inasmuch as commonly they are the receptacles of a stronger soul. This rais'd a persuasion in some, that the most imperfect bodies have commonly the most perfect souls, alledging to that purpose, the example of the crooked and ill-shap'd Tree, which supplies us with the best of Liquors, Wine; whereas the strait and fair-spreading Oaks, bear nothing but acorns, for the feeding of Swine. Besides, as the word *spirit* or *mind* is sometimes taken for the Invention, which principally consists in the Imagination; sometimes for the Judgment, or Understanding; and might be also taken for the Memory, among which this last requires a hot and moist temperament, as the first is pleas'd with a hot and dry; and the second, to wit the judgment, consists in the dry and cold, which makes men staid and settled: so is it accordingly requisite, that we should distinguish of which of these three faculties the question is to be understood. But generally speaking, it is not easily imaginable, that there should be a well-fram'd mind in a much-

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indispos'd body, inasmuch as there is the same proportion between them, as there is between the mold and the figure cast in it; a Palace, and him who dwells in it. The same thing may much more rationally be said of the humours, from which the spirits being drawn bring their quality along with them: so that the Temperament which is most convenient in order to health, will also be the most convenient for the functions of the Soul.

CONFERENCE CCXXXVI.

Whether it be more expedient for a Man to have only one Friend or many.

Since Man is no further to be called so, then as he is sociable, and that there is no Society more delightful then that of Conversation, which cannot be better maintain'd then by the relation and correspondence there is between such as are of a like disposition, which presuppose a Friendship; it should seem, that it is not grounded only on Reason, but also on Nature herself, which subsists altogether by that Union, as she is absolutely destroy'd by discord. And this is principally made apparent in civil life, wherein Friendship is so powerful, that, being religiously observ'd, there will be no need of Justice, since every one would voluntarily render that to another which is due to him, which is the proper Work of that Vertue: which being in like manner well administred, that of Fortitude would also be unnecessary; and it would be superfluous to use the rigour of the Laws, to oblige men to the doing of a thing which they exercised without any compulsion. Hence it came that the wisest Law-givers, as *Aristotle* affirms in his Ethicks, took more pains in establishing the Laws of Friendship among their Citizens, then those of Justice; inasmuch as these latter take place, only upon the non-observance of the former, which are so much the more durable, in regard they are grounded upon the pure freedom of the Will, without any other obligation, then that which our own choice hath impos'd on it self, of its own accord, in a legal friendship. Its nature also is as much conceal'd as its effects are manifest, which are so convincing, that those, who have spoken most advantageously of them, affirm that to take away Friendship were to deprive the World of the light of the Sun; and that humane Society may as well be without it, as want the use of Fire and Water. Nor is it their meaning to speak of that irregular Passion, produc'd by the motion of the concupiscible Appetite, which is inclin'd towards a delightful good, and which only flattering the Senses, those who are carry'd away with it are called amorous Persons, and not Friends; but, of that Queen
of

perfect Friendship, as the former cannot be pleasant among less than three, and must be confus'd and wearisome among above nine; but is most divertive, when five or six persons well-qualifi'd, and perfectly understanding one the other, fall into mutual discourse; so Friendship cannot be of long continuance between two, but there must be a third to encourage it; yet with this further caution, that it is better maintain'd among a greater number of persons equally vertuous, provided nevertheless it exceed not that of nine, to prevent the confusion and inconveniences attending a greater.

The Sixth said, That though there be an absolute necessity of Friendship, in all the transactions of humane life, in order to the more pleasant expence of it, yet are there principally two certain times, wherein its necessity is more apparent, to wit, those of Prosperity and Adversity. In the former, our friends participate of our happiness, in the latter, of our misfortunes; and whereas these last are commonly more frequent than good successes, the plurality of Friends, who are our second-selves, making the burthen the more supportable by the part every one takes in our misfortunes; it is much more expedient that a Man should have many, then content himself with a small number, which being not able to bear the brunt of so violent an assault, he would be in danger of being overcome thereby. Nay, though all things should happen according to our wishes, yet were it convenient to have a considerable number of Friends, the more to congratulate our good fortune, which will make the greater noise in the world, the greater their number is who approve and applaud it.

The Seventh said, That the plurality of Friends was equally inconvenient, as well in good as bad fortune. For, in the latter, it must needs trouble us very much to give occasion of grief to a great number of Friends, who though they bemoan us ever so much, yet are we still in the same period of misfortune; nay, our unhappiness is the greater, in that it is contagiously communicated to so many persons at the same time. In the former, there cannot be any thing more troublesom then that great number of people who love, or pretend to love us in our prosperity, it being then impossible for us equally to satisfy them all, as we might easily do one single Friend, from whom we may also derive greater comfort in Adversity, than from many addressing themselves to us at the same time; to whose humours to accommodate our selves well, we must study an unconstancy equal to that of *Proteus*, and put on as many Countenances as they have different Inclinations.

The Eighth said, That since a good thing is so much the more excellent, the more it is communicated and diffus'd several ways, Friendship ought to derive its esteem from that communication, which the greater it shall be, the more recommendable shall it make the Friendship, which, consequently, is the more perfect

among many, to whom it is always advantageous, since it comprehends the three kinds of Goods, the profitable, the pleasant, and the vertuous. For, is there not much to be gain'd in a society, which the more numerous it is, the greater advantages and assistances may be deriv'd from it? There is not any thing so highly delightful as to love and to be belov'd of many. But whereas Friendship is the Livery of Vertue, whose inseparable attendant she is, Can there be any thing more vertuous and commendable then after that manner to love several others who love us, and by that reflux of mutual kindness give assurances of our Vertue, answerable to the acknowledgements we had made of their merit; the multitude of Friends not abating any thing of the esteem of civil Friendship, no more than the great number of charitable persons does prejudice Charity, which is a consummate Love, and equally embraces all?

CONFERENCE CCXXVII.

Of Oracles.

There is not any thing disquiets the Spirit of Man so much as the desire he hath to know things to come; and whereas he cannot of himself attain thereto, by reason of the weakness of his knowledge, which he derives from the Senses and other corporeal powers; he will needs try what he can do out of himself, and there is no place into which his curiosity hath not found a way to discover what he so much desir'd. But in fine, after he had to no purpose sought this knowledge in the Elements and all Natural Bodies consisting of them, superstitious Antiquity bethought it self of another way to gain it, which was to address it self to those counterfeit Divinities, whom the Holy Scriptures assures us have been no other than Devils, whom it elsewhere calls the Gods of the *Gentiles*. For these, after they had, by sin, lost the gift of Grace, having conserv'd that of a most perfect Science, and so general, that there is not any thing in all Nature which they know not, and cannot foretell (excepting only such effects as are purely free, which are known only to God) those ancient Idolaters have oftentimes been inform'd by them of things to come, consulting them to that purpose, when they were upon the undertaking of some Affair of great importance, the success whereof was doubtful, resolving upon the prosecution thereof, according to the Answers of those false Gods called Oracles, in regard they were pronounc'd either by their mouths, or those of their Ministers. The manner of declaring them was two-fold; one, by Dreams, or Nocturnal Visions; the other, by an express Voice, which was distinctly heard by those who came to consult them. The Oracles, which were deliver'd in
Dreams,

Dreams, though they were not so clear as those receiv'd by the Voice, were nevertheless considerable proportionably to the esteem made of the persons who were the Interpreters of them, and the places where they were deliver'd. That of *Amphiaraus* was the most remarkable of any; in which, after the accustomed expiations, those who came to consult him, laid themselves down on the ground upon the skins of such Rams as had been sacrific'd to the Gods, whose names were written upon the Altar, and were in that posture instructed in what they desired to know. The same Ceremonies were heretofore used among the *Egyptians* and the *Greeks*, in the Temples of *Serapis* and *Esculapius*, where those mute Divinities return'd their Answers only to such as were asleep, who consulted them principally for the cure of their Diseases.

The second way, which was by express voice, was either perform'd by the whispering-places of certain Grots; or by the mouths of such Statues as were dedicated to the said Divinities; which Statues, for that reason, had their mouths always open, and ready to speak; or by the mouths of the Priests and Sibylls, who being seiz'd by a sacred fury pronounced the Oracles with a certain impetuosity of voice, and violent contortions of the countenance, not unlike those of distracted people among us; or lastly, by the mouths even of brute beasts, which the stupidity of those poor blinded people also made use of to that end. Thus the *Egyptians* worshipp'd and consulted an Ox, under which figure they represented their God *Apis*, whose Oracles were accounted favourable, when he chearfully receiv'd the fodder presented to him, but it signify'd the contrary, when he refused to open his mouth to receive it; and this was interpreted a presignification of the death of *Germanicus*. The *Tenedians* observed the same Ceremonies towards a Cow, big with Calf; the *Nubians*, a people of *Æthiopia*, the same towards a Dog; and the *Persians* towards a Cock, the different accents of whose crowing distinguish'd their Oracles. Among these, the Oracles which some went to hear in the vast deserts beyond the Country of the *Garamantes*, at the Temple of *Jupiter Ammon*, though they were the most venerable of any, as being the most ancient, were nevertheless as ridiculous as any of the rest, being grounded only on a simple motion of the body, a bowing of the head, a wink with the eye, which those that were present imagin'd they had observed in the Statue of that Controller of the Gods, ador'd in that desolate place, with the head and horns of a He-goat. He was a little more familiar in the City of *Dodona* in *Epirus*, where he had also a very magnificent Temple, taking the pains to pronounce his Oracles sometimes with his own divine mouth, and sometimes using those of two Virgins, whereof one, called *Peristera*, which signifies a Dove, gave occasion to the Fable, wherein it was reported, that, in the Temple of *Jupiter* at *Dodona*, there were Doves that spoke, as well as Oaks, which

answer'd the questions that had been put to them. The manner thus; those high Trees being shaken by the ordinary Winds of those Countries made a great noise there, which was encreas'd by that of a great number of Brass-kettles fasten'd to the branches of them, amidst the sound whereof those Oracles were deliver'd, that they might be receiv'd with greater reverence. But whereas the Art of Divination was by a special privilege reserv'd to *Apollo* among all those Gods, his Oracles were accordingly look'd upon as the most certain. Thence it also came, that he was worshipped, upon that account, in several parts of the World, especially in the Island of *Delos*, one of the *Cyclades*, the place of his Birth, where there was an Altar built of horns taken from the right side of the heads of several Animals, neatly laid one upon the other with incomparable dexterity; the horns of the left side being not it seems so proper for Divination. He there return'd his Answers under a humane shape, as in *Lycia* he did it under that of a Wolf: But in his Temple at *Delphi*, a place remarkable for its situation, as being in the midst of the World, whence it was conceiv'd to be as it were the navel of it, he made his Answers sometimes through the throat of a Dragon, under which form he was there honoured, sometimes by the mouths of his Priestesses, who, after they had been shaken for a certain time by a violent wind, which issu'd out of a deep and obscure cave, whereby they felt themselves animated and agitated into a more than natural motion, pronounc'd their Oracles, sometimes in Prose, sometimes in Verse, according to the impressions of that Divinity whereby they were inspir'd. But to render these yet more Majestick, those Priestesses affected certain precise days, as for example those of the Calends and Ides, and requir'd certain particular dispositions, that they might the more insolently impose upon the more credulous: And these consisted in certain expiations and preparations, in order to their being more worthily susceptible of that divine inspiration, which the *Pythian* Priestess pretended her self fit to entertain, after she had drunk of the Water of the fountain of *Delos*; as another, who serv'd the same God at *Colophon*, imagin'd her self worthy of it, when she had drunk of a neighbouring Spring, the Water whereof put her into an immediate fury. At *Argos* there was a necessity of drinking the blood of a Lamb, and at *Ægira*, that of a Bull, ere the Oracles could be gotten out of them. But what most discovers their vanity, is, that even those who consulted them (which they did only to comply with the weakness of the people, and gain reputation among the simple) if they found them not favourable, either went on nevertheless in the prosecution of their designs, or forc'd them to pronounce such as should be to their advantage. This course was taken by *Alexander* the Great and *Cleomenes*; by the former, when he consulted the *Pythian*; by the other, when he consulted the *Delphick* Oracle, both which they forc'd to say what they pleas'd themselves.

selves. Thence it came, that most of the ancient Philosophers exclaim'd against them, and the Platonists, who made a greater account of them than any of the other Sects, acknowledge, that they are no other than the most despicable Devils, and those of the lowest rank, who engage themselves in that employment, which they must needs practise in desert and dreadful places, to the end there might be fewer witnesses of their weakness and impostures. These are apparent in their very Answers, which, if not false, were so ambiguous, or at least so obscure, that many times there needed another Oracle to explain them. Nor were they in vogue, but during the darkness of Paganism, which being dispell'd by the light of the Gospel, those Oracles never durst appear in that glorious day, which would have discover'd their lying and falshood.

The Second said, That the Art of Divination being conjectural, and grounded on experience, as well as several others of that nature, it is not to be admir'd, that the Answers of those who heretofore made profession thereof were not always true: and therefore it is as irrational a procedure to draw any consequences thence to its prejudice, as to infer, that the Precepts of Medicine are false, because the Physician does not always make his Prognosticks aright. The General of an Army may sometimes proceed upon wrong grounds; and the expert Pilot may run upon those shelves and rocks which he most endeavours to avoid. True it is that the subtilty of the Devil, and depravedness of Mankind have foisted abundance of abuses into the business of Oracles, especially in the erecting of those Statues to those fabulous Divinities, which they commonly made of Olive-tree, Lawrel, Vine, Cedar, or some such kind of wood, full of unctuous moisture, which they said were the tears or sweat of their false Gods; as also in the pompous Ceremonies, wherewith they amused the credulous Vulgar. Such were those of *Trophonius* among the *Thebans*, who answer'd only those who being clad in white descended through a hole of the cave into his Temple, and there offered cakes to the Spirits which inhabited it; after which they were convey'd out at another place of the cave, where they drunk the Water of the Fountain of Memory, which caus'd them to remember whatever they had heard; as they had drunk that of *Lethe* before they had entred into it, which had caus'd them to forget all affairs of the World. But we are not hence to conclude, that all Oracles were false, nor doubt of the validity of that sublime Art, upon its being disparag'd by those who have profess'd it, since it hath its grounds, not only in the inclination of mens minds, who having an extraordinary earnestness to know things to come, there must needs be some Science for the attaining of that Knowledge; otherwise Nature, who had imprinted that desire in him, should, contrary to her custom, have done something in vain; but also in the dispositions of that Temperament which is subject to Melancholy, or black Choler:

Choler. For, the former of these is the Temperament of the more ingenious sort of people, according to the Philosopher in his Problems; and the other, being more resplendent, is that of persons inclin'd to Divination, occasion'd by the clear representation of the Species in that humour, which being bright and smooth as a Mirrour, cannot so well be discover'd by those who are not of that Constitution; to which *Plato* in his *Memnon* attributes the cause of *Apollo's* Priestesse's pronouncing the Oracles in Hexameter Verse, though she had never learnt Poësie; and *Pompanatius* in his Books of Enchantments, affirms, that it caus'd a Woman, who never was out of *Mantua*, where she was born, to speak several strange Languages.

The Third said, That Divination being above the reach of our Understanding, as much as this latter is below the Divinity, which hath reserv'd to it self the privilege of a distinct knowledge of things to come, it is to no purpose to seek for the true causes of it in our selves, but we are to find them in the Heavens, whence, if we may believe the Professors of Astrology, that quality of Divination or Prediction is communicated to Men by the interposition of the Intelligences, whereby those vast Bodies are moved, and that Science taught, by making it appear how great a correspondence there is between the effects of the sublunary Bodies, and the superior causes on which they depend, and wherein they are potentially comprehended, even before they are actually existent. Whereto if you add the concurrence of the Universal Spirit, which equally animates the whole world, and the parts whereof it consists, and which meeting with convenient dispositions in the minds of men, and the several places where Oracles have been given, inspir'd those extraordinary motions, which have rais'd the Spirit of man, and open'd its way into effects the most at a distance from his knowledge: Admitting, I say, such a concurrence, there may some probable reason be given of these Predictions, not only of things, whose causes being natural and necessary, their effects are infallible, such as are Eclipses, the Rising, Setting, and Regular Motions of the Planets; or of those whose causes are only probable, as it is reported that *Pherecydes* foretold a dreadful Earth-quake, by the boyling up of the water in his own Well; and *Thales* foresaw the scarcity of Olives in the Territories of *Athens*: But also of effects, which having only contingent or free causes, lie not so obvious to discovery; and yet these being denoted by the general causes, such as are the Heavens and the Universal Spirit, those persons who have clear-sighted and illuminated Souls may perceive them therein, even before they happen.

