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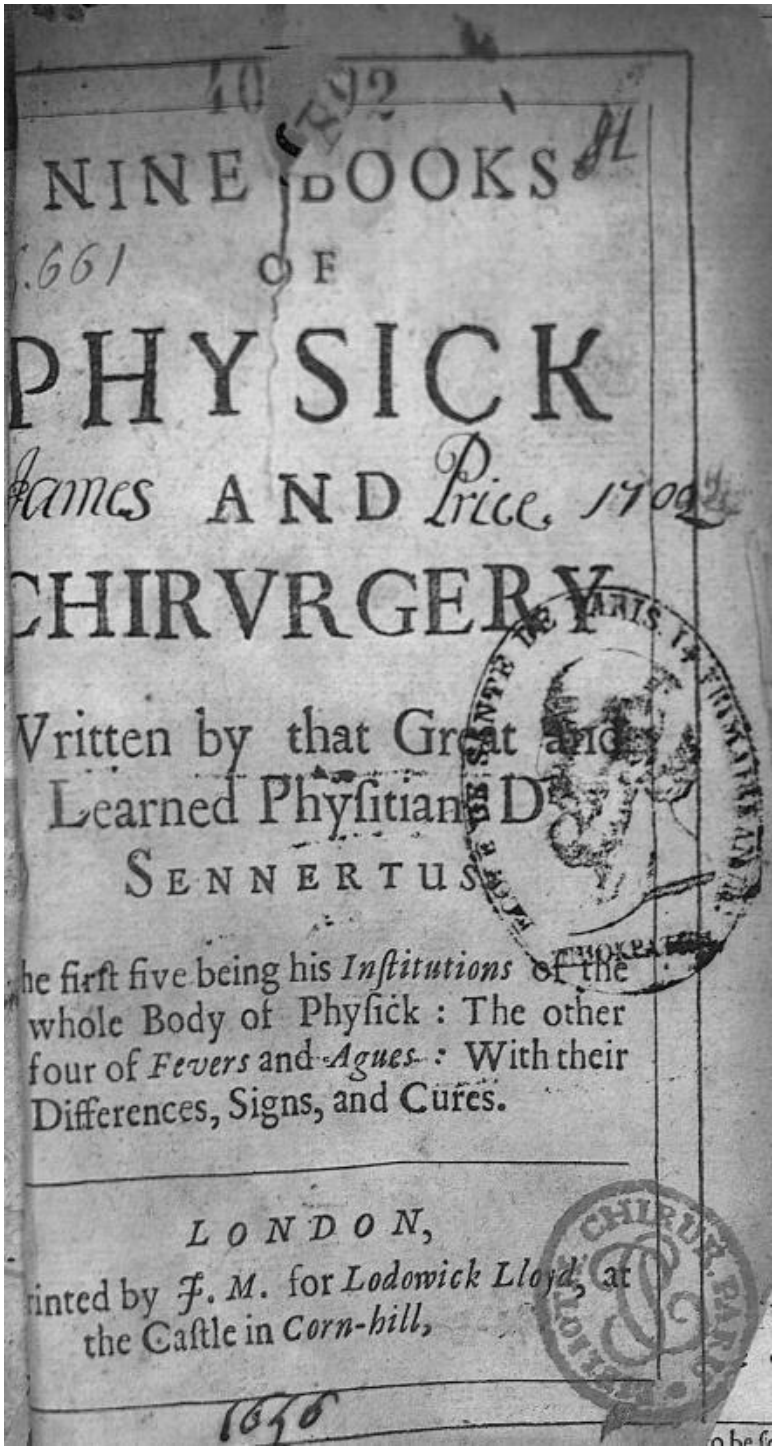
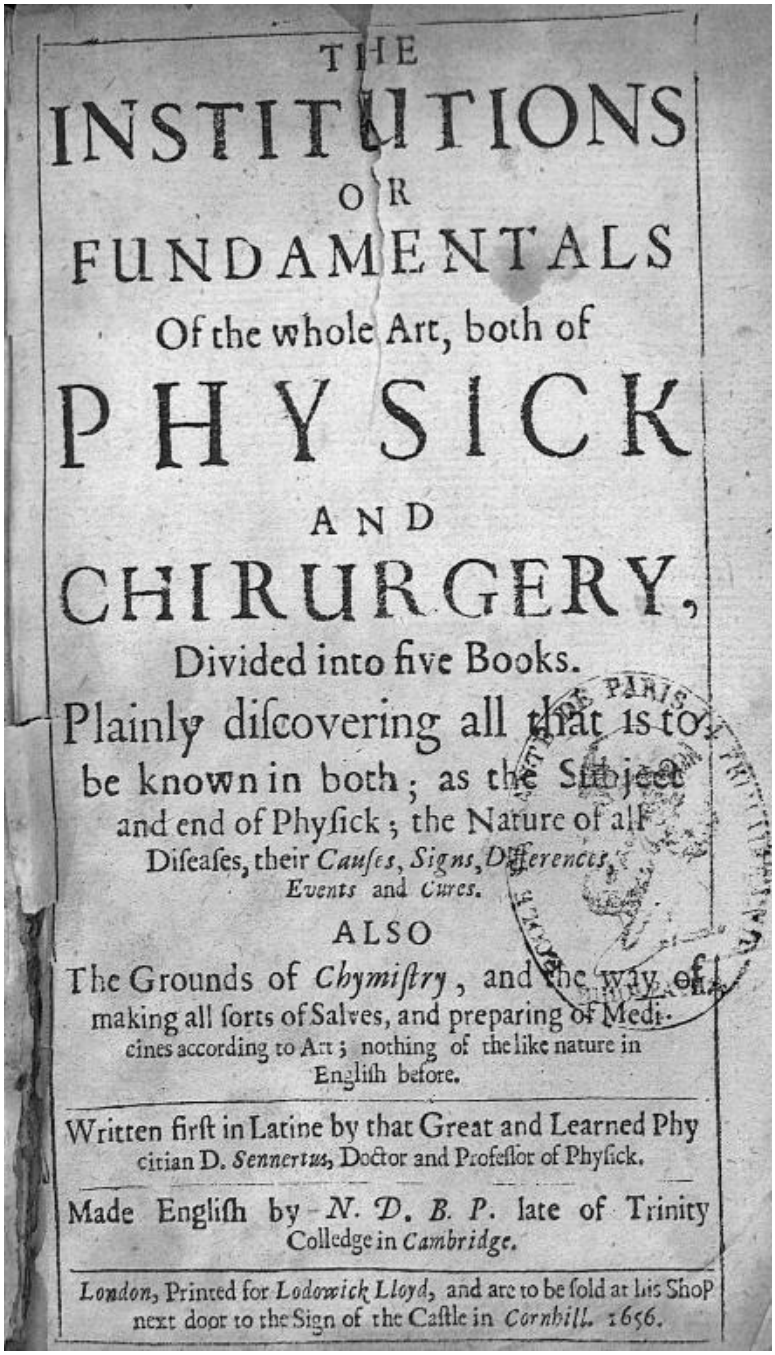


NINE BOOKS
OF
PHYSICK
AND
CHIRVRGERY
Written by that Great and
Learned Physitian D.
SENNERTUS
he first five being his *Institutions* of the
whole Body of Physick : The other
four of *Fevers* and *Agues* : With their
Differences, Signs, and Cures.

LONDON,
inted by *F. M.* for *Lodowick Lloyd*, at
the Castle in *Corn-hill*,
1656



THE INSTITUTIONS OR FUNDAMENTALS

Of the whole Art, both of

PHYSICK AND CHIRURGERY,

Divided into five Books.

Plainly discovering all that is to be known in both; as the Subject and end of Physick; the Nature of all Diseases, their *Causes*, *Signs*, *Differences*, *Events* and *Cures*.

ALSO

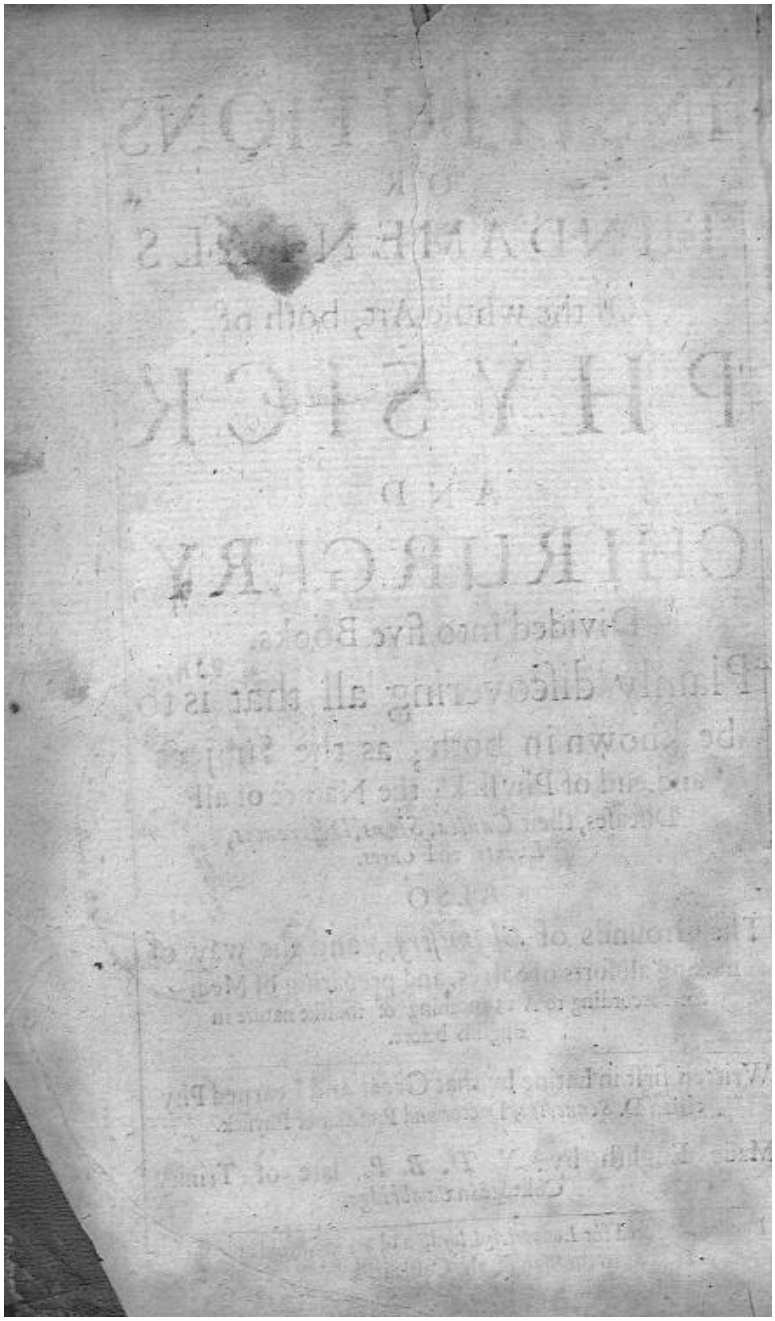
The Grounds of *Chymistry*, and the way of making all sorts of Salves, and preparing of Medicines according to Art; nothing of the like nature in English before.

Written first in Latine by that Great and Learned Physitian D. *Sennertus*, Doctor and Professor of Physick.

Made English by *N. D. B. P.* late of Trinity Colledge in *Cambridge*.

London, Printed for *Lodowick Lloyd*, and are to be sold at his Shop next door to the Sign of the Castle in *Cornhill*. 1656.

PARIS



To the Lovers of the Study of Physick, especially those who desires to attain to the true knowledge thereof.

OF all the Arts and Sciences that the Sons of Men so much covet after, there is none so pleasant and profitable as *Physick*; *Physick* doth not onely teach thee to preserve thy selfe from the assaults of those manifold Enemies which Nature is liable unto, but it teaches thee to restore Health when lost, and to heal thy selfe though wounded by thy greatest adversary; besides in the Anatomical part it entertains thy fancy with the wonderfull work of Nature

where the unſearchable wiſdom of the Creator is as legible, as in thoſe things we count more ſublime and Celeſtial; which if conſidered, Phyſicians cannot be ſo Atheiſtical as the world reports them to be. I undertook not this work out of deſign to prejudice the Colledge, by making that Engliſh, which they would have remain in Latine; nor to advantage my ſelf by any private gain, but to benefit thoſe who are unskilled in the Latine, but lovers of the Study. I ſay for the benefit of ſuch, have I put this into Engliſh. Although by my Profeſſion

feſſion I am otherwiſe obliged: its ſomething unſuitable to my ſpirit to have that Monopolized into the hands of a few, which ſhould be in common to all: ſuch is the practiſe of Phyſick, yet would I not have thoſe to Adminiſter, who are ignorant of the Inſtitutions of Phyſick, as too many have done of late, to their own and others detriment: He that can but well digeſt this Book, his underſtanding will ſufficiently be inriched in the very inſide of the whole body of Phyſick, and will need no other foundation to go upon, being the beſt that ever the Doctors

met with for their own informations. I ſhall not need to acquaint thee with the Authors Method, that thou wilt find by the Contents of Chapters before the Book, nor of the Authors worth, for that thou wilt ſufficiently underſtand by his works, which ſpeaks aloud in their Maſters praiſe, whoſe fame and worth is well known to the Common-wealth of Learning throughout the world.

If thou meetſt with any Errata's *in thy reading, thou art deſired to correct them, the Tranſlators abſence ſometimes from the Preſs occaſioned them.* *Vale.*

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THE FIRST GROUND OR FUNDAMENTALS Of the whole Art of PHYSICK, AND CHIRURGERY.

Book I.

Chap. I.

Of the Nature of Physick.

THE word *Medicina*, ſithence it is derived *à Medendo*, that is, helping ſuch as are ſick, doth properly belong indeed to the Therapeutical part only; which part being the moſt neceſſary, was firſt invented and garniſhed, and in this ſenſe the word was formerly taken. Yet afterwards when that part was added, which ſhewed the preſervation of preſent health; the ſame ancient Appellation was ſtill retained, and is now attributed to the whole

The name of Phyſick.

The Definition of Phyſick.

whole Art. Physick is an Art (as far as it is possible) of preserving mans present health, and restoring it when it is lost.

The Genus of Physick. Physick is most properly set down amongst the Arts, because it propounds to it self, not knowledge onely, but effecting somewhat; namely, gaining of health. For the distinction betwixt Disciplines are taken from their next end: neither doth Physick observe the other principles that are requisite in a Science.

The Subject of Physick. The Subject of Physick is mans Body, as it is indued with health, and obnoxious to diseases. And this Subject hath one excellency peculiar to it self, beyond the Subjects of all other Arts; in that they do nothing, onely they perform obedience, and undergo the operation of the Artificer; but this hath a certain in-bred power striving for health of its own accord.

The End of Physick. The End of Physick is Health; and that is the true and last aim of it, the first mover, and that for which it is; but the scope or means, and that to which it aims is to heal, as *J. C. Scaliger* in his first Book of Plants teacheth; for although the Physitian do not alwaies obtain his chief end, since it is impossible to cure all that are sick, yet the Physitian hath performed his Office, if he have omitted none of those things that are in the power of Nature and Art.

The Excellency of Physick. For out of those two the Excellency and Dignity of Physick is manifested; for it is imployed about mans Body, of all natural Bodies the most noble. The end it aims at is health; then which (amongst all things that may be called good by Mortals) nothing is better, and that which alone is sought by it self. Whereas all the rest of the Arts aim at nothing themselves; but perform all things because of some outward end.

Chap. II.
Of the Division of Physick.

The division and parts of Physick. Seeing that the end of Physick, is to preserve present health, and to restore it when it is lost; it is properly divided into the Preserving and Curing part; yet there are also higher things pertaining to these parts which are necessary to be known by the Physitian, and they are to be added. For hence a Physitian cannot heal unless he know the Subject whereon he ought to work, and since all Arts begin from the knowledge of their end: first he should acquire the knowledge of mans body, wherein he ought to work, and wherein health doth consist, 'tis necessary he should understand; and since that a disease is repugnant to health, he ought to know the nature, differences, causes and effects of a disease; and by what rules to find these in every individual. And so Physick is conveniently

veniently divided into five parts, the Physiological, Pathological, Semeiotical, Hygieinal, and Therapeutical.

Physiologie handles the subject and end of Physick; and so treats of mans body, and shews the constitution thereof, and all its parts, their uses and actions, and the faculties of the mind. *Physiologie.*

Pathologie teacheth the nature of diseases and Symptomes, their differences and causes, and explains all things whatsoever, by which mans body recedes from a natural constitution. *Pathologie*

The Semeiotick part shews the Signs, whereby we may know whether a man be sick or well, and by which we may discover diseases and causes that lie hid in mans body, and the events of diseases. *Of signs of sickness and health.*

The Hygieinal part shews, by what rules present health may be preserved, and how a man may beware before-hand (as much as is possible) left he should fall into a disease. *Of preservation of health.*

The Therapeutical part teacheth, by what means health is to be recovered; and how diseases with their causes and symptomes may be repelled and taken away. *Of curing diseases.*

If there be any other besides these which are counted parts of Physick, they are not principal, but lesser, into which these are sub-divided, such are the Diaetetical, Chirurgical, and Pharmaceutical parts, and such like.

Chap. III.
Of Health.

FIrst, as for the Physiological part, indeed very many dispose of it, and place it otherwise, and in that comprehend things called Naturals, without which our bodies cannot subsist whole, and they accompt them seven, Elements, Temperaments, Humours, Spirits, Parts, Faculties, Actions; but since the handling of them as they are such, is properly the work of a Physitian; they are considered by a Physitian in this place, as they conduce to the knowledge of the subject, which is mans body; to the explication of the end, which is health: to which also we are willing to order the handling of them. And indeed, to it belongs, principally the description and knowledge of all the parts of mans body; which since it is more copious then to be contained in a Compendium, that is to be sought in Anatomical books; but especially by seeing bodies dissected: afterwards followeth the explication of the end of Physick which is health. *What Physiologie handles.* *Of things called Naturals.*

But since that all men do then think themselves well, when they can rightly perform the natural and necessary actions of life, Health is defined fitly to be a power of mans body to perform those actions which are according to nature, depending on the natural constituti- *The definition of health.*

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on of all the parts: for health doth not consist in the action it self, since that those who sleep, or are quiet in what manner whatsoever., and cease from certain actions, are found, and as *Galen* hath it in the 2 *cap.* of the differences of diseases; not to operate, is to be well, but to be able to operate: nor is he onely well who performs his natural actions; but also he that doth them not, so that he be able to do them: And so the formal reason of health is, a potency of body to perform natural actions; but because *Galen* in the place above-mentioned, makes health to be a natural constitution of all the parts of the body, and in the first Chapter of the Differences of Symptomes, a framing made according to nature fit for operation, or a natural constitution of all the parts of the body, having power to undergo those things which are according to nature; therefore it comes to passe, that that position or constitution is rather subject to the actions of a Physitian, then to the power of acting.

The Subject of health. The subject of health is a living body, or the parts of a living body, as to that, to which alone the power of acting belongs; but those which live not, and have no power to perform natural actions, those are neither said to be sick nor well.

The efficient cause of health. But the cause of health, or that whereby a body and its parts are said to be sound, is a natural constitution of them: But seeing there is a twofold constitution of a body, and of all its parts, the one Essential, which consists of matter, and substantial form; the other accidental, which follows the former, and is such a disposition of qualities and other accidents in the several parts of the body, by which the essential form may exercise all its actions, and according to its diversity, it acteth variously: Health doth not consist in the essential but accidental constitution; for the mind cannot be hindred or hurt, but remains alwaies the same and unchanged; so that it have instruments constituted in the same manner. The Essential constitution also, so long as a man lives, is immutable, and at length is changed by death; but the accidental constitution of the body is subject t o many alterations, whence the same soul in the same body acts one way and another way.

The definition of similar and dissimilar parts. And because the parts of the body are several, the natural constitution of them also is not the same. The parts of the body are two-fold, similar, and dissimilar. Similar parts are such whose particles have the same form, and are alike to the whole, and to one another; and indeed, some are truely and exactly such, wherein no difference can be found, neither by accurate sense, nor by reason: such are a Bone, a Gristle, simple flesh, a very small vein, Fat: Others are so onely to the sense, which although at the first sight they seem

ſeem ſuch; yet if they are viewed more diligently, they are perceived to be compoſed of more, as fleſh of muſcles, ſubſtance of Veins, Nerves, Arteries.

Of a Diſſimilar. Diſſimilar, are ſuch as are compounded of more, which are alſo called for the moſt part organick. For although, if we may ſpeak properly, an Organick is not oppoſite to ſimilar, but a diſſimilar or compound, and ſimilar may be organick alſo, as you may ſee in bones, which have their organick conſtitution: Yet becauſe ſingular parts, for the moſt part, do not perform a whole and entire action, which *Galen* requires in an organick part ſtrictly ſo taken, hence it comes to paſſe the Phyſitians, for the moſt part, oppoſe an organick to a ſimilar. *Whether a ſimilar part be oppoſite to an organick.*

The conſtitution of ſimilar parts But the conſtitution of ſimilar parts, even as of thoſe which conſiſt of Elements, and other mixed bodies, conſiſts in the lawful mixture of the four primary qualities.