The Fourth said, That there are three general causes of Oracles, one *Supernatural*; another, *Artificial*; and the third, *Natural*; and that, not to speak any thing of the Supernatural, whereof the Devils were the Authors, and made use of it to continue still in their first Rebellion, when they attempted to ascend

ascend into the Throne of God, and be like him ; nor yet of their Artificial Cause, which was certain persons devoted to their worship, who retiring into Caves and Subterraneous places, were incited by those evil Spirits to that sordid Ministry, that so by that means they might lay snares for the simple, who were easily drawn away by these false Lights. The Natural Cause of those Oracles, especially such as were pronounc'd out of the celebrated Caves and Grotts of Antiquity, was a subtile Exhalation rais'd out of those places, which, fastening on the Spirits of the Prophet or Prophetess already dispos'd to receive that impression, had the same Influence on them as the fumes of Wine have on those who drink it to excess ; whether that evaporation be caus'd by the quality of the Earth or Waters, or proceed from the Metals, Minerals, and other Fossile Bodies, contained within their entrails. For if it be acknowledg'd, that the waters passing through them, derive certain particular qualities, Why may not as well those vapours do the like, nay, haply in a greater measure, and, consequently, work those extraordinary effects ? Nay, upon consideration, they will not be found more miraculous than what is related of an Exhalation which issues out of a Cave near *Hieropolis*, which, as it is affirm'd, is fatal only to Men, and not to those who have not lost their Virginity ; nor yet than the water of a Fountain in *Bæotia*, which causes Mares to run mad, as that which was in the Temple of *Bacchus* at *Andros*, had the taste of Wine ; that of *Delphi* lighted those Torches which were within a certain distance of it, and extinguish'd those which were thrust into it. Now such qualities as these are, depending on the properties of the places ; it may be as easily conceiv'd, that those, where such Answers of the false Gods were given, had the like : and thence it is to be imagin'd, that those having ceas'd by the ordinary vicissitude of all things, the said Oracles accordingly receiv'd also their period.

CONFERENCE CCXXVIII.

Of the Tingling of the Ears.

AS the Ear is the Instrument of that Sense which is called the Sense of the Disciple, and is more serviceable to us in order to Instruction, than all the rest put together ; so is it not to be wondred, the Ancients should be of Opinion, that it contributed so highly thereto, that the most inconsiderable motions of it advertise us of things which seem to be farthest from our knowledge. Thence it came that they deduc'd certain conjectures of things to come from the tingling of the Ears, which they held to signifie good luck when it was on the right side ; and the contrary, when it happen'd on the left Ear : which is to represent

Ene-

enemies, as the former does friends; yet with this provision, that nothing contributed thereto from without, as for example, noise might do, or some other agitation of the air, stirr'd by some external cause, but the tingling must proceed from within; *sonitu suo pte tinnunt aures*, without which condition it signifies neither good nor bad luck, that is, nothing at all. And what seems somewhat to confirm this observation, is, that it hath not been cast out among all the other rubbish of superstitious Antiquity, but reigns even in the present Age, wherein not only many among the Vulgar commonly say, that they are well or ill-spoken of, when their ears glow or tingle, but also some of the better sort are also of the same persuasion. They ground this belief on the Sympathy or Antipathy there is between Friends and Enemies, which are such, that not being confin'd by the distance of places, which yet according to their opinion ought not to be too great, they force the species of voice and words towards the organs of Hearing, which are thereby excited, through the communication of those Magnetick Vertues, and these are not less sensible then those which the objects direct towards the same instruments in ordinary sensation; though they be more delicate and subtile. As the Lynx, the Eagle, and other sharp-sighted Animals see the species of visible objects far beyond their reach who are shorter-sighted; and the Birds of prey smell carcases though they are very far from them.

The Second said, That it was a little too far fetcht, to attribute those Effects to Sympathy, which being as abstruse as what some pretend to deduce from it, amounts to as much, as if one would prove one obscure thing by another which is yet more obscure. As therefore there is no action done beyond the limits appointed to every Agent, which comprehend the sphere of their activity, so can there not be any such between the sonorous Species, and the Hearing of him who feels this Tingling, unless it be within the reach of his ear; which since it cannot be, when, for example, we are spoken of in our absence, it is impossible the Hearing should receive the impression of the voice pronounc'd in a place at too great a distance to be convey'd to it, inasmuch as it is necessary in all sensation, that, besides the good disposition of the sensitive Faculty and the Mean, there should be a proportionate distance between the sensible object and the organ, ere it can judge well of it. So that those who imagine they hear what is said of them afar off upon no other reason then that their ears tingle, have not their Hearing more sensibly, but, on the contrary, worse qualifi'd then others, through the disturbance caus'd therein by gross humours, which occasion the same disorder in the Ear as suffusions do in the eye, when it sees the Objects in the same colour and figure as the vapours or humours, whereby it is clouded, though they be not effectually so. In like manner, the sound or noise, heard by those whose ears tingle, though it makes them conceive the species of such a sound proceed-

proceeding from without, is only illusory, and caus'd by the disorder of the ill-affected organ, but it communicates its irregularity to the Imagination, when it frames to it self favourable consequences from such a humming in the right Ear, and some misfortune from the like in the left, there being not any reason, by which so fantastick and chimerical an opinion can be maintain'd.

The Third said, That it is injuriously done to deny Man that advantage which we find by experience, that some, not only brute Beasts, but also Plants have, to wit that of having a previous feeling of the good or evil which are to happen to them by a property bestow'd on them by Nature for their conservation. Thus we find Rats forsake the house which will soon after fall down; Lice take leave of one that is dying; Birds of prey come from far distant places to their food; the Swallow comes to give us a visit in the Spring, and spends that delightful season with us; which once past, she goes to find out other Springs in unknown Countries. The Ox gives us notice of an approaching shower, when, having lifted up his head very high, and breath'd withall, he immediately falls a licking his thighs; The Cat makes the same Prognostication, when she combs her self as it were, with her paws; The same thing is done by the Waterfowl called the Ducker, and the ordinary Drake, when they settle their feathers with their beaks; The Frogs do the same by their importunate croaking; The Ants, by the extraordinary earnestness they express in hoarding up their corn; and the Earth-worms, when they appear above ground; Nay, the poor Trefoil will close it self upon the approach of a Tempest, as do also most Plants in foul weather; which being over, they spread abroad their leaves and flowers, and seem newly blown, as it were to congratulate the return of the Sun, as is done, among others, by the Marigold, which for that reason is called *Heliotropium*; for the great correspondence there is between it and that all-enlivening Star. Nay, that correspondence is also so remarkably obvious in the other Plants, that those who have observ'd them most exactly, affirm, that there is not any herb so despicable, but it hath an interior character, answerable to that of some Star, which communicates its vertues and qualities to it, and thence it comes to be called a terrestrial Star. Why therefore should it come into dispute, whether Man hath such a Privilege, as that he may be sensible of what is prejudicial or advantageous to him, by that tingling of the Ear, which may well be the sign thereof though the cause be not absolutely manifest? For, experience it self and the effects consequent to the observation do very much confirm it, for those being commonly answerable to what had been conceiv'd by those to whom that kind of Divination by the Ears had happened, there is as much ground to give it some credit, as there is to deduce any thing from some other less considerable accidents, from which the like

conjectures are made; such as are, for example, among others, the twinkling of the Eyes, sneezing, the meeting of something extraordinary, especially a Negro, an Eunuch, or some other defective person; and the striking of ones feet against the threshold of his own door, which prov'd fatal to *C. Gracchus*, who was murther'd the very day that such an accident had happened to him; as also to *Crassus*, the day he was defeated by the *Parthians*. In all which signs there is much less likelihood of declaring the accidents, which some would attribute thereto, than may be imagin'd in the Tingling of the Ear, as being the seat of the Memory, which the Ancients for that reason were wont to stir up, by plucking the tip of it; and if it be true what *Plato* saith, that all our Knowledge is but Reminiscence, and that we only remember the Species of things, which had been before in our Understanding, it will be no hard matter to find out some ground for this præsenſion.

The Fourth said, That there was no other conjecture to be drawn from this Tingling of the Ear, than that the Person subject thereto, hath a weak and ill-dispos'd Brain, which breeding abundance of ill humours, if they come to make any stoppage in the passages of the Ear, its action is vitiated and obstructed by that Tingling, which is a symptom of a deprav'd Hearing, and causes the party to hear an importunate sound or noise, though there be not any made without, and that there be not any application of the hollowness of the hand to the Ear, in which case it hears some such noise. 'T would therefore be ridiculous to look after any other causes thereof than what may be in the disposition of the Brain, and the excrements it produceth, on the diversity whereof as also on that of their Motion in the Ears, that Tingling depends; as do also the Breathing, the Ringing, the Buzzing, and the Swimming of the Ear, which are Symptoms of a deprav'd Hearing; the breathing or blowing being done by a little blast which gets out gently; the Tingling by the interruption of its motion; the ringing proceeds from a more gross vapour, and such as blows more strongly; as the resounding does from an impulsions yet more vehement; and lastly, the Swimming is caus'd by the agitation of these as well vaporious as spirituous matters, which being different and differently moved, produce those different sounds. And therefore it is absurd, to derive any other marks of what should happen to us, than those laid down in Medicine, which teaches us, that they who are subject to these frequent tinglings and ringings of the Ears are in their way to Deafness, by reason of the danger there is, that these vaporious humours should make so strong an obstruction in the organs of Hearing, that the auditory air cannot get into it, to make sensation: and if this happen in a burning Fever, together with dimness of the eyes, it is a certain presage of the distraction or madness, which ordinarily follows that noise of the Ear.

C O N-

CONFERENCE CCXXIX.

Of Philtres, and whether there be any proper
Remedies for the procuring of Love.

There is not any thing so pleasant and delightful as to be belov'd; To procure that, it is requisite there should be some perfection, which being conceiv'd such by the person whose favour is courted, it prevails so far upon his Inclinations, that he cannot forbear being in Love with it. Thus is it that a known Truth doth so fully satisfy our Understanding, that it cannot deny its consent thereto: Thus is the Will so strongly engag'd upon the pursuance of a Good which seems delightful to her, that it is hardly in her power to gain-say it; nay, she is of her self inclin'd thereto, not needing any other Charms to induce her thereto, than those she meets with in the goodness of the Object which she loves. These are real Philtres which never fail to raise Love in those that have them; there is no necessity of looking after other Remedies, all which are us'd either to a bad end, or to none at all. *Deianira*, desirous to make use of them, in order to her being better belov'd by her Husband *Hercules*, prov'd the occasion of his death, by the means of a garment, which she sent him dy'd with the Blood of the Centaur *Nessus*. Another Woman, as *Aristotle* affirms in his greater work of *Ethicks*, brought her Husband to the same Fate, after she had made him take a Medicine of that kind. *Lucilia* administering such a Philtre to the Poet *Lucretius* her Husband, put him into such a distraction that he kill'd himself. The like was done by the Emperour *Lucilius*, after he had taken such a one from the hands of *Callisthenes*; as also by *Caligula*, after he had drunk off one of these potions into which there had been put a piece of that flesh which is found on the fore-heads of young Colts as soon as they are cast, called in Latine *Hippomanes*, an ingredient particularly recommended among these Medicaments. In which Receipts, we find also the brains of Cows when they would go to Bull, and those of young Asses, the bones of a green Frog, the little Fish called the *Remora*, the Matrix of the *Hyena*, and the little Bird call'd *Motacilla*, the Wagtail, from its continual wagging of the tail, which it seems is so effectual a Remedy for the procuring of Love, that *Pindar*, in his fourth Ode of the *Nemæa*, acknowledges that his Heart was so strongly drawn away and charm'd by the means thereof, that he could not forbear Loving. But though it were granted, that these Remedies had some particular Vertues to excite Love in those to whom they had been administred, yet would it not follow thence, that they should make that Love mutual, by obliging them to love those by whom

they are below'd. For those to whom they are given commonly not knowing, nay, many times having an aversion for the others, it is impossible that these Philtres should be able to force People's Wills and Inclinations, which are always free to love what they know not; or if they know it, have a horror and aversion for it. Otherwise it would amount to as much, as to give them a certain Sovereignty over a free power; such as the Will is, which it cannot endure, as being above all Corporeal Agents, such as these Medicaments are. Among which, as there are some have the vertue of extinguishing the flames of Concupiscence and Carnal Love, by correcting the heat of the Blood, diminishing the quantity of the Seed, and dispersing the Spirits whereby it is raised; so on the contrary, there are others, which as it were awake and excite that Passion, by the production they make of abundance of good and spirituous seed, and, consequently, may indeed invite those who use them, to that base and unbridled Love, but not to a mutual Love, such as is particularly directed to him, who finding his affection sleighted, is forc'd to give these Remedies that he may be below'd by the person whom he courts.

The Second said, That Love and the Graces, if we may credit those Authentick Authors the Poets, always kept company with *Venus*, whereby they would signifie to us, that the most effectual means which any one can use to insinuate himself into the Love of another, was, to become himself amiable and agreeable; and that those who pretend to do it by other wayes, do many times come short of their intentions; or if they at last come to be lov'd, it is by such a perversion of the party's imagination whom they court, that, instead of framing a rational and well-regulated Passion, they raise therein that fury and rage, which the Physicians call *Erotomania*. Thence it comes that to accomplish their desires, besides such means as are natural, they also make use of all the diabolical Artifices and Inventions that Magick can furnish them withall, to compass that piece of Witchcraft. To that purpose, they make use of Mandrakes, wherewith the women prepare a certain Drink for the men, administering the female to procure themselves to be lov'd by them; and the men cause them to take the male, that they may be lov'd by the women. They assign the same properties to the Herb *Calamint*, affirming, that it gains the Heart, and raises it into such a heat, that it is inclin'd to love him who gives it, and the same thing is said of several other odoriferous Herbs, which seem to have a stricter connexion with the effect they promise themselves from them, than an infinite number of other impious and absurd things, whereof they make an extraordinary account. As for instance, among others the Menstrua of Women; the Navel-string of a Child newly born, reduc'd to powder, and taken in a potion; as also the skin of such a one where-with they make their Virgin-parchment, on which they write their Characters; Eggs dipp'd in the Blood of
a Toad;

a Toad; a certain bone taken out of the throat of a salt Bitch; the feathers of a Scrich-Owle; and especially the parings of the Nails, together with the Hair of the Head, or of any other part of the Body; and for want of those, some small thread of the person's garment whom they would engage to love, which these impious Ministers of Sathan hide under her bolster; or if that cannot be done, under the threshold of some door through which she is to pass, adding thereto, according to their common practise, certain words and figures, forg'd by the old Spirit of Lying. Nor are they content with all these palpable fooleries, but they must add thereto some enormous sacrilegges, by their abusing the most sacred Mysteries of Christian Religion, profaning not only the Olive-Branches and hallow'd Palms, the holy Oyls, the Habits and Ornaments of Priests, whereof they make use of some parcels, as they do also of the scrapings of the hallowed stones of our Altars, but also the sacred Host it self, on which they grave certain Marks and Characters with Blood; and having reduc'd it to powder, put it into the meats of such as they would bewitch with those Love-Sorceries. There are also others who pretend to do the same things by Images of Wax, made like the persons whose Love is desir'd, which they melt at a fire made of Cypress, or some rotten pieces of wood taken out of Sepulchres, imagining that by vertue of the words which they pronounce during that Ceremony, the Heart of the person belov'd will be softned and grow more tender, the hardness whereof if they cannot overcome by simple melting, they prick the waxen figure with the points of needles, presuming that the thing which it represents, will be sensible of the like treatment. There are others yet who content themselves with this Ceremony, that is, to burn the leavs of Lawrel, or the stones of Olives, used anciently, according to the testimony of the Prophet *Ezechiel*, by Women, to reproach their gallants with their neglect towards them. But the famous Sorceress *Canidia*, makes it her boast, in *Horace*, that she had wrought this effect with the marrow of the Bones and the Liver of a young Child, which she had taken out of his Belly, after she had starv'd him to death buried in the ground up to the chin; promising her self, by means of this powerful Philtre, so far to recover the affections of her Gallant *Varus*, who had been debauch'd from her, that she would enflame and make him burn more violently than pitch set on fire. So certain is it, that there is not any crime, how heinous soever, which this furious Passion will not inspire into those, who so earnestly endeavour the satisfaction of it, which for that reason the Laws punish with so much severity. Nor do they less condemn the superstitious remedies which some others propose for the prevention of them, as being such as are no less dangerous than the mischief they would hinder, of which kind are these, to carry about one the privy parts of a Wolf, a Secret recommended by *Pliny* and *Pompanatius*; to drink of the Urine of a Hee-goat; to cast
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on himself the dust of the place where a Mule had wallowed ; and such other unlawful and suspicious means.

CONFERENCE CCXXX.

Of Atoms.

IT is a Truth not question'd by any of the Philosophers, what Sect soever they were of, that there must be certain Principles, whereof Natural Bodies consist. Their Generation and Corruption confirm it ; since that according to the former, there being not any thing made of nothings ; and according to the latter, it being not imaginable that any thing can be reduc'd to nothing, there must be some first Principles, from which, primarily, and of themselves natural things do proceed, and whereto they are at last resolv'd. But it hath not yet been fully decided, to what this prerogative is to be granted. *Heraclitus* would bestow it on Fire ; *Anaximenes* on the Air ; *Pherecydes*, to the Earth ; *Thales*, on the Water ; *Xenophanes*, on the two latter, jointly ; *Hippon*, on Fire and Water ; *Parmenides* on Fire and Earth ; *Empedocles*, and most of the other Naturalists, on those four Elements together ; which yet, as some affirmed, could not execute the function of Principles without the assistance of other Superiours, such as *Hesiod* maintains to be Chaos and Love ; *Antiphanes*, Silence and Voice ; the *Chaldeans*, Light and Darkneis ; the *Mathematicians*, Numbers, and among others the Tetrad, which the *Pythagoreans* affirm to be the source of all things ; the *Peripateticks* Matter, Form, and Privation ; *Anaxagoras*, the Similar Parts ; and *Democritus*, his Atoms, so called by reason of their smalness, which renders them invisible, and incapable of being distinguish'd and divided into other lesser Particles, though they have quantity, and are of so great a bulk as to be thereby distinguish'd from a Mathematical Point, which hath not any ; as being defin'd to be what hath not any part, and what is so imperceptible and small, that it can hardly fall under our External Senses, but is only perceivable by reason. The same thing may also be said of the other qualities of these Atoms, which *Epicurus*, who receiv'd them from *Democritus*, as he had the knowledge of them from *Leucippus* ; and he again from one *Moschus*, a Phœnician, who liv'd before the Trojan Warr, made it not so much his business to lay them down for the first Causes and general Principles of Natural Things, as to take away the four common Elements, since he does not deny but that these are constitutive parts of the world, and whatever is comprehended therein. But his main work is to maintain, that they not the first seeds and immediate Principles thereof, as consisting themselves of Atoms or little Bodies so subtile and small, that they cannot be broken or made

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less, and being the most simple and next pieces, whereof mixt bodies are made up, and whereto they are afterwards reducible by dissolution, there is some reason to give them the denomination of the first material and sensible principles of natural bodies.

The Second said, That if these Atoms be allow'd to be the principles of natural bodies, these last will be absolutely unknown to us, as being made up of infinite principles, which being incapable of falling under our knowledge, it will be impossible for us to come to that of the mixt bodies which are to consist of them. Whence it will follow, that though the Atoms should be such as the Philosophers would perswade us they are, yet would not our Understanding, which cannot comprehend any thing but what is finite, be ever the more satisfy'd, since it would not be able to conceive them, nor consequently the things which should be produc'd of them. Nor is it to be imagin'd that those things would differ among themselves, since that, according to their sentiment, those little chimerical bodies are not any way distinguish'd, but all of the like nature, and of the same substance.

The Third said, That though there be not any essential difference in the Atoms, yet is it certain, That they make remarkable diversity in the production of things, by the properties and different qualities that are in each of them, whereof there are two kinds, *Common* and *Proper*. The proper are, Largeness of Bulk, Figure, Motion, and Resistance; the common are, Concurrence, Connexion, Situation, and Order, which are generally competent to all Atoms, as the four others are proper and particular to them. Their bulk is not to be consider'd as if they had any considerable quantity; there being no Atom, how great soever it may be, but is infinitely less than the least body in the World, being for that reason so imperceptible, that it is impossible for the sight to distinguish it. Yet does not that hinder but that they are bodies, and consequently have quantity, which is a property inseparable from bodies; as Mites, Hand-worms, and such other little Animals, which by their extreme liteness elude our sight, do nevertheless consist of diverse parts, miraculously discoverable by Magnifying-glasses, nay to the observance of Veins, Arteries, Nerves, and such like obscure parts, answerable to those which reason obliges us to admit, though our senses cannot attain thereto. It being the property of figure to follow quantity, which it determinates and qualifies, it is necessary, that if the atoms are different as to bulk, they should be the same also as to figure: which being observable when bodies are broken into great pieces, and those appearing with superficies, angles, and points diversly figur'd, they must still retain some figure even after they are pounded in a mortar into small parcels and particles, though our senses by reason of their weakness, are not able to comprehend it. To the same weakness

weakness it is to be attributed, that we are not able to discern the diversity of figures in grains of corn and other seeds, which seem to be in a manner alike, though they are not such, no more than the leaves of Trees and Plants. Nay even in Drops of water and Eggs, though in appearance there is a likeness so great, that it is come into a Proverb; yet is there so remarkable a diversity, when it is strictly observ'd, that there were heretofore in the Island of *Delos* certain people so expert, that, among several Eggs, they would tell which had been laid by such or such a Hen. The hair of our heads (a thing, to some would seem incredible) have particular figures whereby they are distinguish'd one from another. The figures of Atoms are of that rank, as are also those of the Moats which are seen playing and dancing up and down in the beams of the Sun, when darted in at a narrow passage: for though they seem to be all round, yet examin'd with that instrument which magnifies the species of things, we find in them an infinite number of other figures. In like manner is it requisite, that the Atoms should have the same difference of figures, that they may the more fitly concur to the mixture and generation of Bodies. To that end, the maintainers of this opinion affirm, that some are round, some oval, some oblong, some pointed, some forked, some concave, some convex, some smooth and even, some rough and rugged, and of other such like figures, as well regular as irregular, in order to the diversity of their motions. Of these there are three kinds assigned; according to the first, the Atom moves downwards by its own weight; according to the second, it moves upwards; and according to the third, it moves indirectly and from one side to another. These two last are violent motions, but the first is natural to the Atom; to which *Epicurus* attributes a perpetual motion, which causing it to move incessantly towards the lowest place, it still makes that way of its own nature, till such time as in its progress it hath met with other Atoms, which coming to strike against it, if they are the stronger, they force it upwards, or of one side, according to the part of it which had receiv'd the shock; and so clinging one to another, they make several mixtures, as, when they come to separate after their union, they are the causes of the corruption of mixt bodies. And these bodies have so much the more Resistance, which is the last property of these Atoms, the more dense and solid these last are; as on the contrary, when they are less dense and solid, by reason of the vacuity there is between their parts, the bodies consisting of them have so much the less vigour and force to oppose external injuries.

The Fourth said, That there is not any better instance, whereby the nature of Atoms can be explicated than those little Motes, which move up and down the air of a Chamber, when the Sunbeams come into it at some little hole or cranny. For from this very instance, which is so sensible, it may easily be concluded, not only that they are bodies, which have a certain bulk and quantity,

quantity, how little and indivisible soever it may be, but also that they are in continual motion, by means whereof, as those little *corpuscula*; or Motes, incessantly move and strike one against another, and are confusedly intermixt one among another; so the Atoms, by their perpetual agitation and concourse, cause the mixtures and generations of all natural things. So that, all consider'd, it is as ridiculous on the other side to affirm, that they are only imaginary principles, because they are not seen, as to maintain, that those little Motes are not in the air, because they are not perceiv'd to be there in the absence of the Sun-beams, which we must confess renders them visible, but with this assurance, that they are nevertheless there, even when they are not discern'd to be there.

The Fifth said, That it is certain, there are abundance of bodies in Nature, which are in a manner imperceptible to our senses, and yet must be granted to be real bodies, and consequently endow'd with length, breadth, profundity, solidity, and the other corporeal qualities. Such as these are, among others, the sensible Species, which continually issue out of the Objects, and are not perceiv'd by the senses, but only so far as they are corporeal and material, especially the Odours, exhaling from certain bodies, which after their departure thence, in process of time, decay and wither. Of this we have instance in Apples, and other Fruits, which grow wrinkled, proportionably to their being drain'd of those vaporous Atoms, (whereof they were at first full) which evaporate in a lesser or greater space of time, the more closely those little bodies stick one to another, or the more weakly they are joyned together. Nay, the intentional Species, how sublimated soever they be, by the defecation made by the agent Intellect, are nevertheless bodies, as are also the Animal Spirits, which are charged therewith, and the vital and natural, whereby the former are cherish'd. In like manner, Light, the beams of the Sun and of other Stars, their Influences, their Magnetick Vertues, and other such Qualities, observable in an infinite number of things, between which there is a mutual inclination and correspondence, or antipathy, cannot be imagin'd to act otherwise than by the emission of certain little bodies; which being so small and subtile that they are incapable of further division, may with good reason be called the Elements and material Principles of all Bodies, since there is not any one but consists of them.

The Sixth said, That the concourse of these Atoms being accidental, if we may credit *Epicurus*, we cannot attribute thereto the causes of the generations happening in this World; inasmuch as an accidental cause not being able to produce a regular effect, such as is that of Nature in Generation, it is ridiculous to attribute it rather to these Atoms, than to some other cause, which is such *per se*, and always regular in its operations, such as

is Nature her self. But what further discovers the absurdity of that opinion is this, that it thinks it not enough to refer the diversity of the other effects, which are observ'd in all natural bodies, to that of the Atoms, whereof they consist; but pretends also by their means, to give an account of that of our Spirits, which those Philosophers would represent unto us made of those orbicular atoms, and accordingly easily mov'd by reason of that round figure, and that those in whom it is most exact, are the most ingenious and inventive persons, as others are dull and blockish, because their Spirits have a lesser portion of those circular Atoms. But this speculation may be ranked among pure chimæra's, since that the functions of our Understanding, being absolutely spiritual and immaterial, have no dependance on the different constitutions of those little imaginary bodies; nay though there were any correspondence between them and the actions of our minds, their round figure would not be so much the cause of our vivacity, as might be the pointed or forked; as being more likely to penetrate into, and comprehend the most difficult things than the circular, which would only pass over them, without any fixt fastning on them.

CONFERENCE CCXXXI.

Whether the King's Evil may be cur'd by the touching of a Seventh Son, and why?

THough this noisom Disease sometimes fastens on several parts of the body, yet is there not any more sensible of its malice than the neck, which by reason of its being full of glandules, is extreamly troubled therewith, which happens as well by reason of their thin and spongy constitution, as their nearness to the brain, from which they receive the phlegmatick and excrementitious humours, more conveniently, than any of the other parts can be imagin'd to do, which are at a greater distance from it. And yet these last, notwithstanding that distance, are extremely troubled therewith, nay sometimes to such excess, that, if we may credit *Johannes Langius* in the first Book of his *Medicinal Epistles*, a Woman at *Florence* had the Evil in one of her Thighs, which being got out weigh'd sixty pound; and a Goldsmith of *Amberg* had another of the same bigness in a manner, neer his Knee. And what is much to be observ'd, is, that though the Evil seems to be only external, yet is it commonly preceded by the like swellings, which ly hid within, and whereof those without are only the marks: which observation is confirm'd by the dissections made of those who are troubled with it, in whose bodies, after their death, there are abundance

abundance of these Evils, whereof the Glandules of the *Mesenterium* and the *Pancreas*, which is the most considerable of any about Man's Body, are full, and which are commonly produc'd by Phlegm, the coldness and viscosity whereof do indeed contribute to their rebellion; but it is very much augmented by the external and common Causes, such as are Air, Aliment, and Waters infected with some malignant qualities, which render it Endemicous and peculiar to certain Nations; as for instance, the Inhabitants of the *Alps*, and the *Pyrenean Mountains*, especially the *Spaniards*, who are more infected with this foul disease than any others, which is also communicated by succession, as most of the other diseases, which become hereditary by means of the Spirits, employ'd by the Formative Faculty in Generation, and carrying along with them the Character of the parts and humours of him who engenders, and imprinting them on the *fœtus*. Hence it comes that for the curing of it, there is more requir'd than to administer the remedies commonly us'd in the cure of other tumours, which must be dissolv'd or softened, that so they may be brought to suppuration, unless they can be consum'd and extirpated; but in this there must be some particular means us'd. And, not to mention that which is generally known to all, to wit, the touching of those who have this Evil by the King of *France*, and his Majesty of *Great Britain*, whom they heal by a miraculous virtue, and a special priviledge granted those two great Monarchs by God himself; it is commonly affirmed, that the seventh Male-child, without any interruption of Females, hath the same advantage of healing this disease, by a favour which Theology calls *gratia gratis data*, and whereof many affirm, that they have seen the effects. These are attributed to the virtue of the Number *Seven*, so highly esteem'd by the *Platonists*, as consisting of the first odd Number, and the first even and square number, which are *Three* and *Four*, and are by them called the Male and Female, whereof they make such account, that, according to the Opinion of these Philosophers, the Soul of the world was made up of those two Numbers; and it is by their means that whatever is comprehended in it subsists. It is also for this Reason, that Children born in the seventh month, live as those born in the ninth; whereas such as are born in the eighth die. To this may be added, That the most considerable Changes of Man's Life happen in these several Septenaries, which number does not only contribute to his Conception, which is not perfect till the seventh day, after the Matter hath receiv'd the Virile Sperme, and to his Birth in the seventh month; but also to all the other accidents which happen to him in all the several Septenaries. For the Child begins to have some appearance of Teeth in the seventh month; at twice seven months he makes a shift to stand alone; at three times seven his Tongue is so far loos'd, that he speaks with some Articulation; at four times seven he goes steadily and confidently; at the age of seven years he ac-

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quires new forces, and renews his Teeth; at twice seven he is of ripe age, and capable of engendring; at three times seven he gives over growing, but becomes still more and more vigorous, till he hath attain'd to seven times seven, that is, to the forty and ninth year of his age, by some called the little climacterical year, as being the most compleat of any, in regard it consists of a perfect number multiply'd by it self, and in which there always happens some accident proceeding hence, that Nature being not able to forbear the doing of something, when she hath attain'd that sovereign degree of perfection, is forc'd to decline. It is therefore to be attributed to this compleat number, (which is called by the *Greeks* by a term which signifies Venerable) that the seventh Son cures the Evil, the cause whereof being malignant, and, indeed, having something in it that is obscure, which *Hippocrates* calls Divine; it is not to be admired, that the curing of it should depend on a Cause equally obscure, and at so great a distance from our knowledge.

The Second said, That without having any recourse to so abstracted a Cause, as that of the vertue of the number Seven, which, being a discrete quantity, is incapable of action, which is reserv'd to such qualities only as are active; Nor yet to the Stars, which are at a greater distance from us; Nor yet to the force of the Imagination, which many think may produce that effect: Waving all recourse to these, I am of Opinion, that it is rather to be refer'd to the Formative Faculty, which producing a Male when the Seeds of the Parents are so dispos'd, as that what is more vigorous and strong hath a predominancy over the other which is less such, that is, when it continues still in the getting of a Male without any interruption to the seventh time, the reason of it is, that these Seeds are still so strong and spirituous, that a Male is gotten instead of a Female, which is the production of those Seeds that are weaker and colder than the Masculine. Now the heat and spirits whereby Males are procreated, may communicate to them some particular vertue, such as may be the Gift of healing the Evil; which may be affirm'd with as good ground, as that the spittle of a Man fasting being well-temper'd, kills Serpents; and that it is held, many have heretofore had such a prerogative for the healing of certain diseases, by some particular qualities, depending either on those of their Temperaments, or of their whole substance. Thus *Vespasian*, as *Tacitus* affirms in the fourth Book of his Histories, restor'd his sight to a blind Man. *Adrian*, as *Ælius Spartianus* relates, healed a Man born blind only by touching him. And *Pyrrhus*, King of the *Epirote*, if we may believe *Plutarch*, in his Life, heal'd all that were troubled with the Spleen in his time, by touching their Spleen with the great Toe of his right Foot; of which Toe there was a far greater Opinion conceiv'd after his death, in that it was found intire, and not consum'd by the fire, as all the rest of his Body was. This vertue of healing thus after an extraordinary manner, hath

hath been deriv'd into some whole Families. There are to this day many in *France*, who affirm themselves to be of the Family of Saint *Hubert*, and have the gift of healing such as are bitten by mad Dogs. In *Italy* there are others, who make it their boast that they are of the Families of Saint *Paul* and Saint *Catharine*: whereof the former are not afraid of Serpents, which, for that reason, they bear in their Coat; no more than these latter are of burning coals, which they handle without burning themselves. In *Spain* also, the Families of the *Saludadores* and the *Enfalmadores*, have the gift of healing many incurable diseases only by the Touch. Nay, if we may rely on common Tradition, we have this further to add, that it holds for certain, that those Children who come into the world on Good-Friday have the gift of healing several sorts of diseases, especially Tertian and Quartan Agues.