Occult qualities. But beſides that temperature of primary qualities, other qualities alſo are in them which are more occult, ariſing from their forms, which parts all of them poſſeſſe, as is manifeſt by their ſympathy and antipathy with other natural bodies, and by ſeveral actions, and kinds and manners of actions, which are beyond the force of Elements.

The conſtitution of diſſimilar parts. The natural conſtitution of organick parts, conſiſts in a compoſition fit to perform actions; namely in number, magnitude, conformation, compoſition or ſcituation.

There is a common unity in them both, as well ſimilar as diſſimilar and organick: for not onely the whole body, but every part thereof, whether ſimilar or organick, ought to be whole and entire. And if our bodies obtain theſe three things, it is ſound, if either be wanting, it becomes ſick.

The latitude of health. Yet, there is a certain latitude of health, nor do all men acquire the ſame perfection of performing actions; but in regard of age, ſex, and other circumſtances, ſome do perform all or certain actions better then others, yet all of them nevertheleſſe are ſound; but Phyſitians call all thoſe that deviate from perfect health, and yet are not ſick, Neuters; and place a neutral conſtitution, as it were, in the middle betwixt the ſick and well. For although, if we rightly weigh the matter, there is no ſuch thing as middle diſpoſition, differing from health and a diſeaſe, and every man is either ſick or well; yet Phyſitians conſider Neuters, not as the mean betwixt ſick and well; but as differing from perfect health peculiarly, and diſtinguiſh Neuters from thoſe that are ſound, not as differing in kind, but in reſpect of more or leſſe. *Whether there be a Neutral diſpoſition.*

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Chap. IV.
Of Temperaments.

What a Temperament is.

BUT that the nature of health may be the more manifeſt, ſomething ſhall be ſpoken particularly of this three-fold conſtitution of a body which is neceſſary to health; and firſt, for what belongs to the conſtitution of ſimilar parts, as they are ſuch, that is a Temperament, which is a quality ariſen from the mutual action and paſſion of primary qualities, and reſulting out of them ſeparated and joyned together. But not the form it ſelf of a mixt ſubſtance; ſithence it is ſubject to the ſenſes, acquired by change (or motion) ſubject to alteration, and hath its riſe from the primary qualities; Nor is it onely a harmony (although there be a certain proportion of qualities in a Temperament) ſince it is the immediate inſtrument of actions, which doth not belong to a bare proportion which is an accident.

A Temperament of a mixt body two-fold.

But from the Temperament, things are ſaid to be temperate or intemperate; and indeed, any thing is ſaid to be temperate two wayes, either ſimply and abſolutely, and in its own kind, or in relation to ſome other; for if there be that proportion of qualities, that they wholly concur in equal ſtrength, ſuch a Temperament is ſaid to be ſimply and abſolutely ſuch, and ſuch a Temperament is

To weight.

commonly called a Temperament *ad pondus*, or according to weight, (as if it were weighed in a ballance) and is of an Arithmetical proportion; But if there be a certain inequality of qualities in relation

To Juſtice.

to their ſtrength, it is called a Temperament to Juſtice, and this is called a Geometrical proportion; although, if you ſtrictly regard the proportion of the qualities amongſt themſelves, it is then an Intemperament, not a Temperament.

Now this Temperament (as we call it) wherein there is not an equality of primary qualities, takes its denomination from that quality, which doth exceed the reſt, whether it be one or two. And the action which proceeds from the Temperament, is aſcribed to the quality that doth predominate; although the reſt are no wayes to be excluded from having a ſhare in the action.

Temperate to Juſtice two-fold.

Of theſe Temperaments ſome are ſimple, others compound;

Simple.

Simple, is when one quality onely exceeds its contrary, and the reſt are equal, whereof there are four kinds, according to the number of the primary qualities; Hot, wherein heat doth rule over cold the moiſture and drouth being equal; Cold, where cold overcometh the heat, but the moiſture and drineſs are equal; Moiſt, wherein moiſture exceeds drineſs, the heat and cold being equal; Drineſs,

wherein

wherein drowth dryes up moisture, the heat and cold as before being equal.

Compound.

But when two qualities exceed their contraries there ariseth a compound Temperament: whereof there are likewise four kinds according to the combinations, (as far as possibly they may combine) of the four primary qualities: to wit, Hot and Moist, Hot and Dry, Cold and Moist, Cold and Dry. In every one of these there is a great latitude, and in the simple Temperament some have more, some lesse of heat or cold by much then other. In compound Temperaments some one, sometimes both qualities, exceed the rest in an extraordinary, yet different manner.

The Latitude of Temperament.

How many wayes any thing is said to be hot, moist cold, and dry.

Any thing is said to be Hot, Cold, Moist, or Dry, not only simply regard being had to the universal nature of mixt bodies, wherein if you consider a middle sort of body exceeding in neither, and in respect of this you accompt all others that differ from it Intemperate, and from the quality excelling is called, Hot, Cold, Moist or Dry; but besides this, there is made a comparison to three: First, the comparison is made to the next Genus, or kind in nature, as if in the whole sort of living Creatures, you appoint one living Creature to be temperate, all others in respect of that, are called intemperate; Secondly, a comparison is made with a middle sort of the same kind, so a Boy is said to be hot, an old man cold; Thirdly, respect is had to every individual, that so this compared to that as being Hotter, is Cold, but compared to a colder is hot.

In man there is a twofold Temperament.

Man, for whose sake these things of Temperaments are spoken, since his body is not simply mixed but organick and living, there is required in him a double Temperament, one of the body, as it is absolutely and simply mixt; The other as it is living. This is lost by death, and is often changed by old age; but that remaineth sometimes in the dead carcass after death; yet at length by putrefaction and corruption of that which is mixed tis dissolved. In that also, according to Heat, Cold, Drowth and Moisture, there is a great diversity of parts. But the matter which is proper to living Creatures in all, is Heat and Moisture.

Temperament, Innate, Influent.

Again the Temperament of a living man is twofold, the one Innate, the other Influent. Innate, is that which is imbibed in the living parts of man, & by reason of the Innate heat is inherent in him from his first being. Influent, is that which floweth from the principal parts, and is communicated to the whole body. And that it is not the same with Innate, is manifest from those that fall into a Swoun; when the body becomes extreme cold, and yet the Innate Temperament is not changed. These three Temperaments though

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they may be considered severally: Yet they concur to constitute one Temperament of a sound man. And, therefore although without all doubt, amongst all other living Creatures man is of the most temperate, so that other living Creatures, as also medicines compared to him, are said to be Hotter, Colder, Moister, or Dryer;

The Temperament of a man, of what sort it is.

Yet simply and absolutely he is not temperate; for common-sense tels us, that Heat in man is predominate over the other qualities; for the Temperature of a man to perform his actions best is Hot and Moist, and our lives consist of Heat and Moisture: on the contrary, coldness and driness lead us to death, and by how much sooner a man is cooled and dryed, by so much sooner he grows old and dyes.

The differences of the Temperaments of man.

Yet, that heat and that moisture have their degrees. For if the heat exceed the cold and the moisture the drowth moderately, that Temper is best and is accompted Temperate. All others differing from this are called either Hot and Moist, Hot and Dry, Cold and Moist, or Cold and Dry; although all in general are Hot and Moist.

Sanguine, Cholerick, Phlegmatick, Melancholy.

These differences of Temperaments are commonly explained by the names of Sanguine, Cholerick, Phlegmatick and Melancholy Temperaments. These differences and appellations may be admitted of, if they are not taken from the diversity of excrementitious humours, in various bodies; but from the variety of blood, which is the nutriment of the body.

Occult qualities.

For those whose Blood is temperate, or moderately hot and moist, are called Sanguines: Those who have hotter and dryer blood, and their bodies from thence become hotter and dryer, are called Cholerick Persons: Those who have colder and moister, and their bodies from thence grows colder and moister, are called Phlegmaticks: Those who have cold and dry blood, and their bodies from thence become cold and dry, are Melancholians.

But we must not rest at the Primary qualities; for there are others more noble and more abstruse, the causes of many actions, and of Sympathy, and Antipathy, with other alterations that must be granted; although in this humane imbecillity, for the most part, they are unknown to us.

The opinions of the Astrologers.

The Astrologers, that they may some way expresse the various Constitutions of Bodies, according to the occult diversities of Stars, call some Solar bodies, born under the influence of the Sun; so Jovial under *Jupiter*; others Martial, Venereal, Mercurial, Saturnial, as being born under one of these; and also admit of mixt constitutions born under several Planets; nor indeed absurdly altogether

ther, since there is a great agreement and consent betwixt Superior and Inferior bodies.

But since there are divers parts of a body, and each part hath its peculiar Temperature, not onely proceeding from the mixture of Elements; but some are hotter, some have lesse heat in them; nevertheleise they agree together, to make the Temperament of the whole, which is hot and moist; and so heat with cold, moisture with dry things are equal'd. So that from thence there proceedeth a certain Harmony, and the Temperament of the whole, is moderately hot and moist.

The Temperament of the whole wherein it depends.

But to constitute that Temperament of the whole, the noble parts of the body perform more then the rest, and most especially the Heart, the Fountain and Treasury of the native heat, and vital spirits. From whence all the parts of the body receive the influent spirits and heat. Next to it the Liver, which furnisheth the whole body with aliment, namely bloud; afterwards the Stones; then the Brain, the shop of Animal spirits; last the Stomack, the place for the first Concoction.

The Temperament of the parts of the body.

Concerning the Temperament of several parts, the most Temperate is the skin; especially that in the Palm of the hand, to which as to the mean, the other parts being compared, tend to heat, cold, drowth or moisture.

The Hot Parts.

The Hot parts are the Heart, of all the parts the hottest, the Fountain of native heat, and Closet of vital spirits. Also the Liver, flesh of the Muscles, Spleen, Reins, Lungs, Veins and Arteries, Fat also and fatnes.

Cold.

The Cold, are Bones, Gristles, Ligaments, Tendons, Nerves, Membranes, Spinal Marrow, the Brain.

Moist.

The Moist parts are Fat, the marrow of the bones, the Brain, the marrow of the back, the Duggs, the Stones, the Lungs, the Spleen, Reins, flesh of Muscles, the Tongue, Heart and softer Nerves.

Dry.

The Dry, are Bones, Gristles, Ligaments, Tendons, Membranes, Arteries, Veins, hard Nerves.

The Temperament of Sex.

There is a certain difference of Temperaments in mans body by reason of Sex and Age: As for what belongeth to Sex, Females are colder then Males, as having contracted a colder nature from their principles of generation, lest that the blood necessary for future generation by a stronger heat should be consumed.

The Temperament of ages.

The Temperament is also changed according to age; to wit, the age which is principally ordained for certain internal changes by heat and moisture. Authors for the most part divide mans life into three ages, Child-hood, Manly-age, and Old-age; or Youthful,

Age

Age of perfection, Declination; or if you please, into the first, middle, and last ages; to which differences other ages, spoken of by Authors, may be referred.

The first age therefore is our Infancy, which remaineth till the seventh year; the second our Child-hood, which for the most part continueth to the fourteenth year of our age: then our youthfull age from the fourteenth to the five and twentieth, when our growth for the most part in stature ceaseth. And sometime *Hippocrates* in his first Book of Aphorisms and fourteenth chap. accompts these ages before mentioned, ages of growth. From thence to the five and thirtieth is our manly or flourishing age; from thence to the forty eighth year is our prime or most principal age, then begins old age; which hath its degrees also, for each age hath its Temperament, Infants and Boys are hot and moist; youthful age is most Temperate, and obtains the most convenient temper for humane actions; the flourishing manly age, or prime Viril age is hot and dry; lastly old age by reason of the wasting of the Radical moisture, and defect of the promigenial Innate heat is cold and dry; and by how much the older, by so much the colder and dryer.

Chap. V.
Of Innate Heat.

Innate heat. That those things may the better be understood which we spake concerning Temperaments, we will say something of primigenial heat; for these things are the chief Instruments of the Vegetative soul. By the innate heat we do not understand that heat which belongeth to the mixt body, as mixed; but that heat which is proper to living Creatures; the which with the radical moisture is the next and immediate subject and domicil of the Soul, diffused through all the parts of the body. Nor by heat and moisture do we understand the bare quality, but the quality, with the Subject; to wit, a body hot and moist; the matter namely or Subject wherein heat is, and the quality from whose predominancy the Subject hath its name; to wit, the most pure, subtile, and hottest portion of the similar parts, and especially of the Spermatick parts. This heat is otherwise called both by Physicians and Philosophers, by the name of the within seated Spirit, or the native Spirit; and it is more conveniently called, the within seated Spirit, then the innate heat.

The Innate heat. For although in all the substance be hot; yet heat is not sensibly perceived in all bodies, but onely in living Creatures, and the more perfect of them, which by touching are perceived to be hot.

This

This Innate heat consists of three things, which make up its Essence, Radical moisture, the within seated spirit, and heat; hence *Fernelius* defines it to be the Primigenial humidity spread through all the body, by the innate heat and spirit. And these three, Heat, Spirit, and Moisture are linked together by the neareſt conjunction in the world; for since that heat ought to be (as it were) Governour and Ruler of our lives, it is onely of an aërious or spiritual nature, and so by it self inoveable and separable, or apt to be disperst, it could not subsist alone, but that life might be prolonged, it ought to subsist in a more stable, moist and durable body, more permanent; namely, not a thin and watry body, but a fat and oylie body which is inserted within the fibers of the similar parts, and is called the radical moisture. *Whereof the Innate heat consists.*

Concerning the nature and original of the innate spirit and heat, there is a great controversy amongst Physitians and Philosophers, and 'tis disputable, whether it be Elementary, or of another nature; And although in such an obscure thing, since very learned men disagree, it be very hard to determine any thing, yet I think theirs to be the more probable opinion, who consent with *Aristotle* in his second Book of Generation of living Creatures, and third Chapter; That Innate heat is not Elementary, nor hath its original from fire or other Elements; nor yet is it of a Heavenly nature, but proportionable to the stability of Stars. For every specifical form requires its peculiar domicil and proper subject, and the more noble form requires the more noble habitation, and a more Divine power then Elementary, requires a more noble mansion then a body that is composed of Elements. *Of the original and nature of the Innate heat.*

Moreover, more noble actions, and Sympathy and Antipathy are in it, which purely from Elements cannot proceed; & again this Innate heat and inborn Spirit, in many Plants is preserved in winter time, and in the midst of frosts safe and secure; Moreover this Innate heat, and radical moisture is founded in the parts which are fashioned in the first generation of an embryon; but the greatest plenty of it is in the heart, which from thence is called by *Galen*, the fire-fewel of the Innate heat. *The subject of the Innate heat.*

This inborn heat, is the chiefest instrument of the soul, by which it perfects, undergoes all the actions of life and whatsoever healthy thing in us, and profitable in generation, in nutriment, or in expulsion of a disease, is performed by that. From this benefit and excellency of Innate heat, some have taken it and the Soul for the same thing, and have called it the Essence of the vital faculty; the faculty governing us, the substance of the soul, and the Author of all our actions; but since the Innate heat is neither the soul, *The use of the Innate heat.* *The Innate soul is not a soul.*

ſoul, nor the chief cauſe of our actions, it is onely the chief inſtrument in performing the actions of the ſoul, in operation, which is not corporal.

The changing of the innate heat

This Innate heat doth not remain alwaies the ſame, but is changed in the courſe of our age. For at our firſt coming into the world, it is moſt, and age increaſing, the radical moiſture waſteth by degrees, and drieth up. So that in the end the radical moiſture being clearly gone, the heat alſo wanting wherewithall to ſupport it ſelf, goes out, and a natural death followeth.

Chap. VI.
Of Spirits.

Influent Spirits.

But although every part of the body have this heat innate in it, yet that alone ſufficeth not to undergo all actions, but requires heat and ſpirits flowing from elſewhere; by which it may be ſtirred up and cheriſhed; for by it ſelf it hath no power to perform all actions, but ſoon languiſheth, and ſo is ſcattered and vaniſheth, except it be daily ſtirred up, nouriſhed, and ſtrengthned by the ſpirits of the principal parts, eſpecially the heart.

What the influent ſpirit is.

Although the name of Spirit may admit of various ſignifications yet in this place it is taken for the pureſt, fineſt, thinneſt, hotteſt, moſt moveable body, proceeding from the moſt pureſt and ſubtileſt part of the bloud; and although the name of Spirit be attributed to the Innate heat, yet it eſpecially belongs to thoſe that are moſt fluent and moveable.

The Uſe of Spirits.

Theſe Spirits are the bond by which the body and ſoul are united, and the chief inſtrument of performing our actions, and being wrought in the principal parts of the body are conveyed through their channels into the whole body, and are joined with the Innate heat, that they may help the powers and faculties to perform their actions.

Spirits are not the Vehicle of the faculties.

But that is falſe which ſome teach, That the Spirit is the Vehicle of the faculties, and that the faculties and power of performing, are carried by theſe Spirits from the principal parts; for the faculties of the ſoul are unſeparable proprieties, and the ſoul is fitted with its faculty in all its parts, nor doth it take them from any other parts, but there uſeth them, where it hath fit inſtruments.

Spirits how many ſorts.

Theſe Spirits are of three ſorts, Natural, Vital, Animal. The Natural are generated in the Liver, and are ſaid to flow from thence into all the parts of the body; but although the name of Spirit may in ſome meaſure be attributed to the moſt thin and ſubtile parts of the blood, which oftentimes comes forth out of the Veins with the blood: yet there is not a little difference betwixt them and the

other

other Spirits, properly ſo called; and ſo properly doth not deſerve the name of Spirits, as the reſt do, ſince they are not the proper inſtruments of our actions, nor the bond of the ſoul, which uniteth it with the body, and is not generated in any peculiar cavity as the Vital Spirits are. The uſe of the Natural Spirits are to ſtrengthen the Innate Spirit in all its parts, that it may ſupply the Vital Spirits with matter, and may ſerve for the more convenient diſtribution of blood through the Veins.

The natural Spirit.

Its uſe.

The Vital Spirit is generated in the heart, of the thinneſt and pureſt blood, or the natural Spirit, commonly ſo called, and aër, by help of reſpiration drawn, & by the dilatatian of the Arteries in the left Ventricle of the heart, and being there freed from all fuliginous vapours is diſtributed through the Arteries into all the parts of the body; but the Blood out of which this Spirit is generated, for the moſt part is conveyed through the arterious vein, from the right Ventricle of the heart into the Lungs, and from thence with aër drawn by breathing in is carried through the arterious vein into the left Ventricle of the heart. Now this Spirit with its innate heat in the heart, is not onely the chief inſtrument of the actions of the heart, but is diſtributed through the Arteries into the whole body, and ſtirreth up, cheriſheth, increaſeth, and ſtrengthneth the innate heat in all the parts, and doth, as it were, give action and perfection thereunto, whence it is called by ſome, the Influent heat; beſides which it affords matter fit for the generation of the animal ſpirits.

The Vital Spirits whence generated.

Their Uſes

Thirdly, there are Animal ſpirits really different from the Vital, for they are generated in a peculiar place, namely the Brain, and from thence through peculiar Channels, to wit Nerves, are diſperſed over the whole body; nor can the Vital Spirit perform what the Animal can, ſince it is a living part, oreſpread with a Vital Spirit. Nevertheleſſe being toucht may be deprived of ſenſe and motion through the defect of the Vital Spirit. They are generated of the pureſt part of that blood, which is contained in the corners or cavities of the brain, which comes from the mixt vein and artery, and is oreſpread with the vital and natural Spirit, the pureſt part being poured out through little branches and ſmall furrows in the ſubſtance of the brain; for in this, and not in the Ventricles of the brain, the pureſt and moſt ſubtile part of the blood is changed into animal ſpirits. The Animal Spirit ſerves for the uſe of living creatures; namely to perform internal and external ſenſes; as alſo, it ſerves for motion in Animals, and its preſence occaſioneth the faculty of the ſoul, actually to perform the operations of the internal and external ſenſes, and it perfecteth animal motion, and can occaſion local motion.

The Animal Spirit.

Where and whence generated.

Its Uſes.

Chap.

Chap. VII.

Of the natural constitution of Organick parts, and the common Unity of parts alike, and not alike, called similar and dissimilar parts.

The natural constitution of the Organick parts.

THe natural Constitution of the Organick parts, consists in the due composition, and a convenient knitting of the similar parts into one form, fit and profitable for action; for making up whereof these things ensuing are necessary.

Their Number.

First, a certain number of the parts compounding, which in some are lesse, others more, according as the instruments are more or lesse compounded, till at length there is made up a perfect instrument, which can perform perfect actions.

Magnitude.

Secondly, a due magnitude of the parts compounding, being neither bigger nor lesser then they ought.

Conformation.