The Third said, That if the gift of healing the Evil depended on the vigour of the Principles of Generation, which meet in the seventh Male-child, it would follow that the eighth or ninth coming into the world consecutively, should more justly pretend to that privilege; inasmuch as the generative faculty discovers a greater vertue and vigour in that production of a ninth Male-child without interruption, then it might do in that of a seventh. Which being not found true, it were absurd to look for the Causes of it in Nature, whose forces are not able to attain an Effect so transcendent, and so much above her reach. It must therefore be a supernatural gift, which God bestows on certain persons, out of a pure gratuitous favour, and more for the ease and comfort of others, than out of any advantage to those who receive it; as are also the gifts of Prophecy and doing Miracles. For it is a demonstration of God's Omnipotence, not to heal diseases only by ordinary means, the dispensation whereof he hath left to Physicians, who to that end make use of natural remedies, but to do the same thing without any assistance of Nature by extraordinary and supernatural means, in the application whereof, he sometimes uses the Ministry of Angels, as in the curing of *Tobit*, and those sick people who came to the Pool at *Jerusalem*, after the water had been stirr'd by the Angel; sometimes by the Saints, of whom it is written, that the very shadow of their Bodies hath many times been effectual to that purpose, as was that of Saint *Peter*; and oftentimes those of other persons, to whom he had communicated the gift for reasons unknown to us; as he granted that of Divination to the Sibyls, though they liv'd in Idolatry.

The Fourth said, That Man was, potentially, all things; and that consisting of a Body exactly temperate, and of such a Soul as is the most perfect of forms, he comprehended in an eminent degree within himself all the vertues of things as well corporeal as animate. Whence comes it then, that he shall not have the vertues and properties which are observable not only in stones, wherewith

wherewith he participates Being, but also in Plants which are capable of Vegetation as well as he; Animals, with whom he hath motion, sense, and life; and lastly, in the separated Spirits, as having, answerably to them, certain powers that are spiritual and remov'd from materiality? And so, since the Vertue of healing Diseases is found in most Beings, which are of some nature with Man, it is but reasonable he also should have the same one, such as is the gift of healing the Evil, which happens principally in the Seventh Male-child, by reason of the perfection of his nature, which performs all the most compleat functions in that number, which *Hippocrates* upon that occasion affirms to be the dispenser of life. Nay if there have been some who have had the Vertue of communicating several Diseases, by their sight and touching, as it is related of the *Psylli*, *Tribales*, *Illyrians*, and other Nations, who bewitch'd those whom they touch'd; and of him, whom *Philostratus* makes mention of in the life of *Apollonius*, who kill'd with his very aspect, as the Basilisk does; far greater reason is there that there should be some to communicate health. For though this latter, requiring more preparations and conditions, is so much the more difficultly transferr'd from one Subject to another then sickness is, yet the reason of contraries will have it so, that if the one is, the other may be communicated, and that with the greater justice, inasmuch as health, participating of the nature of good, ought to be more communicative from one subject to another then sickness.

CONFERENCE CCXXXII.

Of Conjurat[i]on.

There is as much fault to be found with the excessive curiosity of those, who would know all things, as there is with the unsufferable stupidity of some others, who are not any way touch'd with that natural desire of Knowledge: for as these latter, by renouncing that accomplishment, deprive themselves of the greatest satisfaction of life; so the others, being transported beyond the limits prescrib'd to the mind of Man, wander they know not which way, and precipitate themselves into the abysses of errors and impieties. That of the *Necromancers*, who make it their boast, that they can command out of their Tombs the Souls of the deceas'd, that they may be, by them, inform'd of what they desire to know, is so much the more enormous, in that they have made an Art of it, call'd by them the Black Art, or the Art of Conjurat[i]on, a name as ridiculous as the precepts whereof it consists; which having no ground but what they derive from the capriccio's and fantastick extravagances of those Impostors, they sufficiently destroy themselves; so

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as there needs nothing else to discover their palpable vanity; no more then there is to make appear the error of those, who, to confirm that diabolical invention, maintain, that there are abundance of effects above those of Nature, which are to be attributed to those souls separated from their bodies, especially that of foretelling things to come, and informing those thereof who consult them; it being consider'd, that, besides the gift they have of Science, which is common to them with all spirits disengag'd from matter, they have a particular inclination of doing good to men, by advertising them of those things which so much concern them. But this is not only absurd in it self, but also impious, and contrary to Christian Faith, which teaching us that there are but three places, where these souls have their abode, to wit, Paradise, Hell, and Purgatory, it is to be believ'd, that those which are confin'd to the last never come out thence, but upon a special permission of God, which he sometimes grants them, that they may solicit the suffrages of the Living; those of the damned are further from being in a capacity to get out of that infernal prison, to which Divine Justice hath condemn'd them; to be there eternally tormented; And the Blessed Spirits are yet more unlikely to quit their blissful State and the joys of Paradise, wherewith they are inebriated, to satisfy the vain curiosities of those who invoke them, and for the most part make use of them rather to compass the mischievous Sorceries and such like Crimes whereof that Black Art makes profession, then to procure good to any one; or if it happen that at any time they do any, 'tis in order to the doing of some greater mischief afterwards, such as may be that of Superstition and Idolatry, whereto these spirits inclining those who invoke them, and requiring of them such Sacrifices and Adorations as are due only to the Deity, it is more then a presumption, that they cannot be the souls of the Blessed, but downright Devils, who, transform'd into Angels of Light, impose upon those who are so willing to be seduc'd.

The Second said, That as the employments of the Devils are different, so is there also a remarkable difference in their natures, which depends principally on the places of their abode, according to which, if we may believe *Orpheus*, some of them are *Celestial* or *Fiery*, some *Aery*, some *Watery*, and some *Terrestrial* and *Subterraneous*; and among those the Aerial, to whom *Plato* attributes the invention of Magick, are by the Students of that Art, accounted to be the most ingenious to deceive men, by reason of their more easie putting on of the grosser parts of the air, and their appearing under what forms they please; and consequently, it will be no hard matter for them to assume that of the bodies of deceas'd persons, and, by that counterfeit appearance, to deceive the credulity of those, who are perswaded, that, by this art of Conjurat[i]on, they may be oblig'd to make a particular discovery of themselves; and it is an observation of *Ananias*, in
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the third Book of the Nature of Devils, when a dying person presented his right Hand to some other, who thereupon joyn'd Hands with him. Nor is this any thing less superstitious than for the said two persons to make a mutual promise one to the other, that he, who shall die first of the two, shall appear to the survivor, to give him an account what condition he is in; since that, in these Apparitions, it is always to be fear'd, that they are the Evil Spirits, whose main design is to seduce them that assume their places, and do appear instead of those whom we think we see.

The Third said, That he thought it not very strange that the Souls of the deceas'd, having still a certain remembrance of those with whom they convers'd in this Life, and to whom they are still oblig'd by some tie of affection, such as was that of the Rich man in Hell towards his living Brethren, should also have an Inclination to assist them as much as they can. It may therefore be inferr'd, that, with the permission of God, they do appear, when they are earnestly intreated to do it. For, not to speak of *Moses* and *Elias*, who appear'd on Mount *Thabor*, the day of the Transfiguration; the Prophet *Jeremy* and *Onias* appear'd to *Judas Macchabeus*, as the Soul of *Samuel* did to *Saul*; to whom the Holy Scripture attributing the gift of Prophecy, that apparition was not illusory, nor procur'd by the Devil assuming the shape of that Prophet, but certain and real, in which that Holy Man presented himself, and, out of the desire he had to bring that King, for whom he sometime had a great affection, into the way of salvation, he remonstrated to him the judgments of God, which would fall upon him, if he turned not from the evil of his ways.

The Fourth said, That though there be nothing but confusion among the Evil Spirits, yet is there to be imagin'd a certain Order in their Nature, and such a Subordination among them, that there are Superiours and inferiours, whereof some have a sovereignty over others. Thence it comes, that among the Magicians, who have unhappily engag'd themselves in their service, those who have given up their Names to a Devil of a superiour Hierarchy, force the others to obey them, and may exercise the same superiority over the Spirits of a lower Class, as their Master can. It is to these Regent or principal Magicians, that some would attribute the priviledge of calling up the Souls of the dead, and, for want of them, the Evil Spirits of an inferiour Order, whom they shew to those who consult them; or when they cannot do that, they think it enough to procure an appearance of Spectres and Shades, by that cursed Art of Conjurat[i]on, distinguish'd for that reason into *Necromancy* and *Sciomancy*, whereof the former makes the dead appear, or rather Devils, with their very Bodies, and their Clothes and other marks, which they had during their being here: The other shews only Phantasmes, which have some resemblance of them, yet make a
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shift to answer their Questions who cometo enquire of them. And whereas the whole mystery is full of impostures, they omit nothing that may cause terrours, that so mens spirits being prepossess'd, they might give the greater credit thereto. It was the opinion of ancient Paganism, which first exercis'd this Art, that the Souls of the dead might be evocated, by pouring on the ground Wine, Milk, and Honey, and mixing it with the blood of certain Animals newly kill'd, the entrails whereof, being still hot, were afterwards carried three several times about two Altars, garnish'd with three black or blew fillets, and a Cyprus. But when they were perswaded that those Souls of the deceas'd, which they call'd *Manes*, were incens'd against them, they appeas'd them with black Victims, casting their entrails dipp'd in Oyle, into a fire laid on their Sepulchres made of such Trees as bear no fruit, gave them Incense, cast Wine with the hollow of the Hand, and exercis'd such Ceremonies for the most part ridiculous; which also were commonly perform'd at mid-night, and in Caves and subterraneous places, there being not any thing they thought more contrary to those Spirits of darkness, than the light of the day, and especially the rising of the Sun. Thence it proceeded, that *Homer* sends his *Ulysses* into obscure places, there to consult the Soul of *Tiresias*; and *Virgil* makes *Aeneas* descend under ground, to learn of the Sibyl what he had to do. The Poets also have feign'd that *Orpheus* descended into Hell, to fetch thence his Wife *Eurydice*; and the History of *Pausanias* tells us, that, to appease the Ghost of *Cleonica*, whom he had kill'd by mistake, and for which act he was continually tormented in the night time, he offer'd some such sacrifices to it in an obscure place call'd *Heraclea*, where having appear'd to him, she told him, that he should be deliver'd out of all his sufferings as soon as he were return'd into *Lacedaemonia*; as accordingly he was, having been there starv'd to death with hunger in the Temple of *Pallas*, where he had taken Sanctuary, to avoid the fury of his Fellow-citizens, by whom he was pursu'd.

CONFERENCE CCXXXIII.

Of Natural Magick.

Natural Magick hath degenerated extreamly in these last Ages, wherein it is grown as execrable, even to the very name of it, as it was honourable at the beginning, as those of Tyrant and Sophist were heretofore denominations generally esteem'd, but now they are abhorr'd. The ill use which some have made thereof, is, the true Cause of this treatment of Natural Magick, which they have fill'd with vanities and impostures, whereas it is in it self not only the noblest, but also the most an-

cient of all the Sciences. For it is conceiv'd to have begun above four thousand years since in *Egypt*, under *Zoroaster* the Grandson of *Noah*, whence it was spread among the *Babylonians*, the *Chaldeans*, and the *Persians*, among whom the *Magi* were in so great authority, that, with the Mysteries of Religion, they were intrusted with the Civil Government and the conduct and tuition of the Kings, who were never admitted to the Crown, till they had been fully instructed in that Discipline. By this it was that *Orpheus* and *Amphion* came to be so powerful, as to draw brute beasts and stones after them; and hereby King *Solomon* came to be the wisest of all men; and, lastly, by the study of this, *Apolonius Tyanicus*, *Pythagoras*, *Socrates*, and the other Sages of Antiquity acquir'd the esteem they were in. But what adds much to the recommendation of it, is, that by its means the three *Magi*, or Wise Men in the Gospel, who were Kings, came from the East, where this Science flourished, having found out that the Star which they saw, being different from all the others, yet no Meteor kindled by some Natural Cause, was an extraordinary sign which God had been pleas'd to make appear unto them, to give them notice of the Birth of his Son; there being no rational ground to imagine they were down-right Magicians, as *Theophylact* conceiv'd in his Commentaries upon Saint *Matthew*; at least this is certain, that, after the adoration of our Saviour, they absolutely renounc'd that Diabolical Magick, if it be suppos'd they had any tincture of it before. For as to this latter, which is grounded upon some compact with the Devil, who thereby obliges himself to do transcendent things for him with whom he hath contracted, being a kind of Idolatry it is generally abhorr'd and condemn'd by all, since it makes use of pernicious means to attain its end, which is ever bad. But such is not the other, whose end, and the means it employes to compass it being good and lawful, there is no doubt, but it may be lawfully used. Besides, as *Pfellus* and *Proclus*, two persons well skill'd in these matters, have very well observ'd this last kind, call'd Natural Magick, is only an exact and perfect knowledge of the secrets of Nature, by means whereof, consequently to the Observations which some eminently-curious persons make of the motions of the Heavens, and the influences of the Starrs, with the Sympathies and Antipathies which are almost in all sublunary bodies, they apply things so justly one to another, and with such an exact consideration of time, place, manner, and proportion, that they work prodigious effects; which, the more credulous, and such as are ignorant of the correspondence there is between these Effects and their Causes, look upon as Miracles and Enchantments. Such as were those of the Magicians of *Pharaoh*, who could turn their Rods into Serpents, make the Rivers of *Egypt* red as blood, and fill the whole Country with Froggs, but were not able to go any further, to imitate the other Miracles of *Moses*, which they were forc'd to acknowledg wrought by the Finger of God. Nor

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are the Effects of Artificial Magick less wonderful, not only in respect of its Predictions observable in Judiciary Astrology, Agriculture, Medicine, the Art of Navigation, and others, grounded upon very probable Conjectures, but also of its operations, as well true as false, or illusory. The true ones are grounded on the Principles of the Mathematicks, especially on those of the Mechanicks, which are the noblest and most necessary part thereof, and on which do depend all the Water-Engines, Machins moving of themselves, and other Inventions wherewith the Ancients wrought such Effects as were accounted miraculous. Such were, that Man's Head of brass made by *Albertus Magnus*, which fram'd an articulated Man's Voice, in imitation of that of *Meninon*; the glazen Sphere of *Archimedes*, the motions whereof naturally represented those of the Celestial Orbes; his Burning-glasses, wherewith he burnt the Fleet of the *Romans*, who besieg'd the City of *Saragossa* where he then was; the wooden Dove of *Archytas*, which flew up and down with the other Doves; as did the little Birds of *Boëtius* made of Copper, which had this further advantage, that they could sing melodiously; as could also those which the Emperour *Leo* caus'd to be made of Gold; Malleable Glass, and such other admirable Effects of this Art, for that reason called by *Hero*, *Thaumaturgica*. Those which it produces by illusion and juggling, depend on some sleightness of hand, and coufening tricks, such as are us'd by the Professors of Legerdemain, to delude our Senses, and make things appear otherwise than they are. Such a performance was that mention'd by *Josephus*, in the xviii. Book of his *Antiquities*, used by that false Messias, *Barchochabas*, who to gain himself the esteem of the true one, had the knack of vomiting flames of Fire out of his Mouth as he spoke, by means of a lighted piece of Towe, which he could order as occasion serv'd; which trick, such another Impostor shew'd more cleverly, by means of a nutshell fill'd with Brimstone and Fire. And it is a thing now generally known, that, by certain Artifices no way diabolical, one may make a company of people sitting at the Table look as if they were dead, or like so many Tawny-Moors; nay, if we believe *Pliny*, in the xxviii. and xxxv. Books of his History, they may be made to look as if they had the Heads of Asses or Horses.

The Second said, That, according to the Doctrine of Paganisin, re-advanc'd since the Light of Christianity by the *Marcionites* and the *Manichees*, as there were two Gods, one called *Oromazus*, the Author of all good, who was the Sun; the other, *Arimanes*, Authour of all mischief; so there were two kindes of *Magick*, whereof one, consisting of an exact knowledge, and application of things in order to a good end, is commendable, and known by the simple denomination of *Magick*, which they affirm to be an invocation of those *Genii*, who are our Guardians and Benefactors, in order to the procuring of

some good either to our selves or others : The other called *Man-gania*, which they exercised by the invocation of the bad *Genii* or *Demons*, was ever condemn'd as pernicious, as having no other design then to do mischief by Sorceries and Witchcraft. And though the grounds of that Doctrine are contrary to the Truth of Christian Faith, yet since it assures us that there are good and bad Angels, which were the *Genii* of Paganism; there is some probability, that as these last incline us to Idolatry, Superstition, and other Impieties, to divert us from the worship of the true God, by the study of the Black Art ; so is it the main business of the former, by a discovery of the Secrets of Nature, which is the White and Natural Magick, to incline us to an acknowledgement of the Author of it. In like manner, as we find, according to the Apostle, that, in the order which God observes for the good of his Church and the furtherance of our Salvation, there are divers Gifts, such as are those of knowledge, healing, working of miracles, prophesying, speaking of strange languages, and the like ; all which do notwithstanding depend on the same Spirit of God, who dispenses them according to his good pleasure : So the Devil, who endeavours to imitate the Works of God, does the like, in the distribution of those Talents, which he communicates to his instruments, to employ them upon different occasions, the better to accommodate himself to the diversity of their inclinations, whom he would abuse, which is his principal design. He furnishes those whose restless curiosity will needs know things to come, with Oracles and Predictions ; he entertains the vain with impostures and illusions ; the envious with Charms and Sorceries ; the revengeful, and such as are inclin'd to such implacable passions, are suggested with all the mischievous contrivances, which that perverse Spirit is at all times ready to teach any who are desirous to be his Disciples, to whom the practice of his instructions prove as fatal, as they are intended, to be to those, against whom they are employ'd.