Thirdly, due framing: which comprehends first a convenient figure; secondly, cavities and pores, that in case a part be not solid, but porous, it may contain the just number and magnitude of those pores; thirdly, a certain disposition of the secundary qualities, namely, that some parts may have a sharp superficies, some parts light, others heavy, some soft, others hard, some coloured, others not; light colour, or dark colour, according as the nature and use of the part requireth: Fourthly, situation and connexion, that every part may be in its own place, and may agree with others. Lastly, it is requisite that there be a common unity, as well of parts alike, as dislalike, which is a coherence and growing together of divers bodies into one; which if it be wanting and taken away, the natural action is hindred.

Site and connexion.

Unity.

Chap. VIII.

Of the faculties of the Soul, and of the differences of actions in mans body.

The actions and differences of the faculties of the mind.

After that we have shewed wherein health consists, and what is requisite for the performing of actions, now we are to explain what are the differences of the faculties of the mind, and of actions in a body.

Physitians (whom we here follow) divide Actions (for their purpose) into Natural, Vital, and Animal, according to the three principal members, the Liver, Heart, and Brain, by which all Actions in the body are governed. For Physitians purposes are not the same with Philosophers, to inquire or search the kinds

or

or differences of Souls of living creatures, which appears by the distinct manners of life, which is in Plants, in brute beastes, living creatures, and man, but onely ought to find out in man the differences of actions, whose actions it is their businesse to preserve, and if offended to restore; and moreover a Physitian doth not so much consider the faculties themselves, which hurt not, as the Organs and instruments, and then distinguish actions according to the differences of them.

Chap. IX.

Of the Natural faculty; and first of Nutrition, and Augmentation.

The principal naturall faculties.

That we may begin with the natural faculty, I mean the Natural faculty so called peculiarly by Physitians, (for as it is taken generally it is opposed to preternatural, and so the Vital and Animal faculties may be called Natural;) The Natural faculty by the Philosophers, is called a growing or flourishing power. All its actions tend to the preservation of its kind, or else of the Individuals of its species. Now to the preservation of its individuals belongs Nutrition, and Augmentation, to the preservation of its kind Generation belongs.

Nutrition, or alteration.

The nourishing faculty whose action is called Nutrition, is that which turneth aliment into the substance of the body living, and restores what is taken away, and performs this work during all ones life time.

Augmentation.

The faculty increasing whose action is called Augmentation is, that which extendeth the body to its due and just bignesse, whose office is most performed in our growing age, and is extended till it compleateth and perfecteth its due magnitude.

Generation.

The generating faculty whose action is called Generation is, that by which man by his kind continues to perpetuity, which by Individuals cannot be done.

The servile faculties, Attraction, Retention, Concoction, Expulsion.

And these three faculties being as it were the Princes, have others as it were their servants added to them; The Attractive, the Retentive, the Alterative or Digestive, the Expulsive.

The Attractive draweth profitable nourishment to the parts; The Retentive, retains it so long there till it be digested. The Digestive altereth aliment, changeth it, & renders it fitting for that which is living. The Expulsive faculty rejects that as excrementitious, which is dull and unfit to be converted into the substance of the body.

The

The Attractive, Retentive, and Expulsive faculties perform their actions principally by the benefit of the fibers. Attraction is made by the right fibers placed along the length of a member; Retention by the oblique or flanting fibers; Expulsion by those that passe overthwart; but Digestion or Concoction are performed by the Heat of the member. But in the other parts of the body, the same faculties want not the help of the fibers, but perform their operations only by the help of the Innate heat which is in each part.

But although aliment in nourishing be in a capacity to be like to the body yet actually it is unlike at the first; and therefore is changed by little and little untill it be rendered like to that into whose substance it is to be turned, which is performed by several Concoctions.

One Concoction is publick, another private.

Concoction is either private, and is appointed onely for nourishment and use of the part where it is made; or publick, which is made for the common use of the whole body. That is made in the several parts: this in the Stomack, Liver, and Spleen. Hence there is commonly accompted three Concoctions necessary for nourishment of the body: The first is that which is made in the Stomack, the second in the Liver, from which that of the Spleen is not to be excluded; the third in the several parts of the body. There are other actions which passe through the Fabrick of the whole body, such as that of the Vital spirits in the Heart, the Animal in the Brain, and that of milk in the Duggs, the generation of seed in the Stones, unless you will refer this to the Generative faculty; not by reason of the part wherein it is generated, but by reason of the end for which it was instituted (namely) publick use.

The first Concoction is made in the Stomack.

The first Concoction is made in the Stomack, which first prepares Nutriment for the whole body: To which for this reason, not onely the power of Concoction, but also a double Appetite is given; Natural, by which it desires nourishment necessary for it self; Animal, by which it requires nutriment for the whole body. The Natural Appetite doth not sensibly want nutriment; but as the other part by a natural instinct requires and draws nutriment. But the Animal Appetite hath an exquisite sense joyned to this desire, living in the upper Orifice of the Stomack, by which it can perceive not onely its own wants, but the wants of all the body besides. For after the whole body is emptied, it draws out of the Veins, and the Veins which require to be filled again, suck upward again from the Stomack, and their sucking is again received in the Orifice of the Stomack, whence ariseth the Animal Appetite, which is two-fold, Hunger and Thirst. But before Food descend into the Stomack, it is first prepared in the

Appetite two-fold. Natural. Animal.

The first preparation of meat.

mouth

mouth, where it is chewed into pieces by the teeth, moiſtened by the ſpittle and by the heat of the mouth, and of the tunicle which is common both to the Ventricle and the mouth, it is altered by attraction. *in the mouth.*

The meate chewed and ſo altered in the mouth by the motion of the tongue, is ſent down through the gullet into the ſtomack, which by the help of the oblique fibers is there reteined and imbraced, untill by the Digeſtive faculty and proper heat of the ſtomack and the adjacent heat it be changed into one form and maſſe, not unlike to the ſcum of Piſan, and is called Chyle. Meat being taken, that animal appetite ceaſeth, or hunger and thirſt ceaſeth, to wit the twitching and plucking for want of Aliment ceaſeth; but the natural appetite is not ſatisfyed, except perfectly nouriſhed and refreſhed with the blood of its own body. The Chyle generated in the ſtomack is ſent down through its lower orifice into the firſt guts, by which, with their digeſtive force which they have by reaſon of their community with the ſtomack, is here ſomewhat wrought and perfected. *The Chyle.*

But ſeeing that all nouriſhment is proper for nouriſhing certain parts of the body; Nature in this concoction ſeparates nouriſhment, whence there ariſeth a double ſort of Excrements, the one thin, the other thick. The thick which is called the ordure of the paunch, whilſt the Guts contract themſelves up by the circular or tranſverſe fibers, and the Muſcles coming in the Guts by the paunch, the paunch is preſt and the fiege is thruſt out, and voided through it. The other thin and watry which is not forthwith ſent out through the paunch, but continues mixed with the chyle, that it may the more eaſily paſſe through the narrow Veins of the Meſentery, of the Port and of the Liver, afterward it is ſeparated by the veins and expelled by Urine. *The excrement of the firſt concoction twofold: thick. Watery.*

The Chyle being ſeparated in the Guts from the thicker dregs, is drawn by the Meſeraick Veins, and is ſomewhat altered by them, and firſt it receives the rudiments of blood, and hence it is carryed to the branches of the gate Vein, and Liver; and there by the innate heat and power of the Liver is turned into blood, which action is Sanguification, or turning into blood. The Liver reteins a part of this ſo gotten blood, that it may by it be nouriſhed, the reſt through the hollow Vein, in which ſome part of it is hitherto reteined and perfected, it diſtributes it through the whole body. *The ſecond concoction in the Liver.*

That the purer blood may be generated in the Liver, the Spleen draweth to it ſelf from the trunk of the Meſeraick Veins, before the Chyle be carryed to the Liver by an inbred faculty through the ſplenick branch of the gate Vein, the more earthy and thicker part of the Chyle, and generates blood, though not ſo good blood, yet fit *The uſe of the Spleen.*

and proper for its own nouriſhment, and for the nouriſhment of the more ignoble parts of the lower Ventricle, that thereby the purer and better part of the Chyle may be drawn through the branch of the right ſide of the gate Vein, called the Meſentery to the Liver, and there purer blood might be generated; and ſo in one work the Spleen ſerveth to cleanſe the blood from dreggs and generate a worſer ſort of blood; For the Spleen is not appointed only for the drawing and evacuating the Melancholy blood from the Liver. The beginning of the Splenick branch, which ariſeth not out of the Liver but the gate Vein; The Symptomes of Diſeaſes in the Spleen do ſhew the conſtitution of it to be neer that of the Liver, and there is a connexion of the Spleen with the ſtomack by Veſſels. But that which cannot be turned into blood by the Spleen, by convenient paſſages is evacuated, and the thick and dreggiſh matter for the moſt part is ſent through the paunch, either with the excrements or without them through the Hæmerod Veins, and trunk of the gate Vein; yet ſometimes 'tis evacuated by Urine. The aqueous matter moſt commonly is drawn through the Splenick arterics to the Veins and purged out there; yet ſometimes that alſo is expelled by the paunch, by ſweats, by the ſtomack.

The excrements of the ſecond concoction. In Sanguification in the Liver, two excrements are generated Yellow Choler and Urine. The Yellow Choler is gathered into the bladder of the Gall, and from thence the moſt part is ſent into the Guts, and the ſharpneſs of it ſtirs up the expulſive faculty to do its office, to ſtir the dreggs of the paunch, and is caſt out with the ordure.

Yellow choler. But the ſerous matter and the aqueous humor is drawn by the Veins, through the emulgent veſſels, and is tranſmitted through the Ureters

Urine. to the bladder; by which afterwards it is caſt out, and is called Urine.

Urine conſiſts of three things. The Urine therefore conſiſts, firſt of aqueous and potulent matter ſent with the Chyle to the Liver, but unprofitable to nouriſh the body, afterwards of a clammy or ſalt excrement of blood, and thirdly of natural contents in ſound bodies, but in bodies diſeaſed of many other things which are mingled with the Urine. And ſo Urine is properly called an excrement of the ſecond concoction, to wit, wherein the ſerous part of Urine is ſeparated from blood, and mixed with potulent matter, affords Urine.

The parts of the maſſe of blood. Blood thus ſeparated and cleanſed from its excrements, nevertheleſs is ſaid to contein in it ſelf many humours; Nor is that maſſe of blood ſo elabourated and wrought in the Liver, and conteined in the Hollow Vein plainly Homogeneal or of the ſame kind, but ſome parts in it are Temperate, others colder, others hotter, others dryer, others moiſter; The moſt Temperate in its kind is called blood, the hotter and dryer part by reaſon of its conſanguinity with choler

is

is called Cholerick blood, the colder and moister is called Pituitous blood, the colder and dryer is called Melancholy blood. Yet all these parts of blood are conteined under the form or essence of blood, and are profitable for the nourishment of the body. Nor do the humors in a sound body constitute a masse of excrementitious blood, neither in the Veins of a man most healthy are these humors Chollers Phlegme, Melancholy, acounted excrements.

Hence ariseth the decision of the question, whether our body's be nourished by blood only, or by the four humors; For when *Aristotle* says that animals that have blood in them are nourished by blood only, he intended the whole masse of blood; but Physitians when they say that our bodies are nourished, not only by blood but by other humors, by blood they understand the most temperate part of blood, or one part of the masse of blood, and this they would have, that not only that part, but the rest of the masse, to be profitable for the nourishment of the body. But that our bodies are nourished by excrementitious humors, no man in his wits ever said.

The third concoction.

The blood being perfected in the Liver, is distributed through the branches of the Hollow Vein over the whole body, to nourish it and all its parts: That change by which it is assimilated to other parts, is called the third concoction, which is performed by the innate heat, in each part. In this concoction the blood before it assimilates the parts, receives some external dispositions, and is changed into four humors called secondary humors. The first is called Innominate, or without a name, when the blood passeth through the capillar Veins, and admits of a sensible mutation by reason of the heat of the external parts, and in the Spermatick parts turns white, in the fleshy parts remains red. 2 The second is Dew, namely that blood which passeth without the orifice of the Veins. 3 The third is called Glue, because while it is still more concocted it becomes clammy and thick. 4 The fourth is called dry Exchange which turneth into the substance of the part, and exchangeth and changeth its nature with it.

Four secondary humors.

The first Innominate.

The second Dew.

The third Glue.

The fourth is Cambium or exchange.

This third concoction hath also its excrements; one thick, to wit filthiness in the skin, which is collected in the garments, also in the brain, eyes, and ears; the other thin, which is dissolved by insensible transpiration, sometimes also it is evacuated by sweat. For although all things are rightly performed in the body, and the nourishment be well concocted, and moreover nothing external and violent befal the body, as Baths, Heat, Violent exercises, no sweat passe through the skin in the night; yet because even in the most healthy all things are not ever exactly performed, and many deviate from their best condition as to health, and moreover many

The excrements of the third concoction two-fold; thick, thin.

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errors are committed in diet; Nature uſeth to expel ſuch ſuperfluities by ſweats.

Augmentation. Another office of the natural function is Augmentation or increaſing, by which mans body, out of nouriſhment taken and aſſimilated to the parts, is extended in all its dimenſions, and acquires magnitude convenient to perform actions. Although this function ariſeth from the ſame ſoul with nutrition, and is perfected with the ſame Inſtrument, Innate Heat; hath the ſame matter out of which it proceeds, blood; the ſame ſubject, a living body; yet it ariſeth from another efficient determinate cauſe, to wit, from the increaſing faculty; it differs in form, which in nutrition is a coagulation of aliment, but in augmentation there is a motion of Extenſion of the whole & of every part therof; it diffiers alſo in regard of the end, which in Nutrition is only a reſtoration of that which is taken away; but in Augmentation an acquiring or a getting of a greatet magnitude to exerciſe perfectly all the neceſſary actions of our life; and laſtly in time, for Nutrition dureth the whole time of our lives, Augmentation to a certain time in our life. For man as other living creatures doth not alwayes grow, but to the certain time of his age; which comes not to paſſe by reaſon of the ſoul, which alwayes reteins its force and ſtrength, but by reaſon of the body, eſpecially of the bones, which in proceſſe of tims are ſo hardned, that they are not apt to any farther extenſion of growth.

Nutrition and Augmentation how they differ.

Chap. X.
Of Generation.

The generative power. But ſince man although he be nouriſhed, cannot live perpetually and in individuals, as other living Creatures alſo cannot indure to perpetuity; the generative power is granted and given by the Creator of all things, that mankind might be preſerved, and the third kind of Natural actions is Generation, which by ejaculation of ſeed begets his like. For although this faculty and Action be common to plants, yet in man and other more perfect Creatures it requires greater preparation, and diſtinction of ſex, as male and female concur in Generation, and it is neceſſary that both of them do ſome way help and conduce to Generation, and the male not in himſelf but in another, but the female in her ſelf doth generate. For the male ejaculates his prolifique ſperm into the female womb, which mingled with hers, is cheriſhed by the ſame, it is alſo nouriſhed, and reteined until it hath the ſhape of a perfect man. For which purpoſe the Creator hath made neceſſary Inſtruments for both Sexes, for the male Teſticles, Veſſels prepa-

The diſtinction of Sexes.

The inſtruments of generation.

ring,

ring, and conducting ſperm, and a yard neceſſary to ejaculate it into the part moſt fit to receive it, for the Females, Stones, ſeminary veſſels, and the womb.

There are two principles which concur to the Generation of a Child, the ſeed of the male and female, and the menſtruous blood. The ſeed is a body hot and moiſt, & full of that divine Spirit of the firſt Principles (or Elements,) and proportionable to the Quintеſſence or Element whereof Stars were made, fit for the propagation of the Soul, and generation of a living Creature like it ſelf; and is generated in the Stones, whither the pureſt part of the blood & Spirits, and heat, is ſent through the Veins, Arteries, and Nerves, from the remote parts of the body, and is changed into a white frothy or ſlimy matter; The male and female ſeed both conſer, ſeeing the ſame Inſtruments are appointed (by nature) for generating and emitting of ſperm, and the ſame cauſe efficient, and the ſame matter in each; for the forms of each alike do manifeſt themſelves in the off-ſpring, although the power and force be greater in the male then the female. But the menſtruous blood is only the material principle; wherefore it is ordered by the Creator, that at the time when females are apt and fit for procreation; which for the moſt part is from the fourteenth till the five and fortieth year of their age, that blood which the other parts wants not, each month is ſent to the womb to ſupply what may be wanting for a little one, or if the female be not great, may be by it evacuated. This menſtruous blood of it ſelf is not offenſive, nor is it expelled becauſe it is hurtful, but becauſe it aboundeth in quantity; but when it becomes pernicious, 'tis by reaſon of its remaining too long in the body & by its comixture with other humours.

The Principles of generation.

Seed.

Blood.

Menſtruous blood.

The forming of the young is cauſed by the Soul, which is in the ſeed, and there ſhews it ſelf in two actions, in putting life into the conception, and forming of all the parts: and the Soul, as *Scaliger* writeth out of *Themiſtius*, is its own architect, which builds a convenient domicill for its own habitation; But it receiveth this power from the Creator, whoſe Inſtruments and hands as it were the Souls are, and he hath given this energy to them at the Creation of them, then which nothing can be more wonderful to be thought on.

The formation of the young.

The Generative faculty, hath two others whereby it performs its Office; The Alterative and Formative. The Alterative is that which changeth the generative matter into the ſubſtance of the young, and all its parts; the formative is that which Forms all the members and gives them their quantity, figure, number, place, and the reſt. The Inſtrument, which the Soul and formative power uſeth, is the for-

The Alterative.

The Formative.

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mative or plaſtick heat, or that Spirit proportionable to the Element of the Stars, for the ſeeds being received into the womb are mingled together, reteined, cheriſhed, and the power which lyes hidden in the ſeed is ſtirred up by the innate heat of the womb, and then a Conception is ſaid to be made, and then begins a ſending forth of the inſtruments of the body to be made, & then is it called a Conception, which commonly is ſaid to continue til the ſeventh day.

Conception.

The order of framing.

First the membranes, whereof are framed two.

Chorion.

Amnios.

But firſt of all, the membranes about the Child are formed, by which the ſeed is ſhut in, and the Spirit and heat thereof is covered, and as it were intrenched. They are two in number, the firſt is called Chorion, and covers the whole Child, and is faſtened to the veſſels belonging to the Navel, & by their intervening the whole cleaveth to the womb: the other coate doth immediately cover the Child and is called Amnios. Theſe two coats in the birth ſeem to be one as it were, and come forth after the Child, and are therefore called the Afterbirth.

The Secondine.

The Spermatick parts are deſcribed together.

The umbilicall veſſels.

The Veins belonging to the Navel.

Two Arteries.

Urachus.

But the ſolid and Spermatick parts ſhall be explained in the firſt place, and afterwards according to their nobleneſs, and as neceſſity requires, the reſt ſhall be perfectly ſhewn.

The Infant in the womb doth not take that nouriſhment, which it receiveth by the mouth, but from the Mother, for the receiving whereof there are appointed by nature four veſſels belonging to the Navel; namely a Vein which is a branch which comes from the Gate-vein, which is as it were the infants nurſe, two Arteries branches ariſen from the Iliak Vein, by which the Infant breaths (although later Authors, who teach us that the vital Spirits by which the Child breaths proceed not from the Mother, but from the Childs own heart, do aſſign another uſe to the ſaid Iliak branches; to wit, that the Vital Spirits ſhould be carried from the heart of the Child to the exterior parts thereof, namely the Secondines) and the Urine-paſſage which is carried from the bottom of the bladder unto the Navel.

The time of formation.

Of adorning.

The time from the conception to the bringing forth, Phyſitians divide into two parts; the firſt is called the time of formation, from the conception till the time when firſt the Child begins to move; the ſecond the time of adorning, which is the time from its motion till its coming forth. *Hippocrates* in his book of the Nativity of a Child, makes the time of Females formation to be two and fourty dayes, but males thirty dayes, which is to be conceived from their more imperfect formation; but afterwards nature more elaborately frames the parts, which are not framed in males till three months, nor in females till the fourth month.

When all the members are framed and rendred more firm, the Infant

fant begins to ſpring and kick, in males in the third, in females in the fourth month as tis commonly reported, ſo that the time of formation being doubled is the time of quickning, the time of motion being trebled is the time of bringing forth. Yet one quickning is more obſcure, another more manifeſt, which about the middle of time of a Womans going with Child, as all Women commonly perſwade themſelves, is firſt perceived. *The time of motion.*

The time that Women go with Child although it be uncertain and various; yet for the moſt part, it is nine months end or the beginning of the tenth month, that a natural birth happens: for the moſt part ſuch Children as live come into the World at that time, and that time for humane birth is moſt natural. But before half a years time experience tells us, that a Child can hardly be brought forth and live; and if it ſo happen that before the ſeaventh month be ended, a Child be borne and live, it is a great rarity and very ſtrange. But in the ſeaventh month becauſe the perfection is finiſhed of all the parts, the Child may live, and eſpecially, which, as *Hippocrates* in his book of beginnings ſays, is of two hundred and ten dayes, that is, about the end of the ſeaventh month brought forth. But *Hippocrates* ſays that a Child borne in the eighth month cannot live. Yet others ſay, that ſome that are borne in the eighth month may live. After the tenth month, the Child being great wants nouriſhment and roome to be in, although we read ſome are delivered after the tenth month, yet that is ſeldome. For a legitimate birth (according to the Law of Nature) is then when there is not roome enough for the Child to live and move in, nor aliment enough to ſatisfy him, for then 'tis time to ſhake off his ſhackles thoſe tunicles, and indeavour to make away for its own birth, and the Mother finds paines, and the womb ſtrives to put out that bagg, and by its expulſive faculty ſends forth the young, which thing the Voluntary endeavour of the mother much helpeth, which is done by her contracting her Spirits, and depreſſion of her Midriff and ſqueezing the muſcles of the paunch. *The time of birth.* *The time of legitimate birth.*

Chap. XI.
Of the Vital Faculty.