CONFERENCE CCXXXIV.

Of the Moles and Marks appearing in the Face.

AS the Face is the highest part of the Body, as to situation, and the most delicate, as being the mansion of the external Senses, which cannot act without the assistance of the Spirits, whereby that delicacy is imprinted in it ; so does it accordingly lie more expos'd to as well internal as external injuries, then the other parts, which are not so much in sight, nor of so exquisite a complexion. And as the least flaw in a Diamond, or
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a fair Looking-glass is soon perceiv'd by such as look attentively on them, so these Marks are so much the more observable in the Face, then in any other part of the body, the more susceptible it is thereof, by reason of its clearness and delicacy. I may add to this a thing which would be very improbable, if we had not the assurance of experience for it; to wit, that there is not any mark though ever so little, in the face, but doth denote some other, which though not apparent, it is nevertheless easie for such as are expert to conjecture whereabouts it is, by the inspection of those that are manifest. Thus if there be a mark in the midst of the Fore-head, it shews that there is such another in the midst of the breast; but it will be towards one side or other of this latter, inclining towards one of the arms, if the mark in the Forehead be not exactly in the middle of it, that is, incline any thing to the right or left side: as it must be on the brisket or lower part of the breast, if it appear at the extremity of the forehead towards the root of the nose, between which and the parts devoted to generation, there is such a correspondence, that the simplest sort of people draw consequences of their good or bad disposition, from the length or figure of the nose. But the more intelligent, not contenting themselves with this conjecture, affirm, that, according to the different situations of those marks, there are the like correspondent to them in those parts, as well of the Man as of the Woman; for whether those on the former be in the middle, on the right side or the left, those on the other parts are exactly answerable to them. The several observations which have been made of these correspondences of marks in the Women we shall leave to the examination of the Female Physiognomists, so far as the parts before-mentioned are under consideration, and confine our selves to the Men. In these, the mark which is apparent on the highest part of the nose towards the root, as we call'd it before, where the space is between both eyes, always denotes another at the bottom of the Yard, near the Testicles; between which and the Ey-lids there is so great a correspondence, that those little specks or warts which are many times to be seen on the latter, are the signifiers of the like in the former; even with that observance of proportion, that if it be on the upper-lid, those marks will be on that part of the Cods which is nearest the Yard; if it be on the lower, they shall be on that part which is nearest the Fundament. Moreover, from the appearance of one of these marks upon one of the Ey-brows, it is concluded, that there is as much on the shoulder on the same side, which is at a greater or lesser distance from the Back-bone, the nearer to or further off the other is from the space which is between both the eyes. There is the like correspondence between the Cheeks and the Thighs, for if they have a mark just in the middle, the thigh shall be marked just in the same part, and on the same side; if they be near the nose, the thigh shall be marked near the groin; if they incline towards the ears, the

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correspondent marks will be towards the buttocks. The mark appearing between the Eye and the eminent part of the Cheek, discovers one under the Arm-pit; that on the tip of the Ear, shews there should be one on the upper part of the Arm. It is inferr'd also from the mark upon the upper lip adjoining to the Nose, in that space which makes a separation between the Nostrils, that there is another answerable thereto in the *Peritonæum*, betwixt the Fundament and the Cods; and from those on the Chin and the lower Lip, that there are others about the bottom of the belly. But though these rules are grounded on rational conjectures, yet are they not infallible, no more then those of *Physiognomy*, whereof they are a part; as is also *Metoposcopy*, which judges of the secret inclinations by the inspection of the Face. The second said, That, as Man comprehends in himself an abbreviation of all the rarities of the World; so does his Face comprehend all those of his body, whereof it is an extract. So that as the greater world is known by Man's body, which is the lesser, it is no hard matter to make a discovery of this last by the face, which indeed is less as to volume, but so well compos'd and proportion'd, that it may well be look'd upon as the most accomplish'd Master-piece of Nature, who in the structure thereof hath imitated Geography, which, not able to shew us all the inhabitable Earth, presents us with an epitom of it in a Map; or behaves her self like a Whole-sale-Merchant, who does not expose all his commodities, but thinks it enough to shew patterns thereof, whereby a judgment may be made of their value. Thus it is that there may be a discovery made of the most secret motions within, by the figure and composition of the parts of the face, inasmuch as those of the other parts of the body depending on them, there is a judgment made of the one by the other, and consequently of the actions and inclinations, which are commonly answerable to the constitution and temperament of the parts. But it is somewhat hard to make this judgment by the simple marks of the Face, whether they proceed from Nature, as those do which Children bring along with them into the World, and depend on the imagination of the Mothers, which is an external cause; or from some other Causes, as the heat of the entrails, the abundance of gross and terrene humours, and the density of the pores of the skin, which, checking them in their way, makes them appear in freckles, specks, and other kinds of spots in the face? For, these causes never being constant, but subject to much variety, according to the several occurrences which either augment or diminish them, it is impossible to make a certain judgment of a thing, which is in a continual change.

The Third said, That the said Art of guessing at the marks of the most secret parts of the body by the inspection of those of the face, is so ancient, that the Physician *Melampus*, cited in *Homer*, *Odyss.* lib. xv. deliver'd certain precepts of it, above three thousand years since; and after him, *Avenzoar*, *Septalius*, *Taxilius*,

ilius, and several others have cultivated it, and endeavour'd to shew the probability of certain reasons, which they ground principally upon the correspondence there is between the face and its parts, and all the other parts of the whole body of Man. It consists in two heads, to wit, in the proportion of greatness or measure, or in the resemblance of colour, consistency, figure, situation, number, or such other condition, which may be common between them. The first correspondence between the face and the rest of the body, consisting in greatness, which comprehends the three dimensions, length, breadth, and profundity, is so sensible, that those who have exactly measur'd all the parts of it, have found, that the face is the ninth part of the greatness of the body, making the distributions of those spaces so just that no one exceed another; provided that the body be well compos'd, and that there be no defect in the conformation, nor any considerable disorder in the temperament of the whole, or its parts. The first of these spaces comprehends the face it self; the second is from the throat to the brisket, where the xiphoidal Gristle is; the third reaches below the Navel; the fourth passes by the groin to the beginning of the haunches; the fifth and sixth comprehend the whole extent of the thigh; at the end whereof is the seventh, which with the eighth take up the whole space from the knee to the heel, as the ninth does that of the whole foot: wherein as there are three new regions called *Tharse*, *Metatharse*, and the *Toes*; so are there as many in the Face. The first whereof, which is the mansion of wisdom, is from the beginning of the hair to that of the nose, where there is an interval between the Eye-brows. The second, which is that of beauty, comprehends all from that *interstitium*, to the end of the nose; and the third, where the seat of goodness is, reaches to the lower part of the chin. Now these different intervals are in like manner observable in the other spaces, with so exact a proportion, that the countenance is not only answerable to any one of those spaces, which, with it, make up the whole greatness of man's body; but there is also a correspondence between every part of it, and those of each of the said spaces, as between the highest, the midst, and the lowest part, and that which is in the same situation, as between right and right, and left and left. So that as the face is not only the measure of the whole body, being repeated nine times, but also the least parts of the face bearing the same proportion to those of the rest of the body, it should seem, that rational consequences may be drawn of the marks of those parts that are out of our sight, by those of the Face which are apparent to us. For if it be consider'd, that, besides the correspondence there is between them as to quantity, there is yet another, which we said was that of resemblance, which makes a strict affinity between them, and such as is particularly observable between the Forehead and the Breast; the Ey-brows, and the Shoulders; the cavities of the Ey-brows, and the

the Arm-pits; the Ears, and the Arms; the Chin, and the Groin; the Cheeks, and the Thighes, and so of the rest; those who have this knowledge, may easily ghes at the Warts, the Moles, and marks that are out of our sight, by those which are apparent to us; it being probable, that as Nature hath mark'd the one with one sign, which is as it were the Seal she hath set to her work, it must needs be found after the same manner in that counter-part, between which and the other, there is an alliance, not only by reason of its substance and composition, but upon the account of several other Accidents, which make them alike. Thus the Fore-head by reason of its plain figure in the middle, and circular towards the extremities, and by its solidity is a sufficient representation of the Breast. The eminent scituation of the Eye-brows discovers the correspondence there is between them and the shoulders, which are the most elevated parts of the Body; and the cavities of the Eyes which is under the Eye-Brows, have some alliance with those of the Armpits, which are under the Shoulders. The Cheeks, by reason of their fleshy and musculous composition, have a relation to the Thighs, and particularly, to the Buttocks, which are situated in the midst of the Trunk, as the Cheek is in the Face, between the Fore-head and the Chin. The Mouth and the Chin have also a great proportion with the Belly and the Groin, the former being situated in the lower part of the Face, and the latter at the lower part of the Belly; as also upon this account, that they are equally fleshy, and soft in their superiour parts, and, in their inferiour parts, bony and hard. But this correspondence is yet more sensible between the Mouth of the Woman and her secret parts, and between the Lips of both those parts, which for that reason have the same name; as there is the like between the Nose, the Eye-brows, and the Eyes, and the Genitals of a Man, the Testicles, and the Cods. Nor can there be any sign more manifest, than such as appear in those places; whence there may be infer'd the marks of those which Nature hath so much conceal'd; which though so far out of sight, are nevertheless manifest to such persons as have the curiosity to study this correspondence. But there is such an association between the Hand and the Foot, as well in regard of their composition and structure, as for the employments they are both put to; that the marks about the Hand and Fingers, have others answerable to them on the same parts of the Foot, in a correspondent order and disposition one to another.

The Fourth said, That to find out the reason of this Proportion and Sympathy, we must not confine our selves to sublunary Causes, but attribute an Effect so well order'd, and so regular to a Cause answerable thereto. For my part, I cannot assign any but what is derived from the Heavens, whose motions and influences being the general Causes of what-ever happens here below, that is constant and regular, it is to them that we ought
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to attribute an exactness, which is so certain, that it very seldom miscarries. Thence it comes that the Professors of Astrology, with some ground of reason, affirm, that as there is no Plant so inconsiderable but hath its signature imprinted on it by that Star, which hath a predominancy over it; so is there a far stronger reason, than Man should have his signature, which, as they maintain, is set upon him as a seal, by the Star on which he hath a dependance; it being certain that the seven Planets have an Empire over every part which they govern. Thus *Ptolemy* assigns to *Saturn* the right Ear, the Spleen, the Bladder, and the Bones; to *Jupiter*, the Hands, the Lungs, the Liver, the Blood, and the Seed; to *Mars*, the left Ear, the Reins, and the Testicles; to the *Sun*, the Brain, the Eyes, and the Nerves; to *Venus*, the Nose, the Mouth, and the Genitals; to *Mercury*, the Tongue, the Understanding, and Ratiocination; to the *Moon*, the Mouth of the Stomack, and the Stomack it self. But they attribute these marks of the Face to the motion of the Stars of the eighth Sphere, which are as it were expressions of the different Inclinations, which every one naturally hath, and which are bestow'd on him at his Nativity; but with this Caution, that it is hard to explicate them, unless a Man can decipher those Characters, and find out the true signification thereof, which is the chiefest of all Sciences.

CONFERENCE CCXXXV.

Of Auguries and Auspices.

There never was any Opinion so erroneous, but it met with some Abettors; nor any thing in point of practise so extravagant, but was in some measure authoriz'd. Of this quality is that of *Auguries*. For, though *Cicero*, when he was Augur, said somewhat on the behalf of them; yet in his second Book of *Divination*, he could not forbear discovering their absurdity, and charging them with vanity and foolery. And yet this Opinion was in such veneration among the *Romans*, who were otherwise the most prudent of any Nation in the world, that they sent yearly six Children, Sons of the most eminent Senators, into *Tuscany*, to learn of the Inhabitants thereof (who it seems were well skill'd in it) the Science of foretelling things to come by the flight, singing, or chirping of Birds, since generally known by the name of *Augury*. Nay, this veneration is the more remarkable in this respect, that they would not undertake any thing of importance, till they had first consulted the Colledg of Augurs, which was first establish'd by *Romulus*, who had also been instructed therein, having order'd it to consist only of three persons, according to the number of the Tribes. But that number

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was afterwards increas'd to 24. who were consulted about what-ever concern'd that great Empire, and they continu'd till the time of the Elder *Theodosius*; when it was suppress'd, having till then been so considerable by the nobility and merit of those whereof it consisted, that they were the Arbitrators of all Counsels and Deliberations, which were not taken, till their judgements had been first had. Nay, they had this further advantage above all other Magistrates, that they could not be put out of their places upon any account whatsoever, but continu'd during their lives in that dignity, as *Fabius Maximus* did, who was Augur sixty two years. Nor was it only requisite that that they should be free from crimes, but also from all bodily imperfection, the least defect of Body being accounted a lawful Cause, to hinder an Augur from taking place among the rest; it being, as *Plutarch* affirms in his *Problems*, an undecent thing for any one to present himself before the Gods, and to treat of the Mysteries of Religion, with any thing of uncleanness or imperfection about him. Nay, they thought any thing of that kind so contrary to the said Ceremony, that, to be the more successful in the performance thereof, it was requisite that the Birds and other Creatures whereof they made use in their Auguries, should be as free from any defect as the Augurs themselves. In the mean time, they requir'd so much respect from the people, that, not thinking it enough to have the Lictors march before them with the *Fasces*, as was done before the chiefeſt Magistrates, they had for a further badge of their dignity, a stick crook'd at one end, call'd *Lituus*, which was that of Kings. And indeed, they assum'd to themselves so great authority, that they confirm'd the Elections of *Dictators*, *Consuls*, and Roman *Prætors*, whom they many times took occasion to depose, under pretence that they had been elected contrary to the will of their Gods, whereof they pretended to be the only Interpreters. They took upon them also the knowledge and discovery of things to come, by carefully observing certain extraordinary accidents, which surpriz'd all others by their sudden and unexpected coming to pass, and which, by a certain Science and long Observation, they affirm'd to be the signifiers of what was to come. And this they derived principally from the Heavens, and the different Apparitions of the Air, especially from Thunder and Winds; then from Prodigies and miraculous effects of Nature; and afterwards from four-footed Beasts, but especially from Birds, from which comes the name to that kind of Divination, called *Auspicium & Augurium*, wherein those Divinators fore-told things conceal'd, and such as should come to pass by the singing and flight of Birds. They also made the same Predictions by observing how the young ones, being taken out of a cubb, where they had been kept, took the food laid before them. For if these devour'd it with a certain greediness, so as that some fell to the ground, the Omen was fortunate, and signifi'd all happiness to

to the Consulter; whereas, on the contrary, it signifi'd ill-luck, if they would not meddle with it at all. And this Opinion was so strangely rooted in the Minds of some superstitious people, that *Titus Livius*, and *Valerius Maximus* attribute the Cause of two signal defeats of the *Romans* (one under the Command of *Publius Claudius*, in the first *Punick War*; and the other under that of *Flaminius*, in the second) to their contempt of these Auguries.