THE Vital faculty which Phyſitians call the ſecond faculty, although ſome would refer it to the Animal, ſome to the Natural faculty, and others think it to be mixed of them both; Yet ſince it differs not only from thoſe actions, which are performed by the natural and Animal faculties, but alſo goes forth by its own organs, nor doth it move hither and thither by the aſſiſtance of the Animal *The Vital faculty differs from the other faculties.*

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Spirits, but by its own proper Spirits, which from thence are called Vital Spirits, it is deservedly to be esteemed a peculiar faculty, distinct from the Vegetable and Animal faculties.

Its actions are three. There are three sorts of Vital faculties, and so many motions of the heart wherein they reside. The first is the generation of the Vital Spirit and heat; The second is the Pulse; The third is the Irascible faculty.

Generation of Vital Spirits. The first to wit, is the generation of the Vital Spirits, and influent heat; The second, without the which the first cannot perform its office is the Pulse, namely the motion of the heart and of the Arteries, consisting in dilating and contracting, that so the Vital Spirits may be generated and distributed, and the natural heat may be preserved in its natural harmony: By Dilatation the heart is filled,

A Pulse.

Its definition.

Of Dilating. and attracts to its self air, with blood from the right Ventricle, by the Venous Artery (which goes from thence to the heart) and attracts from the lungs air and blood by help of the Arterial Vein

Of Contracting. into the left Ventricle of the heart; for the generation and refreshing, and restauration of the Vital Spirits and heat. By the Systole or Contraction of the Heart, it distributeth the Vital Spirits and Arterious blood through and by the help of the great Artery into the whole body, and sends the fuliginous excrements to the Lungs by the Arterial Vein. In like manner the Dilatation of the Artery through its little Orifices, terminating in the skin, attracts to it self ambient air to form and cool its heat; the Orifices that are terminated neer the Heart, draw from it the hottest and thinnest blood, full of Vital Spirits; But as the mouths of the Arteries with the Orifices of the Veins, do draw the purest and finest Spirits to foster and cherish their heat, but by Contraction they expel fuliginous excrements, which action is called a steaming through or transpiration, which is made through the hidden Pores of the skin, and by the Latines is called Transpiratio.

The Irascible faculty. In the third place the Irascible faculty belongeth to the Vital faculty, from whence, Anger, Joy, Fear, Sadness, and terrour, and other passions of the mind arise. And that its residence is in the Heart is most evident, because the motion of the Heart and the Pulse of the Arteries are most evidently changed in the passions of the mind.

Breathing. Respiration is also added to the Vital faculty as principally necessary to further its action, and hath the same end and purpose, as the Pulse hath, and is instituted for the benefit of the Heart. It is performed principally by the Lungs, and the Lungs are as it were the fan or bellows of the Heart, and are the primary Instruments of breathing, and are indued with a peculiar power of moving themselves

ſelves, even as the Heart is, differing only from the Animal faculty. Nor are the Lungs moved only by the motion of the breaſt, but by their proper force and power. And although the motion of the Lungs and Breaſts are made together; yet neither are the cauſe of the others motion, but they therefore move together, becauſe they conſpire to bring one end to paſs: for the Lungs are ſtretched that air may come into them, as into a pair of bellows drawn wide, and are ſo much dilated and extended, as the dilating of the Breaſt will give way to; and on the other ſide the Breaſt is dilated more or leſſe, as there is more or leſſe air to be drawn in. *The motion of the Lungs.*

As the Pulſe conſiſts of two motions Dilatation and Contraction, ſo Reſpiration is performed by a double motion, Inſpiration, and Exſpiration. By inſpiration, the Lungs and Breaſt being extended the air by the mouth and noſtrils is drawn in: by expiration the Lungs and Breaſt being contracted, the hotter air and fuliginous vapours are ſent forth at the mouth and noſtrils. *A two-fold motion of reſpiration, or Inſpiration & Expiration.*

Chap. XII.

Of the Animal Faculty, and firſt of the external ſenſes.

THE Third ſort of faculties and actions in man, Phyſitians call Animal faculties, which either are reſident in the brain, or derived from it, and takes neceſſary helps or the performance of its actions from adjacent parts. They diſtinguiſh the Animal faculties, into the ſenſitive, motive, and Princes, and under the ſenſitive only the external ſenſes are comprehended; under the Princes, the internal and rational power is involved: we will handle them in this order; firſt we will treat of the external ſenſes, afterwards of the internal and rational faculties, at laſt of the appetite and moving faculty. *The Animal faculty.*

The external ſenſes are thoſe by which we perceive and judge ſenſible external objects, without the precedence of any other faculty. But that a perception may be made four things ought to concur, firſt the mind perceiving, ſecondly the inſtrument which is double; firſt the Spirit, ſecondly the member, wherein the ſenſe is; thirdly the object or perceptible things, fourthly the medium interceding betwixt the inſtrument and the object. *The external ſenſes are five.*

The external ſenſes are five, Seeing, Hearing, Smelling, Taſting, Touching or Feeling. *The five external ſenſes.*

The Sight is an external ſenſe, diſcerning and knowing by the benefit of the Eye, the ſeveral kinds of viſible things; which adequate Inſtrument is the Eye; the Eye conſiſts of divers Tunicles, the adnate or conjunctive, the Horny, the Grapy, in the middle whereof is a round hole, which is called the Pupil, and is the inlet *Seeing.*

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and window as it were of visible Species; then the Tunicle in manner of a Net, the Pannicle without a name, the Cobwebblike and the Vitreous Membranes; three humors, the watery, Crystalline, and Vitreous; a nerve optick and muscles. The object of sight is whatever is visible, to wit, colours, which are visible *in potentia*, in that they are capable of being seen, but in action to be visible light is required. The medium is any transparent and diaphanous body.

Hearing. Hearing is an external sense, perceiving by the benefit of the eare any sound that is audible; the adæquate instrument, or that without which a sound cannot be heard is the Eare, but especially as *Galen* teacheth in his first Book and third Chapter, of the causes of Symptomes, the term and extremities of the Auditory Pores, where the end being dilated, the Auditory Nerves receive part of the sound. The Object is whatever is audible, or sound: the medium which it is conveyed through, is water and aire.

Smelling. Smelling is an external sense discovering smells by the benefit of the Nose, or mammillary processes. Its adæquate instrument are the Nostrils, but principally the mammillary processes; Its object odours, the medium by which odours are conveyed, is aire, and water.

Tasting. Taste is an external sense, perceiving savours by help of the tongue; Its proper Instrument is the Tongue, a thin flesh soft and spungy, like to no other part of the bod; the Object is savours, the medium a spongy skin, or porous cover of the Tongue, and spitly moisture.

eeling. Touch lastly is an external sense, discovering by the benefit of a membrane all Tangible bodies. But though the skin be the chiefest instrument of the sense of feeling, and covereth the whole body, that it may descry external objects and injuries happening to the body; and the skin in the hand be the chiefest rule to try all tangibles: yet there is no adæquate Instrument of touch; since it is more largely diffused, and other parts are likewise indued with that sense. But the adæquate organ that is of touch is a membrane; For whersoever a membrane is there may be a touch, and wheresoever a membrane is not, there cannot be a touch, and the skin it self obtains that whereby it is sensible, as it participates of the fibers and little membranes of the Nerves.

CHAP.

Chap. XIII.
Of the Internal Senses.

THE Internal Senses are those, that are conversant about sensibles revealed by the external senses; and they are three, according to the diversity of their functions and operations, which are administred by them; The Common sense, the Phantasie and the Memory. *The Internal Senses are three.*

The common sense is an internal sense, perceiving all external objects by the help of the external senses, discerning them asunder, judging of their absence, and bringing sensible Species to the Phantasie. *The common sense.*

The Phantasie is an Internal sense, which considereth more diligently, and longer retaineth the sensible Species received from the common-sense, and those Species that are formed by it self. *The Phantasie.*

The Memory is that which receiveth and retaineth the sensible Species, which are known by the Phantasie, and when occasion requireth exhibits and brings them forth again. But there are two acts of the memory, the one is called by the name of the faculty of the memory, the other is Reminiscence. The memory is a prompt apprehension or repetition of any thing heretofore known and perceived, as it was perceived and repeated and that readily. Reminiscence is that which out of the remembrance of one or more things spoken of, by regression comes to remember that, which before could not come readily into the mind. *The Memory.* *Reminiscence.*

The principle and immediate Instrument of all the internal senses, and of all principal actions is the brain, which other things shew, but this especially; That if that be hurt these actions are hurt, and because that in curing these, the remedies must be applyed to the brain.

Now all these action are performed in the substance of the brain, nor are those faculties distinguished by their seats or places in the brain, neither are their distinct operations performed in distinct places of the brain. For there is not sufficient reason given why the common sense should be seated in the former part of the brain: for although it be the Center where all the external senses meet and concur; yet the Nerves that are subservient to the external senses, take not their beginning from the fore most part of the brain. So no evident reason can appear to perswade why the Memory should be separated from the Phantasie, and by consequence from the reasonable faculty; and why the Phantasie in the former, the Rational in the middle, and the Memory in the hinder part of the brain should be placed;

placed; for the Imagination and Memory are converſant about the ſame things though after a different manner; But although oftentimes one of theſe faculties being offended the others remain unprejudiced, as oftentimes the Memory is loſt, the imagination, and rational faculties not hurt, and on the other ſide the apprehenſion and ratiocination offended, and the Memory ſound and perfect; yet that cometh not ſo much to paſſe through the diverſity of organs, parts of the brain from whence thoſe actions ariſe, as by the change of their proper diſpoſitions, and of thoſe things which are required to perform thoſe actions.

The affections of the ſenſes are two.

The affections of thoſe ſenſes hitherto explained are ſleep and watchfulneſs. Sleep is a ceſſation of the natural and common ſenſe, & of the external ſenſes ordained for the health of living Creatures, by detaining of the Animal Spirits in the brain, & hindering them from flowing to the Inſtruments of ſenſe and motion. The cauſes that bring it to paſſe that the Animal Spirits flying into the brain, are there detained, and are as it were ſmitten and ceaſe, are ſeveral, whereof ſome perform it by taking them away, as watching, labour and other things in the like nature; or by rendring them leſſe moveable and, benumm'd, or as others conceive by penning in, and ſtopping their way as vapours aſcending after taking of meat and drink, or as it were pleaſingly and contentedly ſtopping, inviting from motion to reſt, which ſweet melodies, murmuring ſtreams, gentle rocking and the like occaſion; The end of ſleep is the refreſhing and ſtrengthning of the Spirits and external ſenſes, by taking away their motions and operations, and from hence comes a recovery of their ſtrength and vigour.

Sleep.

Watching.

Watchfulneſs is oppoſed to ſleep, and it is nothing elſe but the efficacy or force of ſenſe, or ſolution rather of the ſenſes, proceeding from the hinderance of the free flowing of the Animal Spirits into all the members of the body. Man waketh or is ſtirred up out of his ſleep after a two-fold manner; Either of his own accord, when concoction is performed, the vapours that hindred the Spirits coming forth are diſcuſſed and ſeparated, or ſharp vapours are carried to the brain and trouble the Animal Spirits, that they cannot freely flow into the inſtruments of the ſenſes; or by an external cauſe, when from a more violent external cauſe, as Clamour, or touch, the ſenſitive faculty being ſtirred up converts its ſelf to perceive. Nor do the organs of the ſenſes wholly want Animal Spirits in ſleep, but ſome ſtill remain in them, ſufficient to diſcern more vehement objects.

CHAP.

CHAP. XIV.
Of the Intellective Faculty.

AT length we come to the understanding or rational faculty, whereby a man is elevated above other living Creatures, and is neer to, and as it were like unto his maker. The understanding abstracts things from their matter, and without considerations of matter, without quantity, without figure, knoweth things, understands things freed from their matter; it is almost capable of infiniteness, it reflects back upon its self, and knoweth it self, and understandeth that it doth understand, and because of that it hath an unsatiable desire of the knowledge of eternity and blessedness. It performs its functions without all corporeal instruments; yet it hath need of the Phantasie as its object to understand, and the Imagination supplies the mind with intelligible matter; And therefore although it have not its seat in the brain, as in its organ by it self; yet because it worketh by the help of the Phantasie, and it behoveth the understanding to watch the Imagination, by accident and by the consequence its seat is appointed, where the imagination is, namely the brain.

The reasonable soul comprehends two faculties, the Intellect whereby we apprehend things, and the Will whereby we are carried to chose things which we understand under the notion of good; And things, as they are beings, we know them; and as they are good, we desire them. *The Understanding.* *The Will.*

CHAP. XV.
Of the desire and moving faculty.

BEsides the knowing faculty, there is given to man an appetite and force of moving; The Object of mans appetite is good, whether it be really so, or seemingly so. The appetite is two-fold, sensitive and rational: sensitive is that which desires that which seems good to the senses, rational is that which desires that good, that seems so to reason, and the motions of the sensitive faculty are often resisted by the motions of the rational faculty, and there ariseth strife & discord betwixt the sensitive & rational faculty. Out of the appetite, as its actions, arise the affections and passions of the mind, as we call them. *Appetite two-fold, sensitive, rational.*

Voluntary Animal motion follows the desire, for after that an external object is brought by the external senses, and common sense to the Phantasie, it is known as profitable, and acceptable, or as hurtfull, *Voluntary motion.*

full, displeasing. Love, or hatred followeth this knowledge, or the desire of what is pleasing, and flight of what is displeasing. Motion presently follows the desire in brute beasts, but in man there is the Judgment of the intellective faculty, which values what is truly good and what hurtfull. Then the motive faculty follows that motion which is commanded by the rational or sensitive faculty, as the one or the other over-ruleth, by the contraction of the muscles the adæquate Instruments of motion, which draw the tendons, these the bones, and they being moved, the members and whole body is carried from place to place, either to accept of what is grateful, or to resist and fly from what is hurtful.

The motive faculty.

But although a muscle be the adæquate instrument of motion, yet the chiefest part of it consists of fibers or smal strings, which being contracted, the muscle is contracted and motion performed. Although their are four different motions of the muscles, whilest they are contracted, or extended, or moved transverse, or remain streight, as *Galen* says in his first Book of the motion of muscles and eighth Chapter, or as others explain it, contraction, conservation of contraction or tonick motion, relaxation, and perseveration of relaxation: yet contraction only, to which tonick motion belongs, is the proper action of the muscles; but extension which is a passion rather then an action, is not the immediate cause of motion; for whilst a muscle contracted by its opposite muscle is extended, it suffers, it doth not act.

The Instrument of motion.

THE

THE SECOND BOOK.

PART I.

OF DISEASES.

CHAP. I.

Of the nature of a Diſeaſe.

WHereas we have hither treated of thoſe things that are incident to the body according to Nature, and ſo have diſcourſed about health: now I will ſpeake of thoſe things that are preter-natural or contrary to Nature, (for I do not intend to make any diſtinction betwixt theſe) They are in number three, a Diſeaſe, the cauſe of a Diſeaſe, and Symptomes: in the handling whereof the Pathological part of Phyſick is delivered. *Things preter-natural how many.*

And firſt for what belongs to a diſeaſe; Although as the name of health is generally attributed to all things that happen to a man according to nature, ſo the name of a diſeaſe is given to all things that befal a man contrary to nature, and thoſe are ſaid to be morbifick: yet if we may ſpeak properly, theſe three, a Diſeaſe, the cauſe of a Diſeaſe, and Symptomes, as they differ in the thing, ſo they may be diſcerned by their names alſo.

But whereas a diſeaſe is contrary to nature; but health is that power of acting which is to be performed according to nature; a diſeaſe is an impotency of performing natural actions; and as thoſe who are apt to do thoſe things which are according to nature, are ſaid to be ſound; ſo thoſe are deſervedly ſaid to be ſick, who are unapt to perform thoſe actions. *The formal reaſon of a diſeaſe.*

Moreover the Subject of a diſeaſe, as alſo of health, is only the living parts of a body, as being thoſe to which alone a power of undergoing natural actions is given; But all thoſe things which are not in the number of the living, as humors and other things, which are not able to perform natural actions in a man, cannot be the ſubject of a diſeaſe. *The Subject of a diſeaſe.*

The cauſe of a Diſeaſe or of impotency to perform actions, is an ill

The cauſes of a diſeaſe.

ill conſtitution of the parts, as the cauſe of health is a right diſpoſition of the ſame.

The definition of a diſeaſe.

Hence a Diſeaſe is defined to be an impotency of the living parts of man to perform natural actions, ariſing from their conſtitution contrary to nature.

The Galenicall definition of a diſeaſe.

Although according to *Galen* alſo to be ſick, is not to be able to operate, and ſo this definition is not contrary to the ſenſe of *Galen*: yet that out of the definition of diſeaſes, differences, and profitable obſervations may the better be drawn, *Galen* retains the ſame terms of the definition, but places them otherwiſe, and in the ſecond Chapter of the differences of Diſeaſes, defining a Diſeaſe ſaith; That a conſtitution of a vitious function contrary to nature is the cauſe thereof, and in his firſt Chapter of the differences of Symptomes calls it a diſpoſition contrary to nature, by which action is hurt. Namely as health is a certain quality, or harmony in the qualities in magnitude, number, figure, and other things neceſſary for the conſtitution of each part, by reaſon whereof the body is diſpoſed, and made fit to perform natural actions: So a Diſeaſe is ſuch a quality by reaſon of which the ſame body is rendred unfit to perform the ſame actions. For the word *Diathesis* taken generally ſignifies every quality according to which a man is well and ill diſpoſed, whether it be eaſily or difficultly taken away. And therefore as certain later Phyſicians will have it, a Diſeaſe is not ſimply the want of health, and nothing poſitive, but ſuch a want as proceedeth from a diſpoſition contrary to that diſpoſition, on which health depends, which is wholly ſomething poſitive, and when a part is wounded or diminiſhed, a quality and diſpoſition is brought into it contrary to that which was preſent there before in time of health: as a hand that is wounded, is otherwiſe diſpoſed then that which is well, and that which hath four fingers, otherwiſe then that which hath five. In brief; a Diſeaſe conſiſteth not only in privation of a good conſtitution, but in a contrary and vitious conſtitution.

Diathesis what it is.

A Diſeaſe is not only a privation.

Chap. II.

Of the differences of Diſeaſes.

The Eſſentiall differences of diſeaſes.

THE differences of Diſeaſes are two-fold; Eſſential or Proper, which are taken from the eſſence it ſelf of a diſeaſe, and ſo agree to one kind that they cannot be common to another; or accidental, which are taken from thoſe things which follow the eſſence of a diſeaſe, and from other circumſtances. But becauſe as 't is ſaid before, there is one natural conſtitution of the ſimilar parts, as they

are

are ſuch and another of the organick, and a common Unity in them both: the regreſſion from that natural conſtitution of every one affords ſeveral kinds of Diſeaſes.

First therefore, the proper Diſeaſes of the ſimilar parts are Diſeaſes of Intemperature, when that due proportion of the primary qualities is not obſerved, but when one doth excell the other three, or two overrule the other two, contrary to nature. *Diſeaſes of the ſimilar parts.*

Moreover there are found in ſimilar parts Diſeaſes of hidden qualities, or of the whole ſubſtance, as they call them; when there is not only in the conſtitution of the ſimilar parts, a due congruity of the primary qualities, but a certain diſpoſition alſo of the occult qualities is requiſite.

Secondly, there are ſo many ſignes of Organick Diſeaſes as we have ſaid, are requiſite for the compoſition, and conſtitution of an Organ; namely four, Diſeaſes of Conformation, of Number, Magnitude and Compoſition. *Diſeaſes of Organick parts.*

Laſtly, the third kind of Diſeaſes, which are common to them both; They call ſolution of Unity, or continuity. *Common to both.*

Chap. III.
Of Diſeaſes of Intemperature.

Diſeaſes of Intemperature, as is ſaid, are when that due proportion of primary qualities is not obſerved, which ought to be, but either one overcomes the other three, or two the other two. Whence one diſtemper is ſaid to be ſimple, another compound. Simple is that wherein one quality exceedeth, and this according to the number of the four qualities is quadruple, hot, cold, moiſt, dry. Compound is that wherein two qualities exceed, and this according to the quadruple mixture of the primary qualities is four-fold, hot and moiſt, hot and dry, cold and moiſt, and cold and dry. And ſo in the whole there are eight Diſeaſes of Intemperature. *Diſeaſes of Diſtemper.*

But theſe diſtempers are again diſtinguiſhed divers wayes, which diſtinctions nevertheleſſe produce not new kinds but differences, which are found in many differing in kind. For firſt, one diſtemper is with matter, another without matter. Intemperature with matter is when it hath a humour joyned with it, and is cherished by it; Diſtemper without matter, is that which is cherished by no preternatural humour, as when heat is ſent into any part from the fire or heat of the Sun. *Diſtemper without matter. and with matter.*

Moreover one diſtemper is equal, another unequal: equal is that which is a little and equal in all living parts, and affects them all alike *Equal intemperature.*

Unequal. like, and equally: Unequal, is that which is more intenſe in one part, and more remiſſe in another, and affects one more, another leſſe. For ſince that the members of our body are conſtituted of many particles, it may come to paſſe, that all may not be equally affected by the altering cauſe, but ſome more, others leſſe, whence an unequal diſtemper ariſeth. But if the action thereof proceed ſo far, until that all are altered and affected equally, that is an equal diſtemper; Whence an unequal diſtemper is joyned with pain and trouble, as being that wherein the part is as yet to be altered; but in an equal diſtemper no pain, nor moleſtation is perceived, as being that wherein the part is already altered, and the Intemperature becomes as it were familiar and domeſtick.

Chap. IV.
Of Diſeaſes of the whole ſubſtance or of hidden qualities.

Whether there are any Diſeaſes beſides thoſe of Intemperature.

IT is a controverſie amongſt Phyſitians, whether there are any other Diſeaſes in the ſimilar parts, beſides thoſe of Intemperature. Truly the ancient Phyſitians make no mention of them; but the Moderne do and principally *Fernelius* in Lib. 1. *Pathol.* Cap. 2. and Lib. 2. of the Hidden cauſes of things, Cap 9. and afterwards he largely endeavours to prove that there is yet another kind of Diſeaſe beſides Intemperature in the ſimilar parts, and that is twofold: the one is of the whole ſubſtance; the other in the matter, which may be ſeen in the fore-quoted places. But 'tis not our purpoſe largely to reckon up the opinions of others, for this Epitome will not permit it.

There are Diſeaſes of hidden qualities. The reaſon.

But that we may briefly propound our opinion, we determine that there is another kind of Diſeaſe in the ſimilar parts, beſides Diſeaſes of Intemperature, being ſo perſwaded for theſe reaſons; firſt, becauſe every agent which acteth, deſires to make the patient like it ſelf. But there are agents from the whole ſubſtance or ſuch things, whoſe actions can be reduced into no manifeſt quality, and which are beyond the power of Elements, as elſewhere is proved; It neceſſarily follows that thoſe agents from the whole ſubſtance, whilſt they bring in Diſeaſes, and act in our bodies, do not change the primary, but Occult qualities, and introduce Diſeaſes agreeable, and correſpondent to their nature. Alſo becauſe contraries may be cured and reſiſted by their contraries: But the whole ſubſtance, or things acting in Occult qualities cure many Diſeaſes; It neceſſarily follows that there are ſuch Diſeaſes to which ſuch Medicines are oppoſed; and unleſſe there ſhould be certain Occult Diſeaſes, in vain are Medicines in-

invented which act in the whole ſubſtance. Thirdly, ſince there are actions hindred or hurt which neither can be referred to any Diſeaſe commonly known, nor to any external error, as may appear in the plague and other Venemous Diſeaſes, hence we may well conclude that there are other Diſeaſes of Intemperature, from whence theſe kind of miſchiefs happen.

Which are Diſeaſes of the whole ſubſtance.

But which and what thoſe Diſeaſes are is likewiſe controverted. We ſetting aſide the opinions of others determine, thoſe Diſeaſes of the whole ſubſtance, or of hidden quality, to be thoſe which conſiſt in a certain occult, and malignant diſpoſition of the ſimilar parts, and to be no other then ſuch whoſe miſchiefs cannot be referred to the primary qualities, and ſuch as the agent cauſe excites, which is endued with a malignant, venemous and occult quality, and which are cured not by primary qualities, but by thoſe things which are ſaid to act in the whole ſubſtance.

Whether there be any Diſeaſes of matter.

But Diſeaſes of matter which *Fernelius* brings there, are no new Diſeaſes of ſimilar parts, but either Organick Diſeaſes, as ſoftneſſe and hardneſſe in parts, wherein they ought not to be ſuch, or Symptomes, or cauſes of Diſeaſes.

Chap. V.
Of Organick Diſeaſes.

Organick Diſeaſes.

THE ſecond kind of Diſeaſes, are of the Organick parts, which in general are called Evil compoſition; namely, when the natural conſtitution of the parts, as they are Organick is vitiated, which although it may agree alſo to the ſimilar parts, yet it happeneth to them not as they are ſuch, but as they are Organick. Again the differences hereof are ſo many, as there are qualities belonging the natural conſtitution of an Organick part; Namely, firſt a definite number of the parts conſtituting, then a convenient magnitude of the ſame; Thirdly a due framing, or conformation; which comprehends a decent figure, cavity, or ſolidity, and ſmoothneſſe and roughneſſe, and ſuch like qualities. Laſtly, it is alſo neceſſary that every part may enjoy its own natural place, and be joyned with thoſe which it ought.

The difference of Organick Diſeaſes.

Therefore from all and every of theſe things, which belong to the conſtitution of an Organick part, ſithence a regreſſion may be made to the ſtate that is contrary to nature, there ariſeth ſo many kinds of Organick Diſeaſes alſo, namely Diſeaſes of Number, magnitude, conformation and compoſition; But if you would divide Diſeaſes of conformation into thoſe three or more, which belong unto them: namely Diſeaſes of figuration, of cavities, and of ſuper-

ficies, and ſecundary qualities, there will ariſe ſix kinds of Organick Diſeaſes; which moreover, if you are pleaſed to divide Diſeaſes of compoſition into thoſe of ſituation and of connexion, there will ariſe ſeven kinds of Organick Diſeaſes.

CHAP. VI.

Of Diſeaſes of Conformation.

How many Diſeaſes of Conformation. A Digreſſion from the natural conformation cauſeth Diſeaſes of conformation, but ſeeing that three things are required to the natural conformation of an Organick part, a convenient figure, hollowneſſe of paſſages, ſmoothneſſe and roughneſſe of the ſuperficies, there are alſo three kinds of Diſeaſes of conformation conſtituted in figure, cavity, and ſuperficies: But becauſe other qualities are required alſo in ſome Organick parts, beſides ſmoothneſſe, and roughneſſe; namely that ſome may be ſoft, others hard, ſome thin, and full of pores, others thick, ſome coloured; others void of colour, ſome dark, others perſpicuous, and the change of theſe qualities breed Diſeaſes, becauſe when theſe qualities are changed, the Actions of thoſe parts are hindred.

Diſeaſes in figure. A Diſeaſe in regard of figure is when the natural figure of a part is ſo vitiated, that by reaſon of it the action of the part is hurt; namely when thoſe, which are ſtraight are made crooked, or otherwayes diſpoſed contrary to nature; thoſe are affected with ſuch Diſeaſes which we call crook legged, when the legs bend inward, crook-legged outward; ſuch as are diſfigured with the ſmall pox, ſplay-footed; to theſe belong crook backed, and flat-noſed perſons.

How many Diſeaſes of paſſages. Moreover Diſeaſes of conformation are when the paſſage, through which matter paſſeth from one place to another, ſuch as are the throat, wind pipe, Veins, Arteries, Nerves, Ureters, Guts, Pores of the Skin, Cavities, and Receptacles, ſuch as are the ſtomack, bladder, womb, when they are affected. As for Diſeaſes of the paſſages, they conſiſt either in number, or multitude, or differ from the natural condition in magnitude; and again both of them either in exceſſe or in defect.

Exceſs and Defect in multitude, in magnitude. Exceſſe in multitude of paſſages, is when there are more pores, or wayes then there ought to be according to nature. Defect in number is, when they are Fewer then they ought. Exceſſe in magnitude is when any way or paſſage is dilated more then it ought; Defect in magnitude is when tis become ſhaiter then is fit.

The difference of opening of Veſſels. To exceſſe belong theſe infirmities which are called *Anaſtomaſis*, *Diapedeſis*, and *Diaireſis*.

Anaſto-

Anaſtomaſis is when the mouths of the veſſels are opened and dilated too much. *Diapedeſis* is when the Tunicles of the veſſels are become ſo thin, that the humours may as it were ſweat through them; *Diaireſis* is when from ſome cauſe that happens by Eroſion or by breaking, ſome paſſage is opened which ought not. That *Diaireſis*, which is made from ſome incident cauſe, or by breaking, is called (in Greek) *Rexis*, that which happens by Eroſion is called *Diabroſis*. *Anaſtom* *Diaped.* *Diaireſis.*

Defect on the other ſide according to the variety of cauſes that occaſion it, is five-fold, Obſtruction, Conſtipation, Coaleſcence, Compreſſion, Deſcenſion. All which in general are called ſtraitneſs of paſſage. *The differences of narrowneſs of Veſſels.*

Obſtruction, which the Greeks call *Emphraxis*, is when ſome paſſage is ſtopped either by plenty of humours, or thickneſs of them, or clotted blood, or Gravel, or ſuch like. Conſtipation which the Greeks call *Stenocboria*, is when a paſſage is ſtopped by ſome tumour in it, Compreſſure which the Greeks call *Thlipſis* is when a part is preſſed together by ſome external matter. *Obſtruction* *Conſtipation.*

Coaleſcence is when (after an Ulter) the ſides of the paſſage grow together. *Coaleſcence*

Subſidence in the Greek *Sunizeſis*, is, when the parts of the veſſels conſent as it were in preſſure and ſqueezing of themſelves together, to which no conſtriction is added, when from ſome external cauſes, or by reaſon of cold the paſſages are contracted. *Conjunction and Conſtriction.*

Diſeaſes of cavity are either in multitude, or magnitude: in multitude it ſeldome happens unleſs from ones nativity, there happen more or leſs paſſages in the body then there ought. In Magnitude paſſages offend either in exceſs or defect: exceſs of magnitude is too great dilatation of the receptacle, or cavity; defect in magnitude is when they are too ſtrait, which is either from our firſt original, or afterwards, from repletion, compreſſion, ſubſidence or conſtriction. *Diſeaſes of Cavity.*

Thirdly, Diſeaſes of the ſuperficies, are ruggedneſs and ſmoothneſs, for when according to nature, ſome parts are rougher, and others ſmoother; if thoſe which ſhould be more rough become ſmoother, or thoſe that ſhould be ſmoother become more rugged, and ſo any action be thereby hindred from thence, ariſeth Diſeaſes of the ſuperficies. *Diſeaſes of Superficies.*

Softnes and hardnes, as we ſaid before, may be referred to theſe Diſeaſes, as when the bones which ought to be hard are become ſoft, or the tendons are ſo hardned, that they cannot be contracted. Alſo Rarity and Denſity, when a part which ought to be full of pores loſe them, and become thick. *Softneſs* *Hardneſs.* *Rarity.* *Denſity.*

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Colour in the face. Hitherto belongeth colour in the eye, for although colour be not neceſſary for the conformation of other parts, yet that the eye may become the fit inſtrument for ſight, it is neceſſary that it be ſo faſhioned, that it may be fit to receive (for ſuch there are) viſible ſpecies. Therefore it is requiſite that the horny coat, and the watry, cryſtal, and glaſſy humors of the eye be not only cleer and tranſparent, but without colour. If the eye loſe this natural conſtitution, and that thoſe parts which ought to be perſpicuous and void of colour, are darkened or coloured, the ſight is hindred, and viſible ſpecies either are not received, or are received in a colour differing from their own.

Darkneſſe.

Chap. VII.

Of Diſeaſes in Number.

Of Diſeaſes in number. THE ſecond ſort of Diſeaſes of Compoſition or Organick Diſeaſes are Diſeaſes in number; for when there is a certain number of the parts compounding to make up the natural compoſition of every organ, how often ſoever that is not obſerved a Diſeaſe in number doth ariſe.

The difference of a Diſeaſe of number. A Diſeaſe in number is two-fold, either in defect, when that is wanting which ſhould be preſent, or in exceſſe, when that is preſent which ſhould be wanting.

Abounding. That which aboundeth is either to nature, as the ſixth finger, or preter-natural, as ſtones, and Worms are according to *Galen*; which nevertheleſs is diſputable. Nor indeed are ſuch things, ſince they are ſubſtances, as ſuch Diſeaſes; but as ſome conclude cauſes, by which an aptneſs and a certain diſpoſition againſt nature is brought into the part, whether it be in reſpect of number, or paſſages, about which authors diſagree.

Wanting. Deficiency in number, is when there is a Diſeaſe by which either a whole part periſheth, or is waſted: thoſe which are wholly wanting are cleerly according to nature, nor can it be a defect againſt nature; ſuch a Diſeaſe may they be ſaid to have who want their number of fingers, or of teeth.

Chap. VIII.

Of Diſeaſes of Magnitude.

Diſeaſes of magnitude. THirdly, amongſt Organick Diſeaſes, are Diſeaſes of Magnitude, when the natural bignes of the part is ſo altered, that for that reaſon it cannot perform its natural action.

Diſeaſes of Magnitude are two-fold, either when there is an increaſe, or a Diminution of Magnitude, according as the whole or part,

part be increaſed or diminiſhed. To the increaſing of magnitude belong all tumors, and growth of parts contrary to nature; to diminition belongs leanneſs and waſting of parts.

But becauſe Diſeaſes in Magnitude, and in Number, are ſometimes complicate, therefore they are thus to be diſtinguiſhed; If a whole part be wanting or abound, it is properly called a Diſeaſe in number. But if only ſome particles of a part be wanting, or that it be bigger then it ought, it is called a Diſeaſe in magnitude. Secondly, if with a portion of any organ many particles are taken away, a Diſeaſe is deficient in number, and diminiſhed in Magnitude.

Chap. IX.
Of Diſeaſes of Compoſition.

Diſeaſes of Compoſition.

THE laſt kind of Organick Diſeaſes are Synthetical, commonly called Diſeaſes of Compoſition; but although *Avicen* doth account all Organick Diſeaſes, Diſeaſes of compoſition, yet in this place we do not, we only take them for a peculiar kind of Organick Diſeaſes.

Twofold.

Since that two things are to be conſidered in Diſeaſes of compoſition, ſituation and connexion; Diſeaſes of compoſition are of two kinds, the one is when the parts do change their ſituation, which is called a Diſeaſe of place: The other is when they are not knit together as they ought, but they are ſeparated which ought to be joyned together, and the contrary, as when the eyebrowes grow together, which are called Diſeaſes of connexion or vicinity, others call them Diſeaſes of conſent, ſociety, collegiate.

Diſeaſes in ſite.

In Connexion.

Luxation.

The moſt common Diſeaſe in place, is a looſing of a joynt, the Greeks call it *Exarthroſis*, when the joynts or heads of the bones go out of their hollow places or cavities. Yet other parts beſides the bones go out of their places, which happeneth in ruptures, when the paunch or guts fall down into the Cods, or when by great wounds the guts come forth: alſo in the falling out of the womb, or of an eye.

Another kinde of Diſeaſe of compoſition is, when the parts are ſeparated, that ought to be joyned together; which happeneth if the bonds by whoſe intervene they are linked together are looſened, made longer or broken, which happeneth ſometimes in the womb and other parts of the body; or it happens if thoſe are joyned together, that ſhould be parted aſunder; as when one is tongue-tyed, or the eye-lids grow together, or two fingers grow together, or the fundament be cloſed.

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Chap. X.

Of Diſeaſes of Solution of Unity.

Diſeaſes of Solution of continuity.

THE third kind of Diſeaſe is common to ſimilar and Organick parts, and is called Solution of Unity, when the parts which ought to be one, and continued, loſe their continuity and are divided.

Their differences.

There are many differences of Diſeaſes of Unity, principally taken from the part affected, and the cauſes diſſolving Unity. Thoſe things which diſſolve Unity, ſome of them cut and prick, others erode, others bow and break, others beat in pieces. But the parts which are diſſolved are either ſoft or hard; if a ſoft part be diſſolved by a thing that cutteth, it is called by the Greeks *Trauma*, by the Latines *Vulnus*, *i. e.* a wound.

A wound.

A puncture.

But if a ſoft part be diſſolved by a ſharp inſtrument pricking, it is called a Puncture.

Contuſion.

But if a ſoft part be offended by a blunt weapon and a hard one, and be ſtraitned within it ſelf, it is called a Contuſion, the Greek *Thlaſis* and *Thlaſma*.

Rupture.

If a ſoft part be broken by any thing that bendeth it, 'tis called a Rupture, and in the nervous parts peculiarly, it is called a Spaſme.

Fracture.

But if there be ſolution of continuity in a hard part or bone from any other cauſe then Eroſion, namely from cutting or contuſion, it is called a fracture, in Greek *Agma* and *Catagma*; but if by Eroſion it is called Caries, in Greek *Teredon*, *i. e.* rottenneſs in bones.

Caries.

An Ulcer.

If continuity be diſſolved in ſoft parts by Eroſion, it is called *Elkos* in Greek, in Latin *Ulcus* (*Anglice* an Ulcer.)

An Apoſpaſme.

Laſtly, if there be ſolution of Unity of compound parts, and thoſe which naturally are different from each other in kind are nouriſhed and grow together, they are called *Apoſpaſmes*, as when the skin from a membrane, the membranes from the muſcles, and a muſcle from a muſcle are ſeparated.

Chap. XI.

Of the Accidental and common differences of Diſeaſes.

The accidental differences of Diſeaſes.

HItherto we have ſpoken of the eſſential differences of Diſeaſes: there remains the accidental differences, which are taken from thoſe things which follow the eſſence of a Diſeaſe,

eaſe, or from the ſubject, and cauſes, and other circumſtances, and are alſo common to many.

One diſeaſe.

Firſt, a body ſometimes is ſick of one diſeaſe, ſometimes of another: and that is ſaid to be one diſeaſe which onely ſeizeth on one part, and offends its actions, or when one diſeaſe afflicts the whole body; but there are many diſeaſes, which in a different manner affect many and different parts of the body.

Many diſeaſes.

A diſeaſe ſimple; compound.

A diſeaſe which occupieth one part of a body, is either ſimple, or compound. Simple, is when no other diſeaſe is joyned with it. Compound, is when it is coupled with one, or more other diſeaſes, in the ſame part, whether they are of the ſame nature, or of ſome other; but diſeaſes which are knit together, not with other diſeaſes, but with ſome grievous ſymptoms, are not properly called complicate diſeaſes; *Fernelius* calleth them diſeaſes of fellowſhip, even as he calleth thoſe that are neither joyned with any other diſeaſe, nor with any grievous ſymptom Solitary diſeaſes. As for diſeaſes that are not joyned together in one part, there are many, they are divided by *Fernelius* into ſeparated, and implicite; connexed and conſequent.

Diſeaſes of fellowſhip.

Solitary.

Separated.

Separated are ſuch as conſiſt in divers parts, which neither have common uſe, nor action, neither do they communicate the affect by turnes from one part to another: as, the Podagra, or Gout in the foot, the Ophthalmie, or Inflamed Eye.

Implicite.

Thoſe are called implicite diſeaſes which afflict divers parts which have one common uſe, and action, as if divers parts of the breaſts are afflicted.

Connexed.

Moreover, he calleth them connexed and conſequent diſeaſes, when one diſeaſe is the cauſe of another, which principally cometh to paſs when one part communicates its effects to another.

Making.

Secondly, from the manner of generation and ſubſiſtence, ſome are called diſeaſes Making, others Made.

Made.

Diſeaſes Making are ſuch, that although they are produced out of their cauſe, and now are; yet they cannot ſubſiſt without their efficient cauſe, but their cauſe retreating, they alſo withdraw from their ſubject.

Made diſeaſes may continue, though their efficient cauſe be taken away.

Univerſall. Particular.

Thirdly, in reſpect of the ſubject, one diſeaſe is called Univerſall, which afflicts the whole, another particular, which affects any part of the body, another externall which occupieth the outward parts of the body; another internall which poſſeſſeth the inward parts thereof. Some diſeaſes alſo are congruous, ſuch as are agreeable

agreeable to the Temperament and constitution of the body; Others are Incongruous, and disagreeable to the Temperament, and constitution thereof.

Of Age. Fourthly, in respect of age, some are diseases of Infants, others of children, others of boyes, others of youths, others of young men, others of middle aged men, and others of old men: as also in Relation to sex, some of Males, others of Females.

Sex.

By the being of a thing. Fifthly, diseases some are by Idiopathy, or Essence, others by sympathy, or consent. A disease by essence is that which hath its beginning, from a cause begotten in that place wherein the disease is stirred up. By sympathy, or consent is that which is stirred up by matter severed from the part, where the disease is.

By consent.

Legitimate. Sixthly, some diseases are legitimate, others Spurious, Legitimate are such as proceed from one simple and onely cause; Spurious are such as proceed from mixt humours.