The Second said, That of all the several kinds of foretelling secret things, he thought not any more rational than that which was done by the means of Birds, called *Ornithomantia*; the Nature of which Creatures being very ancient, and in a manner celestial, they seem to be more susceptible of the impressions of the Heavens, whereof they are the Inhabitants, and which are the true Causes of what-ever happens here below, than any other Animals which have their abode either in the Earth or Waters. Thence it comes, that the Eagle which soars up higher than any other of the Volatile Common-wealth, hath been the most esteem'd in the business of Auguries, by the Professors of this Art, who also give him the preheminance, as to the constancy and vivacity of his Sight, taking it for a signification of good luck, when he began his flight on the right side; and that especially, if it were so violent, that the noise of his wings might be heard. Thus *Aristander*, having seen an Eagle flying from the Camp of *Alexander* the Great towards that of his Enemies, deriv'd thence an Augury of his Victory; as *Tarquinius Priscus* did the like of his coming (as he afterwards) did to the Crown from this accident, that an Eagle came and took his Cap off his Head, and set it on again, after he had kept it a good while in the Air. But *Tarquinius Superbus* had for an Augury of his exile and the loss of his Kingdom, the violence done by some Vultures to some young Eagles, which they cast down out of their Nest. Such another Augury had *Dionysius* the Tyrant, when, in his presence, an Eagle, having snatch'd away with his beak a dart out of the hands of one of his Guard, cast it into the Sea; soon after which accident, he was shamefully unthron'd, and forc'd away. Yet does this Bird always denote happiness, and good-luck, as do also the Vultures; to twelve whereof, which were seen by *Romulus*, while he was laying the foundations of *Rome*, it is conceiv'd, that that Metropolis of the world owes its fortune and continuance. *Darius*, having seen two of them torn to pieces by so many Hawks, conceiv'd a hope of enjoying, as he did, the Kingdom of *Persia*; but he lost it, together with his Life, after his meeting with a great number of Swallows, as he march'd in the head of his army to engage against the *Scythians*. And it is believ'd, that they had been also fatal to *Pyrrhus* King of the *Epirote*, upon whose Tent those troublesome Birds were seen; as they had also been on the Ship wherein *Mark Anthony* was, before his disaster. The greater kind of Owl hath always been accounted so un-

lucky, that one day, being got into the Capitol, under the Consulship of *S. Papellius Ister*, and *Lucius Pedonius*, there was a particular solemnity perform'd, for the expiation of the City, which the Augurs affirm'd to have been polluted by that unlucky Bird: which yet was not such to *Agrippa*, of whom it is oft related, that the said ill-look'd Bird having appear'd to him in prison, it prov'd an augury of his restauration to the Kingdom of *Judea*, whereof he had been dispossest. The ordinary Owl is also of ill presage; for having one day perch'd on the top of *Pyrrhus's* Lance, in his expedition against the *Argians*, it was his misfortune to lose the battle. The Ravens are no less unlucky; for they were the fore-runners of the bloody civil War between *Sylla* and *Marinus*; and their croakings foreshew'd death to *Alexander* the Great, when he made his entrance into *Babylon*, and did the like to *Cicero*, while he was avoiding the Ambushes of his inveterate enemy *Antony*. The Madge-howlets, the Scritch-owls, the Cormorants, and other such mournful and melancholy Birds, make a sufficient discovery of their fatal predictions, by the death of those who hear them. The Pilots fear nothing so much as to see the Cranes flying towards them, and returning back the same way again; that return advertising them, that they are threatned with some extraordinary tempest. The Stork hath always been favourable to Auspices, and look'd upon as a Messenger of Concord, as the Hawk, and the Buzzard, especially where there was any thing done in order to marriage, or about the acquisition of riches, which the Falcon, whereof the latter is a Species, was conceiv'd to presage with so much certainty, that the *Thuscans* built the City of *Capua* only upon their perceiving of one of them during the time of their Augury. The Wood-pecker and the Hern have also made so happy presages, that every one reassum'd new courage in the heat of a battel, when they appeared in sight of the Souldiers. The Nightingal, which having perch'd on the lips of *Stesichorus* whilst he was yet a Child in the Cradle, sung there, was a presignification of that sweetness, which was afterwards to flow from his delightful Poems; as the Bees which made hony on those of *Plato* were a presage of his Eloquence. Though it must be acknowledg'd concerning these last, that the Augurs were otherwise conceited of them; for having observed great numbers of them in *Brutus's* Camp, they oblig'd him to quit it, so to avoid the misfortune that threatned him, and which happen'd to the Great *Pompey*, in whose Ships these Bees were seen in excessive numbers before the *Pharsalian* defeat. But these observations are not so constantly certain, but that there may be much diversity among them by whom they have been made. Hence is it that *Homer*, among all the good Auguries, gives the precedence to the Dove, which others will not have to be such, but only when she is accompany'd, otherwise being alone they hold that she boads some ill luck, as the Swan does

does to all but Mariners. But among the rest, the ordinary Hen, when ever she makes a noise somewhat like the crowing of the Cock, foretells some signal misfortune, though that of the Cock himself be numbred among those auguries that denote good success, as having foreshewn victory to *Themistocles*, the night before he gain'd the battel against *Xerxes*, and been reputed a Solar animal, from the correspondence there is between him and the Sun, whose motions he declares by his crowing, which upon that account is formidable even to Lyons.

The Third said, That there are two kinds of Auguries, the *Natural*, and the *Artificial*: The former depends on the connexion there is between the Effects and the Agents whereby they are produc'd; which connexion being known, it is no hard matter to give a conjecture of things to come, whereof such as are clear-sighted observe the necessity of their coming to pass, by reason of the strict connexion there is between them, and the causes whereby they are produc'd. This is confirm'd by the infallible predictions which are made not only at Sea by Pilots, who foresee Tempests and winds by such signs as seldom fail; but also by simple Labourers and Husbandmen on the Land, who do the like in the changes of weather. Now this kind of Augury is as rational as the other is absurd, as being a frivolous invention, grounded on certain observations, which are for the most part vain and impertinent. Such among the rest, is the division it hath made of the Heavens into its twelve Houses, which are the Regions or Spaces whereto those Augurs confin'd the extent of their predictions, which they made with their Augural staff, without which the Auguries, according to their judgment, were of no validity, nor was there any more account to be made of them, then of what might be deriv'd from such accidents as happen without or besides expectation, or rather present themselves, whence they were commonly called *Oblative* Auguries. But those which happen'd conformably to the circumstances of time and place, which those Divinators had limited, and when they thought of them, were called *Impetrative*. And this is one of the conditions observ'd in their discipline, wherein there was no account made of what the Augur affirm'd that he had not particularly observ'd, no more then then there was of any thing that pass'd beyond the compass of the places design'd to that function. For the better observance of the ceremonies thereof, the Augural House was not cover'd but lay open to the air, which, for the better carrying on of the work, should be clear and serene, out of a fear that the rain or wind might hinder their making an exact observation of the flight and different motions of the Birds; in the choice whereof they were so hard to please, that they employ'd them not in their presages, but only towards the Spring. After which, especially towards the month of *August*, they made no account of them, in regard they were not then in so much vigour, nor in so good case, yet did they ap-
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point such a dependance among them, that the Auguries taken from those that were inferiour, gave place to the others of a higher quality. So that if a Crow chanced to pass by, while they were attentively divining by the flight of a Dove, this latter auspice was to no purpose, no more then would be that of other Birds upon the arrival of the Eagle, which also would signifie nothing upon the fall of a thunderbolt, which disturbed all their mysteries, with much more reason then a Rat might do, which had no sooner appear'd in the Assembly, but the whole Ceremony was put off to another more convenient time. True it is then, that some advantages may be made of Birds, in order to the drawing of auguries and presages of natural effects, such as are rain, thunder, tempests, winds, heat, drought, cold, frost, snow, hail, and other changes of weather, produc'd by the impressions of the Heavens, the Elements, and other Causes, as well general as particular; but not to make any predictions thence of such events and accidents as depend on an infinite number of circumstances of time, place, and persons, who being purely free agents, their actions are wholly voluntary, and consequently impossible to be predicted, what artifices soever may be us'd to do it. Whereto we may add this Remark, that those artifices being full of abundance of vain and pernicious observations, the sentence of condemnation past against them is just, not only that of the Canon and Civil Laws, which severely punish such as make use thereof, but also that pronounc'd by the mouth of God, who expressly forbids his people in the twentieth chapter of *Leviticus*, to *make their souls abominable by beast or by fowl*, threatening with death the Wizard, and him that had a familiar Spirit.

CONFERENCE CCXXXVI.

Whether those Children who are born with Cawls about their whole or some parts of their Bodies are always fortunate, and why?

Children do ordinarily come naked out of their Mother's Wombs, when, after their struggling with Nature, they begin their entrance into the World with crying and tears, acknowledging their weakness, and the miseries they are likely to be expos'd to in the sequele of their lives. Yet there are some Children excepted from this general Rule; and thence is it that some would have them exempted from the misfortunes common to all the rest, upon this accompt, that they are born with *cawls* about them, that is, are encompass'd by a membrane, which comes

comes over their heads and their shoulders, call'd by the Greeks *Amnios*, which is the innermost of the three membranes, wherein the wombe-lodg'd infant is enwrapped, called by some Midwives the *Coife*, or *Biggin* of the Child, by others the *Childs shirt*, and in some places known by the name of the *Silikon*, by reason of its tender and delicate intertexture, which other Children quit in their Mothers wombs, before they come out thence, with the other Membrane called *Chorion*, of which together with that mass of flesh which had serv'd them for a cushion and support during the time of the pregnancy, are fram'd the *Secondines* or *After-burthen*, so called, because it comes not out till after the Child is born. And as these Children born thus cawl'd and coif'd with this tunicle (which like a large Hood or Capouch covers their heads and necks) seem not to participate of the nakedness of the others, who bring nothing into the World; so is it to be imagin'd, that they are not so much subject to the miseries and calamities inseparable from the common life of other men, inasmuch as their beginning being different from that of others, who come after the ordinary way into the World, upon the score of this special priviledge, of having their heads furr'd and cover'd, the consequence of it ought in all probability to be extraordinary, and full of happiness, whereof if this coif be not the cause, yet have some at least observ'd that it hath always been the sign, and that all those who have been born after that manner have been very fortunate. The History of *Antoninus*, surnamed *Diadumenus*, related by *Ælius Lampridius*, in his Life, confirms this observation: For being born with such a coif, he afterwards came to the sovereign dignity of the Empire, in the management whereof all things succeeded according to his wishes. Nay, it hath been generally believ'd, that good fortune was so constant an attendant of this Coif, that all those who were desirous to compass their affairs carry'd it about them, especially Advocates, who made use thereof, to gain reputation in their publick pleadings, being to that end very careful to buy them of the Midwives, who, knowing the excellency thereof, sold them at a very dear rate, after they had surreptitiously got them away from the children, they had received into the World. For those who have made it their business to enquire more strictly into this observation, maintain, that he who brings this natural coif with him into the world is to expect all manner of good fortune, even so far as to be invulnerable, provided he be careful to have it always about him, or, (what contributes more to that effect) to eat it, as is over-superstitiously done by some. But the contrary will happen to the Child, if he be robb'd of that precious *exuvium* or coat, or it be secretly taken from him, to be given to another, who, by that translation thereof, will receive the whole benefit of it.

The Second said, That though the foresaid perswasion sufficiently destroy'd it self, there being no connexion or correspondence

dence between the accidents of humane life and that shirt, which sometimes comes over the whole Body of the Child, commonly falls not much below the Shoulders, and many times does only cover the Face like a Mask; yet have many been of Opinion, that it contributed much to happines and the advantage of good fortune; insomuch that Saint *John Chrysostome*, in several of his Homilies, speaks against those of his time, who made use thereof to gain esteem; which a Clergy-man named *Prætus*, being desirous to acquire, by the means of such a Coif, bought of a Midwife, he was very highly censur'd, as *Balsamon* affirms in his Commentaries upon the Canons of the Apostles. And *Paulus Jovius*, an Author of great repute, observes, on the Nativity of *Ferdinand Daual*, that the Coif he brought with him from his Mothers Womb, contributed much to his being happy and belov'd of all. From all which we may make this inference, that there is nothing so extravagant, but may meet with Favourers and Abettors. For I may lay it down for certain, that this Opinion hath no other ground than what it hath found in the weak Brains of those Midwives, who having nothing in them but the name, have insensibly scatter'd these errours into the Minds of the vulgar, with whom the wisest being oblig'd to comply in matter of Language, it comes to pass at last, that what was before but a common saying, finds a degree of assent among the most considerate. Nay, what is not any longer to be endur'd, they think it not enough to maintain this groundless perswasion, but there are some so ridiculous, as to derive a new kind of Divination from it, which they call *Amniomantia*, whereby they promise to foretel what-ever happines or unhappines should befall a Child newly born, by the colour of that Membrane, whereof they affirm that the redness signifies good success, and that the blackness or blewness of it denotes the contrary. To which they add another kind of Divination, call'd *Omphalomantia*, which teaches them to judge by the knots of the string, whereby the Child is fasten'd to the After-burthen, how many Children more the Mother shall have; who, according to their judgement, will be Males if those interfections be of a colour inclining to black, and Females if they be white; which Observations are not only impertinent, but also impious and superstitious.

The Third said, That the common perswasion, of the happines attending Children born with these Coifs, is well-grounded, provided that it be taken in the sense wherein the Physicians, who, in all probability, are more likely to be the Authors of it, than those simple Women who receiv'd it from them, would have it to be understood; to wit, that those who thus born cover'd with that fortunate Membrane, (in regard they are not put to so much trouble, nor suffer so great violence in the passage, by reason of its being open and easie) come forth cloath'd out of their Mothers Wombs, without being oblig'd to leave behind them the Membranes, wherein they had been enclos'd in the Matrix;

Matrix ; whereas most other Children are forc'd to quit them at their coming into the World, by reason of the Obstructions they meet with in their passage through those narrow streights, which consequently, is so much the more painful and laborious to them, than it is to such as are coifed, who are not to be imagin'd ever the more happy, as to the remainder of their lives, whereof the good or bad conduct are the true Causes of their happiness or unhappiness, and not that Coif, which can neither produce nor signify them.

The Fourth said, That those Children, who are born thus coifed, are not only more happy in their Birth, but they are also such in all the actions of their lives, as being commonly more peaceable, and of a more quiet Constitution, than such as leave that Membrane within their former lodgings; who are accordingly more turbulent and restless, and, for that reason, have not those insinuations; whereby the former are recommended. For in these, the moderation of their manners and demeanour consequent to that of their humours, gaining the hearts of all those with whom they converse, raises them into the general esteem of all, and so facilitates their accession to Honours and Employments; it being certain, that there may be some judgment made of the course of Life a Man is likely to take, by the deportment of his Child-hood; so is it no hard matter to give a guess at the same, by that of the Infant, when he makes his first fall out of his Mothers Womb, which is one of the most remarkable transactions of his Life. Whence it may be infer'd, that that first coming abroad being free from the trouble and agitation, whereof all others are sensible, and which makes them forget their Vesture which is left behind by the way, they ought accordingly to be dispens'd from the misfortunes incident to others, and enjoy a particular happiness.

The Fifth said, That the most restless and most turbulent persons, are commonly the most happy in this world, whereas those who endeavour to walk according to the strict rules of Modesty and Reservedness, do not carry on their business so well, as the former do, who confidently attempt any thing, and imagine themselves the favourites of Fortune. And thence it is that she, on the other side, is so assistant to them, that though it be granted the Children born cloth'd are more meek and moderate than those who come into the World after the common rate, yet would the clean contrary to what is pretended follow from it. For, instead of being cherish'd by Fortune, it is seldom that she smiles on them, but is much more kind to those stirring and tumultuary Spirits, who many times obtain greater favours of her than they durst hope for, had they demean'd themselves towards her with less earnestness and importunity.

The Sixth said, That if every Man be the Artizan of his own Fortune, those who are of the best Constitution and strongest Temper, ought to be more happy than others, whose irregularity

rity of humors does manifestly cause that of their Actions and Fortunes. Now the Children born with Cawls and Coifs about them, seem to be less vigorous, and of a weaker disposition than those who come into the World without any; inasmuch as the latter, being more earnest and violent, are no sooner sensible of the time of their Deliverance, but they courageously break through the Chains whereby they are detain'd, the Membranes whereby they are encompass'd, which those others having neither the Strength nor Courage to do, it gives a great presumption, that they will express but little upon other more pressing occasions, and consequently, they will content themselves with the mediocrity of the ir Conditions, and not aspire to any thing extraordinary.

CONFERENCE CCXXXVII.

Of Antiperistasis.