Spurious.

Hereditary Seventhly, some diseases are inherent to man from his first beginning, others happen to him after he is begotten. Those which come from our first beginning, are twofold; first, hereditary whose causes, and dispositions are derived from the seed and menstruous blood of the parents to their children; and cause a disease, in them which they were troubled with; secondly, from ill conformity some evill may happen to the child, from its first beginning, although the parents were not troubled therewith; and therefore all diseases communicated to man from his generation are not Hereditary. They seek a knot in a bull-rush, who think such recess from the naturall state and condition, ought not to be called a Disease, but a fault; and they conceive that not every defect, and regression from the naturall state; but those onely they think, ought to be called diseases of defect, which are defects of perfections which they once had. But a Disease is not only a privation of perfection once had, but to be had, which agreeth to every one of the Species: and as a man is said to be found, which hath that perfection in all the parts of the body, which ought to be in mankinde; so he may be said to be born sick, to whom any of those perfections are wanting.

Congenite.

Whether a Congenite deformity be a disease.

Contagious. Eighthly, some diseases are Infectious which transfuse their seed, and pollution into other bodies, and affect them with the same disease. *Not contagious.* Not Infectious, are such as cannot infect others with their venom.

Not contagious.

Common. Ninethly, some diseases are spread, as when many diseases of divers kinds invade: Some are common, wherewith many are affected at the same time, with the same disease. These again are divided

vided into Endemiall, and Epidemicall. Endemiall are (as it were) native, and genuine diſeaſes, which often frequent one place, and afflict the inhabitants of one region by reaſon of their common and domeſtick cauſe: ſuch is the Scurvy to the inhabitants of the Baltick Seas. *Endemiall.*

Epidemicall, are ſuch as infect many from one cauſe, but not genuine to that people at the ſame time. *Epidemical,*

Tenthly, in reſpect of the time of the year, ſome are Vernall, ſome Eſtivall, ſome Autumnall, and others Hibernall, namely, ſuch as are agreeable to this or that ſeaſon of the year. In reſpect of the time of the day, ſome are called Diurnall, others Nocturnall. *Diſeaſes of the ſeverall times of the year.*

In the Eleventh place, ſome diſeaſes are called great, others ſmall. A great diſeaſe is ſaid to be ſuch, either by its ſelf, or by accident. A diſeaſe is ſaid to be great by it ſelf three wayes; firſt, in regard of dignity, when it hurteth the organs, and inſtruments, that are moſt neceſſary for the preſervation of life, and in this ſenſe, Diſeaſes of Intemperature, amongſt Diſeaſes are of greateſt dignity; Next thoſe Diſeaſes of ſolution of continuity; next to them diſeaſes of compoſition: 2. By it ſelf a diſeaſe is ſaid to be great, in reſpect of its going back from its naturall ſtate, for by how much the more it recedes from that, by ſo much is it the more vehement: 3. It is ſaid to be great in reſpect of ill Manners, as when an ill quallity is joyned with it. By accident it is ſaid to be great, in reſpect of the beſt part which it poſſeſſeth, in which regard a diſeaſe which otherwiſe was ſmall, is ſaid to be great, as a wound in the heart, or in the brain, which in muſculous fleſh, were not dangerous. 2. When it hurts the faculty that governs our body. *Great. How manifold.*

In the twelfth place from the manner, a diſeaſe is benigne, or maligne: Benigne is when beſides its own nature, no grievous ſymptom is joyned. Maligne, is when it hath worſe ſymptomes joyned with it, then the nature of the diſeaſe affords of it ſelf, from ſome occult qualities. *Benigne. Maligne.*

Thirteenthly, in reſpect of duration, ſome diſeaſes are ſhort, ſome long, which ſoon terminate, or continue long, before they come to amend. *Short. Long.*

Fourteenthly, ſome are acute, others not acute, and all acute diſeaſes are ſhort, but all ſhort diſeaſes are not acute. That a diſeaſe may be ſaid to be acute, tis requiſite that it may not onely be terminated in a ſhort time, but may have ſome grievous ſymptoms joyned with it, that may ſpeedily not without danger end it in health or death; For an acute diſeaſe is that which ſwiftly with violence, and danger comes to its height. Acute diſeaſes are again diſtinguiſhed *Acute. Not acute. Which acute.*

How manifold. diſtinguiſhed into very acute, ſimply acute, and ſuch as degenerate from acute. The very acute terminate by the ſeventh day; the ſimply acute end by the twentieth day; ſuch as degenerate from acute are extended beyond the twentieth, even to the fourtieth day; But all thoſe diſeaſes that are extended beyond the fourtieth day, are Diurnall, and Chronicall.

Salutary. Deadly. Fifteenthly, in regard of the end, ſome diſeaſes are ſalutary, which terminate with the health of the ſick, others mortall, which deſtroy the ſick; and both either abſolutely, or *ſecundum quid*. Simply and abſolutely, thoſe are Salutary that terminate with the perfect health of the ſick; Mortall, are ſuch as kill the ſick; on the other ſide, ſalutary and deadly may be ſuch, *ſecundum quid*, when they terminate in health; but not ſound and perfect health.

Continual. Sixteenthly, ſome diſeaſes are continuall, which continually afflict, and intermit not, in the whole term of their duration.

Intermiſſive. Intermitting, are ſuch as have certain periods, and do ſometimes intermit, or ceaſe between while.

Ordinate. Inordinate. Seventeenthly, ſome are ordinate, which afflict at certain times, which the Greeks call at Periods, as Tertian, Quartan Feavers: Inordinate, are ſuch as obſerve no certain periods.

Chap. XII.

Of the Times of Diſeaſes.

The times of diſeaſes. Such as age is ſaid to be in living creatures, time is ſaid to be in diſeaſes. For as animals are firſt generated, thence increaſed, and come to their perfection and ſtate, and then waſte, and laſtly dye, ſo diſeaſes have their beginnings, encreaſe, vigour, afterwards they decline, are leſſened, and at length vaniſh.

Univerſal. The times of diſeaſes are two-fold; Univerſall, and Particular. Univerſall times are ſaid to be ſuch wherein the courſe of the whole diſeaſe is included; for ſince there are diſeaſes which have certain

Particular. Intervals, and again new fits, or certain extentions, and remiſſions; Particular times are limited by the end of the fit.

Univerſal times how many. The Univerſall times are four. The beginning, The augmentation, The ſtate, and Declination.

Beginning. The beginning is that time, when the morbifique matter of the diſeaſe is yet crude, and no ſignes of concoction appear.

Increaſe The augmentation is when the ſymptomes become grievous, and the ſignes of concoction begin to appear in ſuch diſeaſes, as tend to recovery of the ſick, or contrary ſigns in thoſe that are mortall.

Height. The ſtate is when the greateſt contention is betwixt a diſeaſe, and

and nature, and when all the ſymptomes are moſt vehement.

The Declination is, when a diſeaſe beginneth to abate, being conquer'd by nature. *Declination.*

But all diſeaſes have not theſe four times, but ſuch as tend to health onely; in deadly diſeaſes, the ſick (nature being overcome) may dye either in the beginning, increaſe, or ſtate, for ſuch come not to the declination, for no man ever dyed in the declination of a diſeaſe.

In the ſame manner Particular times may be limited, and every courſe hath its fit, which courſe Remiſsnels, or an Intervall follows. A fit hath its beginning, increaſe, ſtate, and declination, which Particular times may happen during the Univerſall times. *Particular times.*

The end of the firſt part of the ſecond Book.

THE

THE SECOND BOOK.

PART. II.

Of the Cauſes of

DISEASES.

CHAP. I.

Of the Cauſes of Diſeaſes.

SEeing that nothing can perfectly be known unleſs the cauſes thereof are known whither can diſeaſes be avoided unleſs the cauſes are ſhun'd; neither can the ſame be taken away, unleſs the cauſes if they are preſent, be firſt taken away: We will now treat of the cauſes of Diſeaſes.

The ſorts of cauſes. Although by the Philoſophers there are rightly conſtituted four kinds of cauſes, the Materiall, Formall, Finall, and Efficient; yet here we are to ſpeak onely of the Efficient cauſes of diſeaſes; for the form, ſuch as accidents have, is already explained. Diſeaſes have not matter unleſs it be the ſubject wherein they are inherent; the end alſo is not ſince they ariſe from the want of perfection, and therefore Phyſitians when they handle the cauſe of diſeaſes underſtand the efficient cauſe onely.

The Phyſitian treats of efficient cauſe.

The cauſes of diſeaſes are fourfold. But Efficient cauſes of Diſeaſes are conſidered either in reſpect had to a diſeaſe and a body, or abſolutely, and as they are things which can take upon them the nature of mortifique cauſes. If cauſes as they are referred to a diſeaſe, or its effects, they are conſidered thus; firſt, one cauſe is proximate and immediate, another remote.

The proximate. The proximate is that cauſe betwixt which and the diſeaſe nothing intercedes.

The remote The remote is that betwixt which and the diſeaſe there comes another neerer cauſe. The proximate (ſince nothing

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can come to paſs without a cauſe) is in all diſeaſes; but the remote is not ſo.

Secondly, ſince that of thoſe cauſes which conduce to the generation of a diſeaſe, and indeed ſuch as ſome matter doth excite, ſome are neerer, others more remote, and oftentimes there is a long rank of them: Phyſitians call ſome cauſes containing, others antecedent, others primitive. *Containing.*

A cauſe containing, which is alſo named conſummative, is that which proximately adheres to a diſeaſe in a body, and cheriſheth it, and which being put the diſeaſe is, being taken away, the diſeaſe is taken away: ſo a ſtone is the cauſe containing of obſtruction of the bladder. A humour in a tumour is the cauſe of increaſing of Magnitude, but a cauſe containing and immediate, is not abſolutely the ſame, for as much as all diſeaſes have a proximate cauſe, ſince nothing can be done without a cauſe, but they have not all the cauſe containing; namely, the ſtroke of a ſword is the proximate cauſe of a wound, but not the cauſe containing. And thoſe diſeaſes only have a cauſe containing, which are joyned with matter, and are cheriſhed by it, as tumours, obſtructions, putrid Feavers. Yet you are here to be admoniſhed that thoſe things which are here ſpoken of a cauſe containing, as alſo of the differences of other cauſes, are all ſpoken of in reſpect of a diſeaſe, defined by *Galen*, *per diſpoſitionem*, or caſually as they ſay; for in reſpect of this, not all but ſome diſeaſes only have a cauſe containing. But if a diſeaſe be defined formally and through impotency, all diſeaſes whatſoever have a cauſe containing, namely ſome vitious diſpoſition of body. 2. *Containing.*

The antecedent cauſes are certain diſpoſitions lying hid in the body which go before a diſeaſe, and out of which a diſeaſe may ariſe. For although that be moſt properly called a cauſe which doth now act; yet Phyſitians call theſe things cauſes which as yet produce not any diſeaſe, ſo that they may produce them. Antecedent cauſes are defined not by the act, but by the power of effecting, ſo ſome vitious humour which lyeth lurking in the body, produceth not a diſeaſe as yet; yet it may generate one, that is called the antecedent cauſe thereof. *The antecedent.* *The primitive.*

The primitive cauſes which anciently they called *Prophaſes*, are ſuch as move the antecedent in a body, and give occaſion that they may become proximate cauſes; ſuch are watchings, cares, anger, too much exerciſe, and motion, and ſuch like. But primitive cauſes and evident are not the ſame, for every Procatarcktick is evident or manifeſt, but every evident and manifeſt is not a Primitive, as a ſword is the evident cauſe of a wound, but not the primary; for an evident nail. *How cauſes differ.* *The manifeſt evident.* *The manifeſt exter-*

evident or manifeſt cauſe is whatſoever produceth a diſeaſe in a manifeſt manner, whether it be immediate or remote, but the primitive can never be the proximate, but alwayes requires preceding preparation of the body, and a neerer cauſe in the body which it may move.

Nor is the primitive cauſe the ſame with the external; for externall is only in reſpect of the body, and every thing which is without the body, after what manner ſoever, it produceth a diſeaſe, it is called an externall cauſe, but Primitive is ſpoken in reſpect to other cauſes, and is that which ſtirreth up and moveth the hidden cauſes of the body, either within the body or out of the body; whence Sleep, Watchings, Paſſions of the mind, and other cauſes which are in the body, are named primitive, not externall.

3. *Evident cauſes. Occult.* Thirdly, ſome cauſes are evident, others hidden, and obſcure: evident and manifeſt are ſuch as are obvious to the ſenſes, neither is there need of any other ſignes to know them by. Occult and hidden are ſuch as lurk in the body, and require ſignes to be known by.

4. *Internall. External.* Fourthly, ſome cauſes are internall, others externall; internall are ſuch as are within the body, externall are ſuch as are without the body.

5. *Per ſe By accident.* Fifthly, ſome cauſes are by themſelves, others by accident. Cauſes by themſelves are ſuch as produce diſeaſes by their own proper force and violence, and not by the aſſiſtance of other cauſes; ſo fire heateth, water cooleth. A cauſe by accident is when it performs ought by the intervening of another cauſe, and not by its own force; ſo cold water by accident is the cauſe of heat, whilſt by its binding, and cloſing the pores of the skin, the hot exhalations are detained within, which otherwiſe would evaporate by inſenſible tranſpiration.

Common. Proper. Alſo ſome cauſes are common, as Air, Meat and drink, when many uſe them in one place; others are proper which are peculiar to certain men.

Poſitive. Privative. Laſtly, ſome cauſes are poſitive, others privative; poſitive are ſuch as by their preſence produce an effect like themſelves, after which ſort water cooleth. Privative are ſuch as by their abſence produce an effect like themſelves; ſo heat returning to the internall parts, and leaving the externall, is the cauſe of refrigeration of the outward parts.

CHAP.

CHAP. II.
Of things which are the Cauſes of a Diſeaſe, and firſt of Non-naturals.

MOreover the efficient cauſes of Diſeaſes conſidered abſolutly, or as they are ſuch; all things are the cauſes of Diſeaſes, which can hurt the natural conſtitution, and turn it into a preternatural: and ſuch things are either without the body, or within it.

External Cauſes.

Things that are without our bodies, are either neceſſary, and to be ſuffered by all, and none can avoid them; or not neceſſary, but may be avoided. Of the firſt ſort are thoſe things called non-naturals, and are in number ſix, Air, Meat and Drink, Sleeping and Waking, Exerciſe and Reſt, Repletion and Inanition, and the Paſſions of the Mind; whereof the four latter are rather to be called evident then external. Things befalling us not neceſſary, are thoſe that wound us, knock us, or in ſuch like manner hurt our bodies, which befall us by chance, which are not included within a certain number.

Neceſſary. *Unneceſſary.* *Non-natural things.*

Four ranks of things non-natural.

But both thoſe, as well neceſſary as unneceſſary, may be reduced to four heads; thoſe things which are taken in, thoſe which are carried; thoſe that are put out and retained; and laſtly, thoſe that befal us externally.

Thoſe which are taken.

Under the notion of thoſe things which are taken, are comprehended Air by breathing, Meat and Drink, and Medicine inwardly taken.

Which are carried.

By thoſe things that are carried about, we comprehend all the motions of the body and mind, of what kind ſoever; ſuch as the perturbations of the minde, anger, griefe, joy, ſleep, waking, rubbing the body, navigation, the courſe of our lives, and ſuch like.

Which are retained and rejected.

By Excretion and Retention is underſtood whatever is thrown out of the body; ſuch are the Ordure, Urine, all ſorts of Humors, Seed, Menſtruis; for theſe as thoſe that are emitted, alter the conſtitution of the body, belong to thoſe which are called Excretions; and the ſame when they are deteined, are referred to Retentions.

Thoſe which happen outwardly.

Moreover thoſe things that externally happen to us, comprehend them that encompaſſe us, as the Air, Baths, and thoſe things that are applyed to our bodies; as Garments and Coverings, Oyls, Unctions, and ſuch like. Laſtly, thoſe things that by force and impulſion befal us, as Wounds, Contuſions, and

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such like; but since there is no certain number of them, we will onely speak of non-naturals, as they are the causes of Diseases.

Air. First from the air is made a great alteration, as being that wherein we continually live, and without which we cannot live a moment; for it alters us in a twofold manner; namely, as we draw it in by breathing, and as it encompasseth us, and by the Pores penetrates us, and communicates that distemper which it hath to our bodies; for the hot Air heats our bodies, dissolvs humours, melts, attenuates, increaseth choler, and wheis, inflames the spirits, so begets hot Diseases; for by calling forth and dissipating the natural heat, it weakens the concoction. *The effect of hot Air.*

Of Cold. The cold Air, on the contrary, cooleth, condenseth, closeth the Pores, thickens the humours. *Of moist.* The moist moistens the body, heapeth up superfluous humours, drives out the natural heat, generates crude distillations, especially joyned with cold. *Of dry.* But if joyned with heat, it is the greatest cause of putrefaction. Dry Air dries our bodies, and being joyned with heat, burns them.

The constitution of the Seasons of the year. First the constitution of the Air depends upon the season of the year, whereof the Spring is temperate, the Summer hot and dry, Autumn cold and dry, Winter cold and moist; and hence several Diseases happen at the several seasons of the year; of which *Hypocrates* in the third of his Aphorismes, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 20, 21, 22, 23. *Of Wind and of Situation.* The winds also conduce to the alteration of Air; so do Countries and Situations, of which *Hypocrates* 3. Aphorisme, 15, 17. *Pestilent Air.* And in his Book of Air, Water, and Places; and it doth not onely affect our bodies with primary qualities, but impresseth in us a malignant and pestilent disposition (if it be infected therewith) and can communicate to us those effects which it hath, and so excite malignant and epidemical Diseases in us; of which is spoken in the doctrine of malignant and pestilent Fevers.

2. *Meat and Drink.* Secondly, Meat and Drink, if either it be taken in too great measure, or be unwhollome, or if any fault be committed in the taking of it, may be the occasion of many diseases. Diet then offendeth in quantity, manner of taking it, and quality; *It offends in quantity.* for if too great a quantity of meat stuff the stomach, it cannot be well concocted, but sendeth aboundance of vapours to the braine, which offend it, and is the cause of divers fluxes of Rhumes; and when the error of the first concoction is not corrected in the second, that Crudity is the occasion of many Diseases which arise afterwards in the whole body; and as an immoderate

moderate quantity of meat and drink, is the occaſion of many Diſeaſes. So the want of them is hurtful; for thereby the good humours of the body are waſted, and the body dryed, 1. *Aphor.* 14. In an impure body it ſtirs up ill humours, whence divers parts are ill affected; for it is hurtful to eat meat whileſt any is unconcocted in the ſtomach: variety of meats is alſo hurtful. *Manner of uſing.*

As for the qualities of meats, thoſe which have in them certain qualities, by which they can alter our bodies, are called medicamental, and they are changed into humours of a like qualities with them, and in a ſound body cauſe a like diſtemper; and in a ſick body may introduce an unlike and contrary diſtemper; to wit, if they are contrary to the preternatural diſtemper, but if they agree with it, they encreaſe it. Meats differ not onely in the firſt qualities, but alſo in others, nay in the whole ſubſtance; ſome thick, others thin; ſome much, others little; ſome cauſe good Aliment, ſome bad; of which *Galen* in his books of the faculties of the Aliments, and in his book of good and evil Juice treateth; and we ſhall ſpeak more in our fourth Book. *Quality.*

3. Thirdly, ſleeping and waking moderately preſerve health, immoderately deſtroy it, 2. *Aphor.* 3. For too much ſleep hindreth the natural evacuations and excrements, and dulls the heat of the body, and ſo is the occaſion of cold diſeaſes, and principally of Diſtillations. On the other ſide, too much waking diſſipates the Spirits, dryes the body, and whileſt the humours are kindled and become aduſt, they are of themſelves the cauſes of hot diſtempers; and whileſt they diſſipate the Spirits, the native heat is weakned, and the radical moiſture is conſumed, and by accident are the cauſes of cold diſeaſes. *Sleeping and waking.*

4. Fourthly, there is the ſame reaſon of exerciſe and reſt; for idleneſſe and too much reſt fills the body with Excrements, dulls the native heat, and renders the body ſlow and feeble; on the other ſide, too much exerciſe diſſipates the Spirits, conſumes the body, and by conſequence cooles the whole body, hinders concoction; the veins and veſſels often break, ſtirs up untimely humours, heats them, and cauſeth fevers; and eſpecially if the body be full of vitious humours, they being ſtirred are carried through the whole body, and ſtir up fevers and other diſtempers and ſymptomes. *Exerciſe*

5. Fifthly, the affections of the mind make great alterations in the body; in anger the Blood and Spirits become extream hot, and are hurried to the external parts from the internal, whence they *Paſſions of the mind,*

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they inflame the whole body, and often kindle Fevers, and raise other Symptomes. Too much joy may so dissipate the Spirits, that it is observed one may die therewith; in fear and trembling the Spirits and heat desert the exteriour parts, and fly to the heart, and suffocate the heart; sorrow by degrees dissolveth the Spirits, cooleth the Body, dryes, spoils concoction, causes watchings, and begets melancholly diseases.