SO great is the Indulgence of Nature, that she thought it not enough to bestow Being and Existence on the things she hath produc'd, but she hath also imprinted in them a strong Inclination to preserve it, by fortifying them against the assaults of their Contraries, the presence whereof sets them on such an edge, that they become so much the more active. And this is not only confirm'd in Animate Beings, such as are Plants and Animals, which vigorously oppose what-ever is hurtful to them, by so powerful a Vertue, that Men have been forc'd to find out a particular name for it, to wit, *Antipathy*; but also in other Inanimate Bodies, which generously stand upon the defensive, when they are set upon by External Agents, whose contrary qualities coming to engage against them, they redouble their Forces, and rally all together as it were into a Body, the better to receive the Charge. This is that which the Philosophers call *Antiperistasis*, which is a vigorous resistance of the Subject, caus'd by the contrariety of an Agent, which encompasses it of all sides, purposely to destroy or corrupt it. It will be to no purpose to enter into any Dispute concerning the Existence of that which we call *Antiperistasis*; but we shall lay it down for granted, though it be contested by *Cardan* and some other Philosophers, who maintain, that Water, Air, and the other Subterraneous Bodies, are not actually colder at one time than at another, but only seem to be such to our Senses, which, though they should be destitute of all qualities, are then endu'd therewith, so that the same Well-water which seems to be hot in Winter, by reason of the coldness that is in the Touching, seems cold in Summer, by reason of the heat of the same Organ, which judges of it comparatively. For the contrary is seen, in
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that Well-water, in Summer, being transported into a hot place, is there nevertheless cold; and the fumes and hot vapors which exhale from Springs and Wells in Winter, do sufficiently demonstrate, that, during the said season, the water is endu'd with a true and real heat, too sensible to be accounted imaginary. But this *Antiperistasis* is further more solidly confirm'd by Experience, whereby we see that fire burns more violently, and is more sparkling in great Frosts, or in the shade, than in hot weather, or when it lyes expos'd to the beams of the Sun. In like manner, a little Water cast upon a great Fire, makes it more violent than it was before; and the Ventracles of our Bodies, according to the Opinion of *Hippocrates*, in his Aphorisms, are hotter in Winter than in any other season of the year; whence it comes that we are apt to feed more plentifully, and Digestion is then better perform'd. Nay, if we but go down into our Cellars, we shall find that the heat is more sensible there in Winter; but in Summer, when all things are scorchi'd and burnt up on the surface of the Earth, all Subterraneous Places are so much the colder, the deeper they are, and the nearer they approach to the Centre; towards which, Cold, which is one of the natural qualities of the Earth, gathers together, and reunites it self thereto, that so it may be secur'd from the heat, whereby it is encompass'd of all sides. And as it is to this, that the generation of Metals in the entrails of the Earth is principally attributed; so most of the Meteors which are fram'd in the two Regions of the Air, owe theirs to this same Cold, which coming to encompass, and as it were to enclose the hot and dry Exhalation which makes the Winds, Lightning, Thunder, and Thunder-bolts, as also that which makes the Comets in the Middle Region of the Air; these unctuous and easily-enflam'd vapors, being encompass'd of all sides, by the extream coldness of that Air which encloses them, they, in order to their Conservation, re-unite, and take fire, after the same manner as the Rayes of the Sun darted against some Opake Body, or reflected by Burning-glasses, set on fire the most solid Bodies, on which they are repercuss'd; as it is related of *Archimedes*, who by such an Artifice, consum'd the Ships of *Marcellus*, who besieg'd the City of *Saragossa* in *Sicily*. Which instance serves as well to prove *Antiperistasis*, as the manner whereby it is wrought, to wit, by the repercussion of the intentional Species of the Subject caus'd by its contrary. Thus then it comes, that the Water of Springs and Wells is cold in the Summer, in regard the Species of the cold, forc'd by the Water towards the heated Air which is all about it, are darted back again by that opposite heat to the place whence they came; whereupon being thrust closer together, they there re-inforce and augment the Cold; which happens not so in Winter, when the Species of the coldness of the Water, meeting with no Obstruction in the Air, endu'd with the like quality, insinuate themselves into it without any resistance; and so not being reflected

nor forc'd back towards the Water, it is not then so cold as in Summer.

The Second said, That the intentional Species, being not design'd to act, but only to make a discovery of the beings from which they flow, as may be seen in those of all sensible Objects, which these Species represent to the Organs that are to judge of them, cannot contribute any thing to the vigor of the action observable in the *Antiperistasis*; which he conceiv'd should rather be attributed to the simple form of the Subject, which having an absolute sovereignty over the qualities employ'd thereby, in order to Action, renders them more or less active, according to the need it stands in of them. And as seething Water taken off the Fire becomes cold of it self, without any other assistance than that of its proper substantial form, which hath the property of re-instating it self in that degree of Cold, which is naturally due unto it; so ought it with greater reason to have an equal right of preserving that same quality, when it is assaulted by its contrary, Heat; without having any recourse to those Emissions of Species, which, though we should grant the Tactile qualities (what is much in dispute) yet would not be able to cause an *Antiperistasis*, inasmuch as being inseparable from them, if the intentional Species of the coldness of Well-water were directed towards the warm'd Air, it should take along with it the coldness, and, consequently, it should be so far from acquiring any new degree of coldness thereby, that it would lose much of that which it had before. For since it is the Nature of these Intentional Species to be otherwise incapable, by reason of their immateriality, of producing any Corporeal and Material Effect, such as is the augmentation of the degrees of any active quality, as Heat and Cold are, there being not any contrariety between the Species thereof, no more than there is between those of all other Bodies, whereof they are the Images, there is not any reason that obliges the Intentional Species of the Cold to retreat and close together, when they come to meet with those of Heat, or Heat it self, no more than there is that the Species of this latter quality should make the other more vigorous by their reflection.

The Third said, That it must be acknowledg'd, that the Species of Cold and Heat, and the other first Qualities were not contrary among themselves, as being in their own Nature inalterable and incorruptible, as the other Intentional Species are, which come near the Condition of Spirits: Yet does it not follow thence, that these Species cannot be reflected, inasmuch as the Visible Species, Light and Voice, which also have no contraries, are not for that the less re-percuss'd by Mirrours and other solid Bodies, or those hollow places which make Echoes.

The Fourth said, That it is not sufficient, in order to the giving of a reason of that effect, to attribute it to the substantial

tial form of every Agent, but it is to be referr'd to a superiour cause, such as is the Soul of the world; whose function it being to preserve every thing in its intireness, and to be assistant thereto, when it comes into any danger, as it happens when it is assaulted by its contrary, then bent upon its destruction, there lies a certain engagement on this first cause, to relieve it in so great an extremity, by supplying it with new forces to help it out of that oppression. Thence it comes that our Cellars are warm in Winter, and cool in Summer, as are also all other ground-rooms and low places; That Water shrinks up and frames it self into little drops, when it is spilt on dry ground, whereas it spreads abroad and is diffus'd in moist places; That Lime is set on fire by the casting of water upon it; That the fire burns better in frosty than in hot weather; That Wine drinks more cool out of a Glas that had been warm'd; That the coldness of Snow causes an extraordinary heat in their hands who handle it; and, That generally all tactile qualities are rendred more active, by the opposition of their contraries, by reason of the concurrence, and the assistance they then receive from that general Cause, which concerns it self in their preservation. Of this we may give an instance in Politicks, affirming, that the procedure of the fore-mentioned Cause is much like that of great Potentates, who, in a war between some petty Princes or neighbouring States, if they find one party ready to be absolutely ruin'd, supply it with such forces as shall enable it to recover it self, so to bring the several interests into an *Æquilibrium*, whereof there is as great a necessity in Nature, which is kept up by that proportion, wherein all things find their subsistence, as their destruction proceeds only from their disproportion and inequality.

The Fifth said, That we are not to look for the reason of *Antiperistasis* any otherwhere, than in the Subjects themselves, wherein we find the action, whose intenseness and augmentation are to be referr'd, not to that of the degrees of the active qualities, but to their compression and reinforcement, which renders them more sensible, in regard they are more material, as may be seen in a red-hot iron, the heat whereof burns much more violently, then that of a fire of Straw or *Aqua-vite*.

The sixth said, That according to the principles which allow all things to participate of a certain degree of sentiment, this condensation, or compression of the degrees of heat or cold, ought to be the effects of a sensitive Agent, which having a knowledge of what may be hurtful or beneficial to it, withdraws within it self the qualities which preserve it intire, when it is press'd upon by others that are more violent, and such as the meeting whereof might be prejudicial thereto, which it forces from it, in order to Action. And herein it is that the good of every thing consists; inasmuch as every thing hath being only so far as it hath action, when it is assisted by friendly qualities, and the like; and by this means it is that Cold and Heat act more vigorously,

vigorously, when they are oppos'd one to the other; and that our cavities are hotter in Winter, by reason of the compression of the Spirits and the natural Heat; which are the more diffus'd in Summer, in regard this latter goes to meet with its like, as a little fire is put out by a great one, and a weaker light obscur'd by a clearer.

CONFERENCE CCXXXVIII.

Of the Sympathetical Powder.

THough this Powder be now as much out of esteem as it was in vogue, soon after the first finding of it out, for the expeditious curing of wounds: yet will it haply be a business of some advantage to examine their Motives, who first made, and publickly sold it; as also those of such as have sometimes made use of it with good success. And whereas novelty procures a certain esteem to Remedies as well as to other things, so this *Sympathetical Powder* found so great belief at its first coming abroad, among Persons addicted to a military life, who were immediately flatter'd with a speedy and easie curing of their most mortal wounds by the means thereof, without any trouble of making incisions or dilatations, many times more painful than the hurt it self, that we have had some persons these last Campagnes, though destitute of learning and experience, who had the subtlety to raise such a mist before the eyes of the generality with this Powder, that they concluded this remedy to be true balm, and the only *Panacea*, or *All-heal* of all wounds. But time having discover'd the vanity of it, as also the impostures of those by whom it was so highly recommended, it hath been clearly found out, that there are few people in this age, but are either deceiv'd themselves, or make it their main business to deceive others. For in fine, this Powder is as much cry'd down at present, as ever it was cry'd up; and there is nothing left of it, but the insolent name of *Sympathetical*, impos'd upon it by the Authors thereof, in imitation of the Unguent of the same name, wherewith *Galenius*, and some other Physicians, endeavour'd to make good the *Magnetick* cure of wounds, wherein they only dress'd the arms or other instruments, by which they were given, and apply'd the convenient remedies thereto. But in regard they could not always come at the arms, which had done the mischief, to keep up their practise, and to make the cure yet more easie, these upstart Doctors bethought themselves some years since, of another expedient to compass their designs, that is, found out a remedy, wherewith they make it their boast, that they will cure all sorts of hurts, only by applying this powder to some piece of Cloth, which had been us'd either to bind up, or make clean the wounded part. And whereas there are two kinds of wounds,

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one simple, which makes a solution of continuity in the soft and fleshy parts of the body, such as are the veins, the arteries, the nerves, and the muscles; the other, compound, which happens in the solid parts, especially where bones are broken; these Gentlemen have accordingly two different kinds of *Sympathetical Powder*; to wit, a simple, and a compound. The former is made with *Roman Vitriol*, which is our green and transparent Copress, which they beat or pound not over small, and disposing it upon papers, in such quantities as they think fit, lay it in the Sun, when he makes his entrance into the first degree of the Sign *Leo*, and leaving it there for the space of three hundred and sixty hours, which make just fifteen days, answerably to the like number of degrees, which that Planet travels over, in the space of a year in the Zodiack. During this time it is calcin'd into an exquisite whiteness, and then they take it in, and keep it carefully in some temperate place, that is not too moist, that is, such as may not be likely to melt it, for fear it should by that means lose its vertue; for which reason also it is taken in during its calcination, in the cool of the evening, and in the night-time, and when the air is inclinable to rain, or overmoist. But there must be a great care taken, that it be not stirr'd with any instrument of iron, when this powder is either in the preparation, or ready made up; these Authors affirming, that it takes away its vertue, instead whereof they order, that the Artist should make use of a little Willow-stick, which is of great efficacy in these magnetick cures. The compound Sympathetical Powder is made of the same *Vitriol*, prepar'd after the same manner, and the Gum called *Tragacantha*, exactly pulveriz'd, mixt together in equal quantities; instead whereof, others put *Gum-Arabick*, *Sarcocolla*, the roots of the great *Comfrey*, and the five-leav'd *Tormentile*, or such other vulnerary and astringent Plants. However these kinds of Sympathetical Powder may differ, as to the composition of them, yet in the use of them, they observe the same circumstances. For though the simple wound require the powder of the same name, and the compound, where there is any fracture, requires the compound powder, yet is the manner of employing them still the same. And to that end, as well in wounds newly receiv'd, as those that are of some standing, and degenerated into ulcers, they apply a clean cloth made of hemp or flax, to receive the blood from them, or the matter, wherewith being imbibed, they cast the powder upon it, then fold up the cloth, inclosing it in another; and being thus wrapp'd one in the other, they are laid up in some temperate place, unless it be when the wound is extremely inflam'd, or very cold. If either of these happen, they remove the cloths from the place where they were first laid, disposing them into some cold place, such as may be a Cellar, or some other cool room; if the part affected be excessively hot; and on the contrary, into an Oven or Stove, if it be threatned with

with a Gangrene, or the extinguishing of the natural heat; and they dayly continue the dressing of these wounds after the same manner, till they are perfectly cur'd; till which time they carefully preserve all the cloaths imbu'd with the blood or matter that came from them. But what palpably discovers the vanity of this practice, is, that they affirm the wound to be perfectly cur'd by this means, how great a distance soever there may be between the wounded part, and the Sympathetical Powder, which, they say, equally produces its effect afar off as near at hand. Which is contrary to Reason, whereby we are instructed, that every agent being confin'd to certain limits in its action, beyond which it can do nothing; it is impossible that this powder should at so disproportionate a distance, produce the effect which they would attribute thereto, nay though it were granted it might, if it were immediately apply'd to the place affected.

The Second said, That if all Agents were oblig'd to follow that general Rule, whereby they are restrain'd from acting otherwise then upon the Subjects they touch, either by themselves, or by some vertue issuing from them, it would be a very hard matter to give a reason of the action of that Sympathetical Powder upon the wounds it cures, without making use of the assistance of common Surgery, which are many times more insufferable then the hurts about which they are employ'd. But since there is a great number of the like instances in Nature, it will be no harder task to find satisfaction in the causes of this, then in those of all the rest, which act at a distance, without any sensible transmission from the Agent to the Patient; as for instance, of the Loadstone, which draws iron to it; of the North-Star, which does the same with the Loadstone; of the Moon's causing the ebbing and flowing of the Sea; of the Sun's concocting Metals and Minerals in the bowels of the Earth; and of an infinite number of others, which act upon subjects at a distance, by certain occult qualities. Which qualities, in regard they are manifest and sensible in the Loadstone, are commonly call'd Magnetick; such as is also the cure consequent to the application of this powder on the blood, or matter taken from the wound, which is thus treated sympathetically, and whereof the action is withall animated by that universal Spirit, whose general interposition and concurrence being requisite to all Agents, in order to the prosecution and advancement of their operations, it may be concluded, that he does express it in this Powder, whose vertue he conveys to the wounded part, by means of the blood, which issu'd from it, which though separated from the body, there is however some conformity and correspondence between it and its whole.

The Third said, That he thought it a very strange humour, to attribute to *Roman Vitriol*, and the Gum *Tragacantha* the vertue of curing that at a distance, which they cannot do near at hand,

hand, and that, being apply'd to the wounds about which they are employ'd. True it was that they were sometimes cur'd by that kind of procedure; but that it was not to be look'd on as a miracle wrought by the Sympathetical Powder, but as a pure effect of Nature; on which the curing of maladies principally depending, as *Hippocrates* affirms, there needs no more for the effecting that of a wound, then to take away all heterogeneous bodies, to reunite the gaping of the wound, and to keep it clean and at ease; for the natural heat, with its balm, the radical moisture and the Spirits, will advance the cure in that condition, more then all the suppurating, mundifying, cathæretick, and epuletick medicines, which Art commonly makes use of. Thence it comes, that the Masters of this new doctrine give a great charge, to those who would make use of their Sympathetical Powders, to keep the wounds very close, after they have wash'd them with Urine, Sal-water, or Wine, and to take away the splinters of the broken bones, as also the clotted and congeal'd blood, and the other heterogeneous bodies which might hinder the reunion. And this indeed is no hard matter for them to do in the simple fleshy wounds; but they never could do it in those which are accompany'd with fractures, openings of great Vessels, hurts in some considerable part of the body, or such other extraordinary accidents. Otherwise that effect being above the reach of the remedy, which is incapable of producing that cure, if it happen by that means, and after that manner, it cannot be wrought otherwise then by vertue of a secret compact with the evil Spirit, who will be forward enough to promote the welfare of the body, in those who should make use of this remedy, conditionally that they may run the hazard of destroying their souls.

CONFERENCE CCXXXIX.

Whether there be any such Creatures as the Ancients conceiv'd the Satyrs to be?

Novelty and things extraordinary, if we may credit the Professors of Artificial Memory, have so great a power and influence over our minds, that they do not only force them to attention, when the objects are present, but do also much more excite, and better conserve the species then ordinary things can. This it was that oblig'd diverse Poëts and Historians to speak of *Hydra's*, *Chimæra's*, *Basilisks*, *Satyrs*, *Centaurs*, and several other things invented out of pleasure or wantonness, such as have no ground in truth, and are pure poetical fictions. For those who have endeavour'd a more strict examination of the power of Nature, have found the intermixture of these species a thing impossible, not only in respect of the matter, which was to receive the

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Soul, whereto she is determinated by a certain proportion, but also in respect of the form which is indivisible, especially the Rational Soul. Whence it comes, that the Poet *Lucretius* speaks very learnedly, and affirms, that there cannot be any Centaurs, whereof the reason is the same with that of Satyrs; nay the Generation of Satyrs, according to the reason alledged by him, is much more impossible than that of Centaurs. Because, *saieth he*, if that intermixture of a Man's and Horse's nature were admitted, and it be withall suppos'd that Horses are come to their full strength in three years, at which period of time Children are hardly taken from their Nurses breasts, how is it to be imagin'd, that monstrous Animal should be in its beginning and vigour at the same time? Besides, a Horse being accounted old, when Man enters into his youth, how should the one come to dye, when the other were arriving to his greatest vigour? Now Goats being shorter-liv'd than Horses, there is yet less likelihood of feigning an Animal, consisting of a mixture of such a nature and Man's. For which reason, *Pliny*, in Book 7. of his *Natural History*, affirms, that a *Hippocentaur* being foal'd in *Thessaly*, died the very same day, and for the continuation of the miracle, was kept in hony (which is acknowledged to be an excellent Balm) and publickly expos'd to the view of all. *Virgil* places them at the entrance of hell, upon this reflection, that such things as are contrary to Nature cannot subsist. And *St. Hierom*, in the Life of *S. Paul the Hermit*, relating how a Centaur had appear'd to *S. Anthony*, questions whether it were a real Centaur, or the evil Spirit, under such a form, and in the prosecution of his discourse, seems to conclude it a pure illusion of the Devils, since he drove it away with the Sign of the Cross. So that we are not to attribute these Satyrs to any thing, but the licentiousness which the Poets have always assum'd to themselves, as well as the Painters, to dare and undertake any thing, without any regard to the rule given them by *Horace*, not to make an intermixture and coincidence of strange and opposite nature; and that Satyrs, that is, half-men, half-goats, were to be dispos'd among the Hydra's and Chimera's, in as much as by them they would only represent men that were very active, lascivious, clownish, and much inclin'd to railery: and thence also the Satyrical Poem came to have its denomination, as being a composition or farce of a Kitchen, whence some would have it to descend. Which fiction is sufficiently justify'd by the divine Nature which they attributed to those Satyrical Animals, and by the other fabulous stories of *Pan*, whom they affirm to be the god of those Satyrs, as also of the Shepherds. We are therefore to make no other account of this invention, then of all the other productions of their Imagination, what root soever they may have taken in the minds of the Ancients; in regard that being thoroughly examin'd it may be ranked among those senseless Old-wives tales, wherewith they amuse little Children. Unless we would rather refer these Satyrs to the illusion of Devils, who assume
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their shapes, to abuse silly Women. And thence it is that they are, by some, called *Incubi*.

The second said, that it was as dangerous for us to involve in impossibilities whatever we have not seen, as to be over-credulous in believing all. But when Reason and Authority, which bring experience with them, and assure us of a thing, appear of any side, our credulity may well be excus'd. And this is the case, in the question concerning Satyrs, inasmuch as the concurrence of the seeds of those two species, whereof they consist, may as well produce them, as the Mule is engendred of an Ass and a Mare. Whereto may be added this, as a general acknowledgment, that Nature hath not omitted any thing of that which might compleat her power, as having produc'd from Nothing, even to the most excellent Beings, whatever was to come into the mean between both. Besides, though the Imaginations of Mothers were not capable of all things, and cannot imprint that figure and change of body on the Infant, nay to make what they pleas'd of it, whereof there are daily instances, that sometimes they do; yet the commonage of fields and forrests, and such nourishment as the Children might have taken from Goats, as well as *Romulus* and *Æmus* did it from a She-Wolf, might, in process of time, incline them to such or such a form. Whereto it will signifie little to oppose the reason of *Lucretius*, since it seems erroneous, by what is commonly done in the ordering of Trees, which are promiscuously engrafted in different kinds, as for example, an Apple-tree may be in a Cabbage-stalk. By which intermixture, the Apples growing on such a Tree, shall not only have a little scent of the Cabbage, but also, that which is worse always prevailing over that which is better, whereas the Apple-tree should last many years, and the Cabbage is but of one, from these two extremities there arises a mean, to wit, a Tree which lives longer then a Cabbage, and not so long as an Apple-tree should: Which thing is also to be observ'd ingrafting upon different kinds of Tree. Thence it comes that *S. Hierom*, in the life of *St. Paul* the Hermit, speaking of the Centaur that appear'd to *S. Anthony* (for it is true, that the subsistence of one of these Monsters proves that of the other; as the one being destroy'd, the other cannot subsist) does not affirm it to be a pure illusion, but doubts whether it were a real Centaur, such as those spoken of among the Ancients, or a Devil that had assum'd that form. But *S. Anthony*, took him for a Man, and not for a Devil whom he knew to be a Lyar, since he ask'd him where the Servant of God, whom he sought for, lodged. Whereto the Centaur reply'd but in a savage voice, and such as could not be understood, whereupon he drew near to *S. Anthony*, and with his hand shew'd him the way he should go, which done he ran away. Whence *Saint Hierom* concludes, that it is a hard matter to know, Whether the Devil had not appear'd under that Figure to frighten that holy per-

son; or that the Defart, fruitful in Monsters, had produc'd that Beast. Apd *Plato*, in the Banquet of the *Wise-men* relates, that a certain Shepherd having presented *Periander* with a Child, brought forth at his house by a Mare, having the Head, Neck, and Hands like those of a Man, in all the other parts resembling a Horse, and having the voice of a Child; *Diocles* propos'd, that such Prodigies were the fore-runners of Seditions, and Distraction of mens minds. Whereto *Thales* reply'd, that it was a natural thing, to prevent which for the future, he advis'd him to keep no Grooms but such as were married. 'Tis also the advice of *Pliny*, who in the seventh Book of his *Natural History*, affirms, that in the Country of the *Cartadulones*, among the Mountains of the *Indies*, there are Satyrs, a sort of very swift Animals, running sometimes on two feet, sometimes on all four, having a humane shape, and such as by reason of their activity are never taken, till they are old or sick. *Plutarch* also affirms, in the Life of *Sylla*, that in his return from *Italy*, there was brought him a Satyr, like those describ'd by the Ancient Authors, half-man, and half-goat, which had been taken sleeping. Being ask'd who he was, his Answer was in such a Dialect as savour'd nothing of Man's Language, but in an articulate voice, between that of Goats, and the neighing of Horses; and the result was, that *Sylla* taking compassion of him, sent a Guard to conduct him to the place from whence he had been brought. The same Author makes mention of the death of the God *Pan*, who was a Satyr. Saint *Hierom* in the place before cited, affirms, that another Satyr spoke; and he gives a description of him, saying, that he was of a middle stature, having a crooked Nose, hornes on his fore-head, and feet like those of a Goat; and that he brought Saint *Paul* the Hermit some Dates, not taken off the bough on which they had grown: Which kindness obliges the Saint to ask him, Who he was? Whereto he made Answer, that he was a mortal, and one of the Inhabitants of that Hermitage, whom the abus'd Pagans adored for *Fawnes*, *Satyrs*, and *Incubi*. I come to you, continu'd he, as a Deputy from the rest of our Company, intreating you to pray for us to your God and ours, whom we acknowledge to be come into the world for the common salvation of all. Having with those words concluded his Embassie, the light-footed Animal ran away. And that this Relation may seem the less strange, we have this further to add, that in the time of *Constantine*, there was one of them brought alive to *Alexandria*, which was expos'd before the people at the publick Shews, and afterwards dying, his Body was salted, and transported to the City of *Antioch* to be shewn to the Emperour. *Pausanias* also relates, that he had heard it of one *Euphemius*, who, he sayes, was a person worthy of credit, that sailing into *Spain*, he was hurry'd by a Tempest to certain Islands full of a savage kind of men, who had their bodies all over hairy, long tails like those of Horses, and red hair,

hair, which they could not force away from about them, otherwise then with blows; and that one of the Women-savages having been left upon the shore by the Mariners, those Savages abus'd her with all imaginable violences. So that, to doubt whether there be any Satyrs, after so many Testimonies that there are, were to have too great a compliance for our own Senses, and too little for the Testimonies of the Ancients.

CONFERENCE CCXL.

*Whether it be better to bury or to burn the bodies
of the Dead?*

ALL the World seems to be very much concern'd in this business, inasmuch as there being not any man but his coming into this world necessarily infers his departure out of it; and that consequently, a separation of Body and Soul, every man ought accordingly to consider, what will become, after death, of that other part of himself, unless he hath discarded all sentiments of humanity, and hath assum'd the humour of the Cynick, whom his friends having asked, where he would be dispos'd after his death, he desir'd they would leave him in the place where he died, without troubling themselves any further. Whereupon they demanding of him whether he was not afraid his body might be devour'd by Dogs, he answer'd, that he should be no more sensible of their bitings then of the gnawings of worms, if he were put into the earth; but however they would do well to lay his staff by him, to frighten those Dogs that should come near his body. There are whole Nations who have made choice of the bowels of these Animals for their burial, especially the *Hyracians*, who kept Dogs purposely that they might be devour'd by them after their departure. The like was done heretofore by the *Medes* and *Parthians*, who thought it less honourable to be interr'd, then to be devour'd by Dogs and Birds of prey, especially Vultures, to which the Inhabitants of *Colchos* and *Iberia* expos'd the Carcases of those who in their life-time had done gallant actions, but always burnt those of the cowardly. Nay, what is absolutely inhumane, (though *Chrysippus*, an ancient and eminent Philosopher, approves it in a discourse upon that Subject) some were so barbarous, as to eat the flesh of their Fathers, and Mothers, and best Friends, out of a persuasion, that it was one of the greatest demonstrations of piety, to give their nearest Relations a burial in their own bellies. The *Persians* religiously preserv'd them in their Houses, after they had enclos'd them in wax, to prevent putrefaction: which was better done by the *Egyptians*, with honey, salt, bitumen, rosin, cedar, aloes, myrrh, and such perfumes, which have preserv'd their
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Mummies to this time. The *Scythians* did the same with ice and snow, wherewith they cover'd the bodies of the deceas'd, to secure them from corruption. The *Pythagoreans* us'd, to the same purpose, the leaves of Poplar, Myrrh, and Aloes, wherewith they cover'd their dead; after which manner *M. Cato* desir'd to be buried, as *Lycurgus* was, in Olive-branches. The *Ethiopians* inclos'd theirs in Glafs; the *Thracians* and *Troglodites* put theirs under heaps of stones; the *Hyperboreans* and *Ithyophagi* buried them in the waves of the Sea; the *Pæonians*, in Lakes; and the Inhabitants of *Caria* though no Sepulchre more honourable for those who died for their Country, then that of their own Arms, wherein they buried them; as they did Persons of Quality in the High-ways, that they might be the more conspicuous, and especially in Mountains which were only for the burial of Kings; whence came the custom of erecting Obelisks and Pyramids on their Tombes. But though there were a great diversity in this kind of burying, yet it consisted principally in this, that some made choice of the Earth, others of the Fire, for their sepulture. The former is not only more natural and more rational, but also more advantageous than the latter, since there is nothing more consonant to natural reason, then to return to the earth those bodies; which having been fram'd thereof, cannot be better consign'd then to the bosom of that Mother; wherein being once enclos'd, they infect not our Air with corruption and malignant exhalations, as they may when cast into the fire, the heat whereof forcing the fumes and infected vapours of those Carcases to a great distance, they may corrupt the purity of the Air, and prejudice their health who are present at those funeral Piles, which, for that reason, the Law of the Twelve Tables expressly forbid to be set on fire within the City of *Rome*, lest the corruption might be communicated to the neighbouring Houses, but provided it should be done without the walls.

The Second said, That though the general way of burying the dead now is to enterre them, yet methinks that of burning them, and preserving their ashes, is more noble and honourable, in regard the Fire excels the Earth in purity, as far as it transcends it in its vicinity to Heaven, the qualities whereof it communicates to the bodies it consumes, purifying and preserving them from all putrefaction, and making them so clear and transparent, that, according to the common opinion of Theology, in the general conflagration, the World and all bodies comprehended within it, will be vitrify'd, by means of the fire. It is therefore more honourable to have our bodies consum'd by that Element, then to have them devour'd by Worms and Putrefaction; whereof fire being an enemy, and the Embleme of Immortality, there can be no better expedient to secure our deceas'd Friends from oblivion, then that of burning their bodies, whereof we have either the bones or ashes left, which may be preserv'd whole Ages; there being yet to be seen the Urns of the

the ancient *Romans* full of such precious *deposita*, as those who put their Friends into the ground can never see. Add to this, that it is a rational thing to make a distinction between Man and Beast, which they do not, who, burying both, treat them after the same manner; whereas if Man's body were burnt, and that of the Beast left to rot in the ground, it would serve for a certain acknowledgment of the disproportion there is between them; and that as the latter is of a mean and despicable condition, it is accordingly dispos'd into the Earth, which is under the other Elements, and as it were the Common-shore of the World; whereas the former being design'd for Immortality, Fire, which is the most sensible Hieroglyphick thereof is more proper for it than the earth; (wherein if we were not carry'd away rather by opinion than reason, and that Tyrant of three Letters in the Latin Tongue, as a learned Author calls Custom, did not corrupt our judgment) it were more rational to bury the bodies of Malefactors, then to burn them as is commonly done.

The Third said, That if we may judge of the goodness of a thing by its Antiquity, the way of interring the dead will carry it, as having been from the beginning of the World. Holy Scripture tell us, that *Abraham* bought a Field for the burial of himself and his; and that a dead body having been dispos'd into the Sepulchre, where the bones of *Elizus* were, was rais'd to Life. In other Histories we find, that most Nations practis'd it, especially the *Romans*, till the time of *Sylla*, who was the first whose Body was burnt at *Rome*; which disposal of himself he order'd, out of a fear he might be treated as *Marius* had been, whose bones he caus'd to be taken out of the ground, and cast into the River. From that time they began to burn the Bodies of the Dead, which continu'd till the Reign of the *Antoninus's*, when the Custom of burying them came in again, and hath since been us'd by all Nations, whose universal consent gives a great presumption, that this manner is to be preferr'd before any other. Add to this, that our Saviour would have his precious body so dispos'd, and the Holy Church, which is divinely inspir'd, seems to mind us of the same thing, when, upon *Ash-wednesday*, she tell us, that *we are dust*, and that into *dust we shall return*.

The Fourth said, That there were five ways of disposing the dead. One is, to put them into the ground; another, to cast them into the water; the third, to leave them in the open air; the fourth, to burn them; and the last, to suffer them to be devour'd by Beasts. This last is too inhumane to find any Abettors, but among *Barbarians*; Men are more careful to prevent the corruption of Water and Air, without which they cannot live, then to suffer carrions and dead carcases, which would cause infections and insupportable stinks; so that the contest is only between Fire and Earth. For my part, I give the
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precedence to the former, whose action is more expeditious than that of the other Elements, which require a long time to consume dead bodies; whereas Fire does it in an instant. Whereto I may add this, that there cannot be any other more likely expedient, whereby men may secure themselves from those contagious infections, which many times occasion diseases, especially when they are attended by Malignancy. Nay however, it is to be wish'd, whether dead bodies be buried or burnt, that it should be done out of the City, and that the Law of the *Decemviri*, to wit, *Hominem mortuum in urbe ne sepelito, neve vrito*, were still punctually observ'd.

The Third said, That if we may judge of the conduct of a thing by its end, the way of improving it will carry it, as having been from the beginning of the World, holy and pure, as that which brought a Field for the burial of a dead body, and that a dead body has been buried into the sepulchre, where the bones of the dead were buried to last. In other histories we find, that the bodies of the dead were buried in the same way, till the time of the Romans, when the first whole body was burnt at Rome; which happened in the year of the City 640, and the first time they began to burn the bodies of the dead, which continued till the reign of the Emperor Trajan, when the custom came in, and the bodies of the dead were burnt in the City, and the ashes were carried out of the City, and the bones were buried in the sepulchre, where the bones of the dead were buried to last.

FINIS.

The Fourth said, That if we may judge of the conduct of a thing by its end, the way of improving it will carry it, as having been from the beginning of the World, holy and pure, as that which brought a Field for the burial of a dead body, and that a dead body has been buried into the sepulchre, where the bones of the dead were buried to last. In other histories we find, that the bodies of the dead were buried in the same way, till the time of the Romans, when the first whole body was burnt at Rome; which happened in the year of the City 640, and the first time they began to burn the bodies of the dead, which continued till the reign of the Emperor Trajan, when the custom came in, and the bodies of the dead were burnt in the City, and the ashes were carried out of the City, and the bones were buried in the sepulchre, where the bones of the dead were buried to last.

The Fifth said, That if we may judge of the conduct of a thing by its end, the way of improving it will carry it, as having been from the beginning of the World, holy and pure, as that which brought a Field for the burial of a dead body, and that a dead body has been buried into the sepulchre, where the bones of the dead were buried to last. In other histories we find, that the bodies of the dead were buried in the same way, till the time of the Romans, when the first whole body was burnt at Rome; which happened in the year of the City 640, and the first time they began to burn the bodies of the dead, which continued till the reign of the Emperor Trajan, when the custom came in, and the bodies of the dead were burnt in the City, and the ashes were carried out of the City, and the bones were buried in the sepulchre, where the bones of the dead were buried to last.