Excretions and retentions. Lastly, those things that are reteined in, and sent out of our bodies, are the causes of Diseases; for if the profitable humors be untimely sent out, it debilitates the body, and consumes it; but if the excrements are retained, diseases are bred that are like unto them.

CHAP. III.

Of the internal causes of Diseases, and first of fulnesse of Blood.

Internal things, the causes of diseases. Internal things which are the causes of diseases, either are generated in the body according to nature, or are found in the body contrary to nature; those which are generated according to nature, are those three of *Hypocrates*, conteining, conteined, and doing violence; or as others would have it solid, humid, and spirituous; those are called preternatural humours, which are found in the body contrary to nature; as stones, gravel, wormes, and all things that are generated in the body differing from natural; whereunto belongeth those things that are sent into the body, and there stick and remain, as darts, bullets of lead, and such like.

How many wayes. But these things are made to be the causes of diseases, either as they are in their whole kind, contrary to nature; or as they offend in quantity, quality, motion, or place.

The fault of humors twofold. The fault of humours in Specie is divided into *Plethorick* and *Cacochimick*; for humours are either ape to nourish the body, or not fit: plenty of the one is called *Plethorick*, of the other *Cacochimick*; for *Plethory* is when blood and humours profitable for the nourishment of the body abound, and are beyond mediocrity. This plenitude is twofold, either as to the vessels when blood so abounds, as that the vessels wherein it is contained are stretched beyond their ordinary bigness; the other as to the strength, when there is more blood then the strength can bear; to which *Horatius Augenius* adds this mixt of them both, to wit, when there is so great plenty of blood as stretcheth and extendeth the veins, and so great pains, that the strength cannot bear it,

Plethorie.

Plethorie twofold.

To the vessels.

To the strength.

Cha-

Chacochimy is an exceſſe of othe: humours beſides blood, namely, when natural excrementious humours offend in plenty, or preternatural excrementious humours abound, and whileſt either theſe or thoſe putrifie, and bring in a ſtrange nature. *Chachochimy.*

The ſeat of Plethory is only in the veins; but Chacochimy is not onely in the veins, but alſo out of them, and in the whole body, or ſome parts, eſpecially the bowels. *The ſeat of Plethory and Chacochimy.*

But ſometimes Plethory and Cha cochimy are mixed, whence both are divided into ſpurious and legitimate; pure Plethory is, when there is too great plenty of pure blood and humours, without any vitious ones. Pure Chacochimy is, when there is too great plenty of ill humours, and no good blood with them; but when good juyce aboundeth, and ill humours are mixed therewith, it is called a ſpurious Plethory, or Chacochimy, according as blood and ill humours do more or leſſe abound. *Both pure and ſpurious. Pure Plethory. Pure Chacochimy. Spurious.*

There are many cauſes of Plethory, as plenty of Dyet ſupplies matter to cauſe it; nouriſhment of good juyce, and great plenty of ſuch nouriſhment: the Efficient cauſes are Conſtitution of the Body, and principally of the Heart and Liver, hot and moiſt, and youthful age, which may be occaſioned in the Spring time, and a temperate conſtitution of the Air, idleneſſe, moderate ſleep, a life without care and paines, ſuppreſſion of accuſtomary evacuations of blood, *The cauſes of Plethory.*

Chacochimy according to the variety of excrementitious humours is manifold; for ſometimes phlegm, ſometimes choller, ſometimes melancholly, and aduſt melancholly, and ſometimes ſerous humours abound; of which humors there are again various differences. *The kinds of Chacochimy.*

CHAP. IV.

Of Phlegm.

THere are divers kinds of Phlegm which are commonly divided into natural and preternatural. Natural is a cold and moiſt juyce, or blood not perfectly concocted; but if we rightly obſerve the matter, this humour is not properly to be reckoned amongſt the excrementitious humours, becauſe the blood is crude, and may be turned into the aliment of the parts. *The kinds of Phlegm. Natural Phlegm.*

Of the preternatural Phlegm there are four kinds, unſavory, ſharp, vitreous, ſalt. *The kinds of preternatural Phlegm.*

Unſavory Phlegm peculiarly and principally may be called a Crude Humour, which for want of concoction hath not acquired that perfection which it ought in the ſtomach; and *Unſavory.*

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therefore can no where in mans body be turned into good ſubſtance.

Acride. Acride Phlegm is alſo crude and called ſo from the taſte it reliſhes of to them that void it, and proceeds from the defect of heat.

These two kinds proceed from the ſame cauſes, which according to greater or leſſer power they have of introducing coldneſs and crudity; ſo ſometimes this, ſometimes that kind is generated: ſuch are cold meates, hard to be digeſted; too great plenty of meat and drink, and taken at unſeaſonable times, a cold conſtitution of the ſtomach, and the adjacent intrails which way ſoever occaſioned.

Salt. Salt Phlegm, ſo called from the ſavour, and is occaſioned by the mixture of a ſerous humidity, and a ſalt with Phlegm: whence it is not ſimply cold, but mixed with heat and drineſſe; and as there is more or leſſe of the ſalt humour mixed, ſo is it more or leſſe hot.

Vitreous. Laſtly, Phlegm is vitreous, ſo called by *Praxagorus*, becauſe in ſubſtance and colour it ſomewhat doth reſemble melted glaſſe; this is exceeding cold, clammy, and thick.

CHAP. V.
Of Choller.

The kinds of Choller. CHoller is threefold, Alimentary, Natural, and Contrary to Nature; but the firſt is not an Excrement, but the hotter and dryer part of the Maſſe of Blood, of a different nature, from that which is in the bladder of the Gall. Excrementious Choller is twofold, Natural, and Contrary to Nature.

Yellow Choller. Natural is yellow, and is generated by Nature; and that onely is properly called Choller: it is an Excrement of the ſecond concoction, and generated in the Liver, and collected into the Bladder of the Gall; it is generated out of the hotter and dryer parts of nutriment.

Preternatural. Preternatural is that which is not generated in our bodies according to the law of Nature, whereof for the moſt part we account four kinds, Vitelline, Leekeblade colour, Verdegreaſe colour, and Woad colour, or a blewiſh green.

Vitelline. The Vitelline is ſo called from the yolk of an Egge; it is yellow, hotter and thicker; it is generated of yellow and burnt Choller, whence it is ſometimes called roſted Choller: And there is another kind of Vitelline Choller, but not ſo properly ſo called, which is neither ſo hot nor ſo yellow, which is compounded of Phlegm and yellow Choller. Leeke-

Leekgreen Choller, ſo called, becauſe it repreſents their green- *Leekgreen.*
neſſe, which is often voided with the Excrements of children by the panch, and is often generated in the ſtomach by corrupt nutriment, and ſometimes alſo in the Veins, and about the Liver, out of the Vitelline, from the great heat of the Liver, and 'tis of a veriemous nature, and it is hot and very biting, the likeſt to Verdegreaſe.

The Æruginous which comes neer to the colour of ruſty gree- *Æruginous.*
niſh Braſſe, is generated out of corrupt aliment, when the heat is more vehement in the Stomach, in the Liver and Veins from the inflamation of the Liver, and the too great heat of the Veins.

Laſtly, Woad colour, or a blewiſh green Choller is more deep *Blewiſh green.*
in ſenſe then the Leek colour, and is cauſed by more aduſt Æruginous Choller.

Aliment hot and dry, affords matter fit for all the kinds of *Cauſes of Choller.*
Choller, and eſpecially ſweet and fat things. A conſtitution hot and dry, hath regard to the Efficient cauſe, and thoſe things that adde to it are youth full age, Air that is hot and dry, watching, anger, too much exerciſe of the body.

CHAP. VI.
Of Melancholly.

THe third is the Melancholly humour, which commonly *Melancholly.*
is diſtinguiſhed into Alimentary and Excrementitious; but Alimentary is nothing elſe then the colder and dryer part of the Maſſe of Blood.

The Excrementious is twofold, Natural and Preternatural; *Twofold.*
Natural is that thick and feculent Excrement, which in ſangui- *Natural.*
fication which is made in the Spleen, as is aboveſaid, is collected and ſeparated for the generation, whereof much meat conduceth, 'Tis of a terreſtrious and thick juyce of every ſort, eſpecially being hardned with ſalt and fuliginous vapours, old Cheeſe, Cabbage, all ſorts of pulſe, as Peaſe, &c. a cold and dry conſtitution of air, cares, fear, ſorrow.

The black Melancholly which is generated contrary to nature, *Preternatural.*
although it be ſometimes alſo called by the name of melancholly; yet Phyſitians for the moſt part call that Excrement which is naturally generated, black Juyce, not black Melancholly; but that which proceeds from aduſtion is called black Melancholly; and that Excrement is naturally cold and dry; but this Preternatural hot and dry, the worſt of all humours.

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Its kinds. But aduſt Melancholly is commonly accounted threefold, One is that which is occaſioned by aduſt blood, and is counted the leaſt; the ſecond is that which is generated of Melancholly humours if they are burnt. The third is that which proceeds from aduſt colour, which is of all the worſt. Hence it is manifeſt, that although all which can generate Melancholly humours, or yellow Choller, conduce to the generation of black Choller: yet the generation of black Choller, principally depends upon the too great heat burning the humours.

CHAP. VII.

Of the Serous Humour, and of Wind.

Serous what. AMongſt the humours that are the cauſes of diſeaſes, we are not to ſlight Serous Humours and Wind; by Serous Humours we ſometimes underſtand all thin humours and watery: ſometimes peculiarly we mean not thoſe onely which are watery, but have a ſaltneſſe joyned therewith, which *Galen* calls *A ſalt ſerous moiſture*: the greateſt part of this ſerous humour turns to Urine, and is ejected by it; yet ſome part thereof is mingled with the Blood to clarifie it, and make it more eaſie to be diſtributed: and laſtly, through the Pores of the skin, or inſenſible tranſpiration, or ſweat is emitted. Of this ſerous humour there is found but ſmall quantity in the Veins in ſound bodies; yet ſometimes for ſome cauſes Preternatural, there is found greater quantity. The matter that breeds it, are Meats that contein much Whey in, and watery juyce in *Its cauſe.* them, much Drink; Obſtructions and Diſtempers of the Bowels, by reaſon whereof this ſerous matter is not rightly ſeparated, it is detained and gathered together, becauſe the reins do not draw enough, and by reaſon of the weakneſſe of the expulſive faculty, and the ſuppreſſion of its paſſages by Sweat and Urine.

Wind. Of humours oftentimes are generated Vapours and Wind, which are the cauſes of many evils; windy meats afford matter for wind; ſo doth much drink, eſpecially when yellow and black Choller is ſpread over the ſtomach. Alſo wind is generated from debility of heat, which ruſheth out of the abundance of matter, that it cannot overcome it all; and that is ſuch, either ſimply and in its own nature, or in reſpect of the matter, from the plenty whereof, although it be otherwiſe ſtrong enough, it breaks out.

CHAP.

CHAP. VIII.

Of humours according to the opinion of latter Phyſitians, and of Chymiſts.

The opinion of Chymiſts about humours.

ALthough ſome Chymiſts plainly reject theſe things that have hitherto been ſaid, according to the opinion of the Galeniſts; and having rejected them, they have in their ſtead and place put the names of Salt, Sulpher, and Mercury; yet they have no reaſon for it; for as *Galen* in his firſt Book of Places affected, and ſecond Chapter writeth, That that which put, we are diſeaſed; and which taken away, we are freed; 'Tis taken for granted by all to be the cauſe of a diſeaſe; but we ſee the humours being preſent we are diſeaſed; and being taken away, we are freed; therefore humours are the cauſes of diſeaſes. Yet this we grant, that humours are not confined to the firſt qualities, but that they have in them ſecondary qualities; ſuch are, bitter, acide, ſalt, ſharp, which may offend and hurt the body no leſſe then the primary, as *Hypocrates* of ancient Phyſick teacheth, which he calleth the Powers and Efficacies; alſo the force and ſtrength of humours. Whence *Galen* alſo, and other Phyſitians, call them Salt, Nitrous, Aluminent Humors, which plainly manifeſt themſelves in many diſeaſes, as the Gout, Scurvy, Cankers and others. And ſo ſuch humours are not to be rejected, but to be explained by the principles of Chymiſts; and ſuch things as have affinity with themſelves: and hence venenate humours bred of poyſon and poyſonous matter, do not ſeem ſo properly to be referred to Choller, Phlegm, Melancholly; although in colour it ſeems to have ſome affinity with ſome of theſe, yet their nature is far different, and therefore are to be deſcribed by their Powers Hyppocratically.

Venemous humours.

The Melancholly humour explained.

Laſtly, of the Melancholly and black humour. It is to be noted, that by it ſelfe it is thick, earthy, feculent, or ſalt, and for the moſt part 'tis ſo much moyſtened by many ſerous and watery humours, that it becomes like unto Lee, which conſiſt of watery aduſt, and ſalt parts; and therefore it is called by ſome Water.

CHAP.

CHAP. IX.
Of the generation of Stones and Worms.

Stones. BEſides Wormes there are other things found and generated in the body, which are the cauſes of diſeaſes: as ſtones and worms; that Stones for the moſt part are generated in all bodies; experience and the obſervations of Phyſitians do manifeſt.

They are generated of feculent matter, earthy, ſlimy, muddy, and of moiſture apt to putrifie; which when the paſſages are ſtraiter and narrower in the body, ſticks, and of its own accord tends to coagulation and concretion.

Worms. Wormes alſo may be generated in moſt parts of the body, out of corrupt and putred matter, containing in it Seed, or ſome proportionable principle to Seed, namely, ſome vital principle.

CHAP. X.
Of the cauſes of Diſeaſes, of Intemperature without Matter.

The cauſes of hot diſtemper.

HItherto we have explained the cauſes of Diſeaſes general, now we will handle them ſeverally. And Firſt, for Diſeaſes of Intemperature: *Galen* accounts five ſorts of Diſeaſes of diſtemperature by heat; Motion of the body and mind, which cauſes heat by too much ſtirring of the humours and ſpirits. Putrefaction which is the cauſe of heat, becauſe in putrefaction the internal heat, is called forth by the external, and being outward, is more ſenſibly hot. Hot things touching our body, and impreſſing their qualities on our bodies. Coſtiveneſſe of body, and Retention of the hot ſteeme which ſhould paſſe through our Pores. Laſtly, mixture with ſome hot thing, or hot things taken into our bodies, as Air, Meat, Drink, hot Medicines. *Galen* in his fourth Book of the Cauſes of Diſeaſes of Diſtemperature by cold, reckons theſe. The preſence of cold things, the quantity and quality of meats and drinks condenſeing & rarifying, idleneſs and immoderate exerciſe: all which, and if there be any other, may conveniently be reduced into four ranks. For, whatſoever brings a cold diſtemper to the body, do it either by altering, and by its proper force cooling the body; ſuch are cold things, whether outwardly applyed to the body, or taken inwardly, or ſuffocating the innate heat; ſuch are thoſe things that prohibit the ventilation and blowing of the fu-

1. *Exerciſe.*

2. *Putrefaction.*

3. *The proximity of a hot thing.*

4. *Coſtiveneſs.*

5. *Mixtures of a hot thing.*

Cauſes of a cold diſtemper.

fuliginous vapours; or extinguish the heat by their too great abundance, or dissipate the same by overmuch exercise of the body or mind, a hot constitution of Air, and such like, or through want of food, which poverty may occasion, or by letting too much blood. 3. *Dissipation*

Hence it is manifest, that the causes of hot Distempers when they are in excesse, become the causes of cold Distempers, by dissipating, extinguishing, or suffocating the innate heat. 4. *Drawing away food.*

The causes of overmoist Distempers, may be reduced unto two, the proximity to moist things, or those things that hinder transpiration, and so retain the cold steem of the body. *Moist.*

Dry distemper is occasioned by the contrary causes, to wit, by alteration of drying things, and want of aliment. *Dry,*

Compound distempers are from compound causes; and if the causes of simple distempers are joyned together, there ariseth a compound distemper: yet complication of causes is not always necessary for production of compound distempers; since there are many causes which have in them double qualities, which therefore, if they have equal strength and force, cause a compound distemper; so that the body be so disposed, as it be fit to receive the actions of them both alike. *Of compound distempers.*

CHAP. XI.

Of the causes of distemper with matter.

Since every humour hath its peculiar Temperature, and communicates it, and impresseth the part which it adheres to, The blood which is hot and moist, heats and moistens; yellow Choller which is hot and dry, heats and dryes; Phlegm which is cold and moist, causeth a cold and moist distemper; Melancholly which is cold and dry, causeth a cold and dry distemper. *The causes of distemper, with matter.*

The matter which is the cause of distemper in the affected, either is collected by degrees, or else falls on it on a suddain; 'Tis collected either through the error of the Aliment, or default of the part; through the fault of the part it is collected, when either the faculty of concoction is weak, and doth not rightly elaborate the Aliment, and from thence causes excrements, which either the expulsive faculty can expel, or the weaknesse of expulsion is such, that it cannot expel; that too great quantity, or some disease of conformation, and straitnesse of the passages, suffers not the Excrements to be cast forth; But by default of the Aliment the matter is collected, when that is not good, but such *A collection of matter.*

ſuch, by reaſon whereof great ſtore of excrements are generated, or ſlimy and viſcious humours are produced, that the expulſive faculty cannot expel them.

A flux made by drawing. A flux is either when humours are drawn to a part, or ſent to a part. Attraction is principally through heat and pain; not becauſe they draw, but becauſe they afford occaſion for humours to flow to the part, to which you may adde, for the ſupply of vacuity.

Tranſmiſſion. But humours flow to the parts affected, though they are not drawn for two reaſons; firſt becauſe the humours collected in the veſſels, by their own violence begin to flow into ſome part, according to its ſituation, and its reſpect to the veſſels. Secondly, becauſe the parts which have ſtrong expulſive power, tire, or decay in their ſtrength, or quality, or being burthened with plenty of humours; unlade themſelves, and ſend that which is troubleſome to another part; either the whole body ſends forth venemous humours, or elſe ſome parts.

Yet that there be made a flux, there is required not onely the part flowing, but the part receiving, which is either weak, or apt and diſpoſed to receive fluxions.

CHAP. XII.

Of the cauſes of Diſeaſes of the whole ſubſtance.

Cauſes of diſeaſes of the whole ſubſtance. Diſeaſes of the whole Body, or of Occult qualities which are in the ſimilar parts, beſides diſeaſes of intemperature, are all produced from cauſes of the whole ſubſtance, or acting in a hidden manner; ſuch are all venomous, malignant things, and ſuch as act in a hidden manner: Of ſuch cauſes ſome are produced in the Body, ſome happen to it from without.

Internal. Thoſe which are in the body are humours and excrements, if they contein in them malignant and venomous qualities; as putrified Blood, Seed, and other corrupt humours.

External. As for external cauſes, Firſt venomous and malignant Aire. Secondly, Virulent and contagious Diſeaſes. Thirdly, Poyſon drunk, or after what manner ſoever taken into the Body. Fourthly, Poyſons which come by the ſnitings, or bitings of venomous creatures, or ſome other way communicated to the body externally.

Aire. Venom is either generated in the Air, or elſe the Air receives it from ſome other thing; It receives it from ſome other thing by malignant exhalations and vapours, from Cattel, Marſh grounds, dead Carkaſſes, and other ſuch like exhalations. Poyſon is generated

generated in the Aire, by reason of its hot and moist constitution, or the occult influences of stars.

Contagion is a Granary, or if you please, an Affect contrary to nature, which is communicated to another body, from a body affected likewise contrary to nature. This Infection is twofold, either by touch, when the body which is infected toucheth that body which is next to it; or at distance, when a body far distant from another, by that which it emits, it infects the distant body. *Contagion*

Poysons taken into the body, are either Plants, or living Creatures, or Minerals, or poysonous Metals. *Poysons taken.*

Poysons which happen externally to the body, are the biting of venomous Creatures, Stroakes, Exhalations, or venomous Unguents and Powders. *Poysons from without.*

CHAP. XII.

Of the causes of Organick Diseases.

NOw for the causes of Organick Diseases, and first the figure of Conformation is vitiated either by it selfe, or by accident. *The causes of the figure vitiated.*

By it selfe it is vitiated first in the womb, through some error of the formative faculty. Secondly, out of the womb through violent motion, either of those things that happen externally, or those which are with us, or in us, or by the errors of our Midwives, Nurses, or Chyrurgions. Thirdly, by too great repletion and encrease, and on the contrary, by Inanition, or Defect of Aliment, and lessning the due magnitude, or in default in number. By accident the figure is hurt, when any parts grow not, as they ought, but another way, through loosening of Nerves, Convulsion, Inflammation, or swelling, a Scyrrhus or hard bunch on the Liver, the cutting of a Nerve or Tendon, or by some hard skin growing in them.

Moreover to what belongs to Diseases in the Channels of the Body. Diseases in the Channel, are either in excesse or defect; in excesse the passages are too much dilated by something, filling them contrary to nature, and stretching them sometimes too much; But straitnes of the passages is either from our first formation when our stomachs are narrower then they ought, or by repletion, or when in an *Empyema*, an Impostumation or Ulcer is generated in the brest, and there broken, and flowes, and makes it narrower; or whilest a stone groweth in some hollow part; or by compresture, when from what cause soever a hollow member *Diseases of the passages.*

lying

lying under its Cavity is prested too close, or by the closing of its outsides, or by coastriction, when by too much use of binding things the stomach is contracted.

The causes of Diseases of passages.

Anastomasis.

Diaresis.

Dispedesis.

Diseases of the passages since they are in excess or in defect; An *Anastomasis* is caused first by the too great quantity, or the quality of humours irritating the expulsive faculty, or the mouth, of the vessels opening themselves; moreover sometimes by Medicines, and other things which have power to relax and loosen the mouths of the vessels. A Devision is made by some gnawing or cutting cause, such may be sharp humours, or fretting Medicines, either stretching them too much, as too great store of humours, or else breaking them, as violent motion, clamours, heavy burthens, knocking. An opening the Tunicles of the vessels is by moistning and rarefying things.

The causes of defect and straitnesse of passages.

Obstruction.

Constipation.

Coalescence.

Compression.

The causes of the defect of passages, or of narrowneste of them are five; Obstruction, Constipation, Coalescence, Compressure, Subsidence. The cause of obstruction is, first, that which is contained in a passage, and is not generated, for such are thick or viscide humours, clots of blood, quitture, hard dung, stones, worms, and too great aboundance of humours.

The cause of Constipation is hard flesh; as when there is a Tumour, the flesh growes in the passage; Coalescence is caused when after a wound the walls of the passages grow together.

Compression is made by things externally happning, which have power by weight and violence, or otherwise, to presse the passages, and have strength to force them inward, as divers tumours and bones out of joynt, are amongst the internal causes; amongst the external, Bones, Contusions, Strookes, and such like; Subsidence is when the outsides of the passages, by too much moisture are made looser then they ought: to which some adde Constriction, by cooling and astringent things.

Subsidence.

The causes of Diseases in the Superficies.

The causes of Diseases on the outside, or extremities of the body, are such as make it rough or smooth; rugged things make it rough, so does gnawing things, and such as dry overmuch, as sharp humours, and medicines endued with such qualities, sharp vapours, Wind, Smoak; sharp Meates, things endued with contrary qualities make the body smooth. Moistning things make the body soft, contrary to nature; drying things make it harder, the mixture of black humours, and such as give a tincture, spoyles the clearnesse of complexion.

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The cause of Diseases of defect, in number are either from a mans birth; namely defect of matter, or imbecillity of the faculty, drawing matter, being not able to retain and elaborate the same, or error of formation: Or else after one is born, by cutting, burning, gnawing, putrefying, and too much cooling; either natural things abound contrary to nature, and that from our beginning, the cause whereof is either too great plenty of profitable matter, and the strength and error of the formative faculty; or after our birth, as is a Membrane, a Tubercle; the cause whereof is plenty of good matter, and by it occasion is given of breeding an Ulcer; or somewhat contrary to nature aboundeth, as Warts, Stones, and such like; the cause whereof is peccant matter. *Causes of Diseases in number.*

Magnitude is encreased contrary to nature, either according to some dimensions only, or according to all. First, it is encreased by things contrary to nature; as by wind, as in a Timpany, and a windy Tumour; or by water, as in a Dropsie; or by the falling of one part into another, as when one is bursten. Augmentation is made according to all the dimensions, by the spreading of humours over all the substance of the body, which comes to passe either by reason of profitable humours, which happens to fat people, and in the encrease of certain parts; or from an unprofitable and Excrementitious, which happens in divers kinds of tumours. *Of Magnitude encreased.*

Magnitude is lessened by weakness of virtue, and want of sustenance, or by cutting, burning, gnawing, putrefaction, refrigeration. *Diminished.*

Lastly, parts change their places by reason of the loosenesse, or solution of unity of those parts wherein they are conteined, or contraction of ligaments, or when they are violently put out of their places. *Of changing place.*

The vicinity and connexion for the most part is hurt by the same means; namely, if the parts by whose intervening they are knit together, are loosened, broken, or wounded. *Of Connexion.*

CHAP. XIIII.

Of the causes of Diseases of Solution of Unity.

THe causes of Diseases of Solution of Unity, although they are very many, yet all may be reduced into five ranks; for all things that dissolve the continuity of any part, either cut, or gnaw, or knock, or bend and break, or burn: those that cut are all sharp bodies, which whether edglings, or wound with the point, *Causes of Diseases of Solution of Unity.* *Of cutting*

point, as all kinds of weapons and darts, thorns, the biting of living Creatures, and ſuch like. All ſharp things erode, as humours, and all ſharp, eroding, putrifying, burning medicines.

Eroding.

Knocking and breaking.

Thoſe that are heavy, and great, and blunt, knock, as ſtones, woods, daſhing the body againſt hard things; which if they happen to a part that can give way to it, they bruiſe it; if they happen to a hard part which cannot yeild, they break it; they knock and break thoſe things that fill the part, as plenty of humours, and ſtore of wind, or they powerfully dry or violently dilate the part, as dancing, and all loud ſinging, and heavy burthen oppreſſing, to which belong immoderate cold. Laſtly,

Eating.

Burning.

hot Irons burnt, and other mettals, and hot and fiery things.

The end of the Second Part of the Second Book.

THE

Book. II.

PART. III.

OF

SYMPTOMES.

SECT. I.

Of the Differences of Symptomes.

CHAP. I.

what a Symptome is.

THE name of Symptome, although ſometimes it be taken generally for every thing which befals the body contrary to nature; ſo that both Diſeaſes, and cauſes of Diſeaſes are comprehended under the notion of Symptomes. Yet Phyſitians take not this name ſo generally; But by Symptome underſtand ſomething different from a Diſeaſe, and a cauſe of a Diſeaſe,; and ſo a Symptome is an affect, or accident contrary to nature in thoſe things which are neceſſary to perform natural actions, without the conſtitution of the parts, ſome other thing contrary to nature following: or 'tis an accident different from natural, and changing the natural conſtitution

The word Symptome.

Its definition.

ſtitution of the body, which to perform natural actions, is not neceſſary; whether the action it ſelfe be hindered, or ſome accident contrary to nature in the humours and excrements, or even in the living parts, ſo that it hinder not their actions; for a Symptome may conſiſt even in the living parts. For example, heat cauſed by a Bath, or exerciſe, ſo that there be not any effect which can hinder action.

CHAP. II.

Of the cauſes and differences of Symptomes in general.

Its diviſion. SO that in reſpect of the cauſes, a Symptome is properly divided into a Symptome of a Diſeaſe, a Symptome of a Cauſe, and a Symptome of a Symptome; for they labour in vaine who endeavour to draw all Symptomes from Diſeaſes.

A Symptome of a Diſeaſe. A Symptome of a Cauſe. A Symptome of a Diſeaſe is that which immediately follows a Diſeaſe, no other affect contrary to nature comming between, as when an ill concoction follows a diſtemper of the ſtomach, which is called in Greek *Cyloſis*. A Symptome of a cauſe is when the action is hurt, although the faculty, and its organ be well; the faculty being hindered by an external fault, as when the Liver, though ſound, cannot ſanguifie, by reaſon of vitious chyle; they trouble themſelves exceedingly here, who endeavour to deduce every Symptome from a Diſeaſe, and actions hindred, which happen without a Diſeaſe, no way worthy the name of a Symptome, but think them worthy to be called certain natural differences, or imbecilities, ſince that they are accounted to perform nothing beyond their own ſtrength: but they plainly erre in the matter, for that any worke may be perfected, not onely the agent, and that rightly diſpoſed, but alſo the patient which receives the operation of the agent, is required: For as in voluntary actions; as for example, in geſture, or lifting of a weight, the buſineſſe is in the free will of man, but that ſome work may be performed in the body; as for example, Sanguification, Nouriſhment. It is neceſſary that the patient be joyned and coupled with the agent, but ſince the action of him that moves, and the patient moveable is but one motion, and differ onely in reaſon, as *Ariſtotle* teacheth, in the ſecond Book of his natural Philoſophy, *Chap.* 3. *Title* 23. Deſervedly therefore in natural actions, when that is not performed which ought to be, eſpecially in natural concoctions, all that which either is hurt, or fruſtrated, is deſervedly called a Symptome, whether it be done by reaſon of the agent, or of the patient; for although,

Whether hurt by external meanes be Symptomes

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in reſpect of the agent, it be impotent. Yet ſome fault doth happen by reaſon of the patient; and therefore it is the office of a Phyſitian if he will govern a mans body aright, to govern as well the patient, as agent in ſuch actions.

A Symptome of a Symptome.

A Symptome of a Symptome is that which follows another preceding Symptome, no other affect contrary to nature comming between.

A diviſion of Symptomes.

Moreover there is a common diviſion of Symptomes into an action hurt, errours of excretion, and retention, and qualities changed, namely ſuch as doe not hinder the actions of our bodies.

Manner of actions hurt.

Actions hurt are of two kinds, the one is ſo called when the faculty is hurt; The other by reaſon of ſome external fault, as is ſaid.

How many ways are actions hurt when the faculty is hurt.

When the faculty is hurt, the action is ſaid to be hurt; ſince the agent is not right, or ſince the inſtrument (for the faculties of the mind cannot be hurt) is affected contrary to nature. That the natural conſtitution of the part, which is the next inſtrument of the faculty is vitiated, which being ſpoyled, the mind cannot perform its actions. Again, ſome divide the faculty hurt into the faculty hurt alone by its ſelfe, and into certain actions hindred. The faculty hurt by it ſelfe they ſay is, when the next inſtrument which it uſeth, in performing whereof that action is ill affected: as for example, when the Bladder doth not expel Urine, by reaſon that the Fibers which are uſed in expelling, are ill diſpoſed. Again, to the good conſtitution of the inſtrument is required not only as aboveſaid, conſtitution of the part, as it is mixed, temperateneſſe, and innate heat, but ſpirits, and influent heat, which being deficient, the faculty cannot rightly perform its actions, as moſt plainly appears in the ſenſes. But they then ſay the faculty is hindered, when the next inſtrument of the faculty is well, yet the faculty is hindered in its action, by ſome Organick Diſeaſe; as when the expulſive faculty in the Bladder will not ſend forth Urine, though it be well, by reaſon of obſtructions of the Uriters, occaſioned by the Stone.

Through ſome external error.

On the other ſide, if the agent and inſtrument are in all reſpects ſound, and they be well conſtituted; yet nevertheleſſe for ſome other cauſe, which is without the conſtitution of the part, the faculty is fruſtrated in acting, and is hindred that it cannot perform its action. The action is ſaid to be hindered by ſome external error.

To external error firſt belongs the patient or object, betwixt which and the agent, there ought to be a proportion; for if

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the patient be not fit to receive the operation of the agent, a perfect action is not brought forth. Hitherto belong all these things by which actions are performed, or without which they cannot be performed, as time, place, and order in some, and moreover the use and necessity of actions.

The cause of excretions, and retentions, and of qualities changed.

The other two kinds of Symptomes, to wit, the fault of excretion and retention, and the qualities changed by hurting of the natural actions, depends on them, and the humours proceeding from them; for from evil concoction proceeds ill excrements: and hence also the qualities of the body are changed; for such as the humours are in the body, such colours, smells, taits, and such like qualities the body sends forth.

CHAP. III.

Of the differences in general of actions hindered.

The differences of actions.

MOreover of actions hindered, there are accounted commonly three differences; namely, actions abolished, diminished and depraved; an action is said to be Abolished when it ceaseth: to be lessened when nature acts weakly, and imperfectly, and performes its actions either in longer time then is fit, or else never acquires that perfection which it ought, or if there be any other manner whereby it may deviate from its perfection; but an action is said to be depraved as often as it is performed otherwise then it ought to be, and erroneously.

Abolished.
Diminished.
Depraved.

Increased.

But not undeservedly ought we to adde to these; Action encreased, which is performed more strongly and violently, then ought to be in its kind; such are too much watchings, strong breathings, and pulsations, much hunger and thirst, and other such like, which exceed mediocrity.

CHAP. IV.

Of the Symptomes of the Natural faculty.

The differences of Symptomes of natural faculty.

BUt that we may handle the kinds of Symptomes severally, first the Symptomes of the natural faculty respect nutrition, augmentation, or generation; which again have their servants, attraction, retention, concoction, and evacuation, and indeed every action is abolished, or weakned, or made worse, or encreased. Whence arise great variety of the Symptomes of the natural faculty,

Nutrition taken away.

First, for what belongs to the action abolished, which they call the third; nutrition is taken away to our senses, or rather

it

it is diminiſhed in an Atrophy, when it will not nouriſh well, and in leanneſs either of the whole body, or ſome parts thereof, but the nutriment is depraved in a Cachexy, or ill habit of the body, Itch, Scabs, Leproſie, and ſuch like affects thereof. *Depraved.*

Thoſe Symptomes which happen in the firſt & publike concoction, which is in the Stomach, are firſt appetite, and truely firſt when the appetite is dejected, ; when a man deſires not meat, whereunto belongs alſo daily abſtinence from meat. Secondly, appetite is leſſened. Thirdly, encreaſed, as in a *Boulomia*, or inſatiable deſire to meat. Fourthly, Depraved, as in a *Malachia*. *Symptomes of concoction of the Stomach.* *The appetite encreaſed and depraved.*

As the deſire of Meat, ſo deſire of Drink is either encreaſed, diminiſhed, depraved, or aboliſhed. *Thirſt.*

Secondly, the Symptomes of ſwallowing are, when it is taken away, as when a man can ſwallow nothing; or 'tis leſſened, when one ſwalloweth with difficulty ; or depraved, when we ſwallow with panting, trembling, twitching. *Symptomes of ſwallowing.*

Thirdly, the fault of the retentive faculty, is when the Stomach cannot retain meat as it ought, or cannot retain it at all, or not long enough, when occaſion requires ; or offends in all theſe: the Stomach doth not rightly retain meat, when it embraceth it, with panting, or with twitching, or with trembling, or ſhaking. If meat be not retained, or not long enough retained, it turneth into corruption, or is diſtributed with unconcocted meat, or ejected by ordure, as in a Lyentary. If the embracing of the meat be weak, ſwimmings, or flatulencies are occaſioned. *Symptomes of retention.*

Fourthly, the errors of concoction in the Stomach, or the errors of the Chyle are Crudity, ſlow, or dull concoction, or corruption of the meat. *The errors of concoction.*

Laſtly, the Symptomes of expulſion are Hiccock, mutation in the uppermoſt parts of the Stomach, whereby it ſtrives to put and caſt out that which is offenſive, and ſticks in the orifice thereof. *Symptomes of expulſion.* *The Hiccock.*

Diſpoſition to vomit, or loathing, or abhorring of meates is a depraved mutation in the Stomach, when it is ſtreightned in the lower part of it, and dilated in the upper, and ſtirs to caſt forth upwards what offends it, but cannot caſt it forth. *Loathing.*

Vomiting is a depraved motion in the Stomach, whereby the things which are contained in the Ventricle of the Stomach are caſt out at the mouth of it. *Vomiting.*

Choller is a depraved motion in the Stomack, whereby the peccant matter is evacuated by both Orifices. *Choller.*

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Belching. Belching is an excreſſion of Wind from the Stomach out of the Mouth, with noiſe.

To the expulſion which is made by this concoction; theſe *Alientary.* vitious Symptomes belong which happen to the guts. Alientary, which is a flux of the panch contrary to nature, whereby meat and drink is caſt out unchanged.

A Cæliak affect. A Cæliack affect, which alſo is a Flux of the Belly, is, when Crude and unconcocted Chyle is ejected.

A Diarhæa. A Diarhæa, is a plentiful and often emiſſion of excrementitious humours by the panch.

A Dyſentary. A Dyſentary is an avoiding of the excrements of the Belly contrary to nature, wherein the biting matter is caſt forth with blood, twitching and pinching of the Guts.

A Teneſmus. A Teneſme, which is an immoderate and continual deſire, yet in vain, of going to ſtool, where nothing is ejected from the body, but a little ſlimy matter and blood.

A ſlow panch and ſhut. The contrary fault is the ſuppreſſion of the panch when it is dull, and putteth forth nothing in a long time.

An Illiak. To theſe belong the Illiak, which is, when the dung, which ought to be ejected by the panch, that being cloſed, 'tis caſt out of the mouth with the meat.

Symptomes of Sanguification. For the other publike concoction, which is made in the Liver, Sanguification is either aboliſhed, when for the moſt part there is no change of the Chyle, and in ſtead of good blood, ſerous, and Petuitous is generated, or elſe it is diminiſhed, when halfe raw blood is elaborated; or it is depraved, when hot and aduſt blood is generated.

Symptomes about making Water. The Symptomes which belong to the evacuation of the excrements of the ſecond concoction, are an Iſcury, or ſuppreſſion of Urine, or ſtopping of Water, or a Duſury, or difficulty in making Water, a Strangury, or dropping of Urine, when it comes away drop by drop, and that there is a continual irritation to expel Urine.

Iſcury.

Duſury.

A Strangury.

Incontinency of Urin. Incontinence of Urine, is when it goeth from us againſt our wills; Diabetes, or plentiful making Water, is when whatſoever is drunk goeth away by Urine, not changed at all, or altered very little.

Diabetes.

Bad milk. Hitherto belong the Symptomes which belong to the generation of milk, when too much, or none, or not enough is generated, or it proves ſcurvey, and is coagulated and curdled.

Gonorhea.

Flux of bloods. Hitherto we refer the Symptomes, which belong to the other concoctions, as the running of the Reins, ſuppreſſions of courſes

Courſes, diminiſhing, dropping, flowing in too great plenty, the Flux of the Womb.

Increaſing is hindered, when either the whole body, or ſome part is not encreaſed enough, and ceaſeth to encreaſe before it comes to its juſt magnitude, or it encreaſeth too much, and grows to too great a bigneſs. *Symptomes of encreaſing.*

Laſtly, there are ſome hurts of the generative faculty, for generation is either taken away when no Children are generated, or diminiſhed when few and weak ones are begotten, or depraved when Monſters, or a Cripple, or any way an imperfect thing is begotten: and becauſe to the generation of mankind, there is required male and female joyned; hitherto belongs impotency in men, extinction of luſt in women, barrenneſſe and other Symptomes of this kind. *Symptomes of generation.*

CHAP. V.

Of the Symptomes of the vital faculty.

FOr the Symptomes of the vital faculty there is a palpitation of the heart (a Lypothymy, or an abſence of Spirits for a ſhort time) or an Aphyxy, or no Pulſe. Palpitation of the heart is when there is a depraved motion of it, ſwifter then it ought to be, when the heart leaps and ſtrives to fly from that which troubles it. *Palpitation of heart*

A Lypothymy, or want of vital ſpirits is when the Pulſe beats ſwift on a ſudden, and then ceaſeth to beat at all, or is ſuddenly taken away with a ſmall, ſlow and weak Pulſe, to which ſome add an Ecluſie, or abſenſe of the vital ſoule. *A Lypothymy.*

A Syncope again is a motion depraved, when the Pulſe is much leſſer, ſlower, and weaker then a Lypothymy. *A ſwooning.*

An Aſphuxy is a total abſence, as it were, of the Pulſe, and the higheſt degree of ſwooning, and neereſt to death: of the other preternatural differences of Pulſes we will ſpeak in another place. *Abſence of Pulſe.*

Reſpiration, which is cauſed by the heart, either is wholly taken away, Which Symptome the Greeks call *Apnoia*, or is depraved, which they call *Dyſpnoia*; beſides theſe, the reſpiration is either too great, or too ſmall; too often, or too ſeldome; too ſwift, or too ſlow; equal, or unequal. And laſty, of ſwift and ſlow breathings, there are ſome differences, according to more and leſſe; for the firſt degree is a *Duſopne*, the ſecond is an *Aſthma*, the third is an *Orthopnie*, when the ſick are forced to ſit upright to breath. *Reſpiration hurt.*
Taken away.
Depraved.
Shortbreathing.
Shorter.
Shorteſt.

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Of the Symptomes of the external ſenſes.

Symptomes of ſight: FOr as much as belongs to the external ſenſes, firſt of the ſight, that either is wholly loſt, as in blindneſs, & the Diſeaſe called *Amagroſis*, or it is diminiſhed in the diſeaſe, which is called *Ambluopia* and dimneſſe of ſight, or *Muopia* which is to ſee as Mice do; that is, to diſcern objects which are neer us, and ſeeming leſſe to us then they are. *Nutolopes* is when any one ſees well by day, but very bad in the evening and not by night, or the ſight is depraved. When theſe things which are white ſeem red, or yellow, thoſe things which are ſtrait, crooked, thoſe things which are whole, ſeem halfe, and perforated, thoſe things which are ſingle, double; when Cobwebs appear before the eyes, and Flyes, and Gnats, when ſhinings and gliſtnings appear, which the Greeks call *Marmarugaſe*.

Depravation of ſight.

Symptomes of hearing. The hearing is either taken away, which diſeaſe is called *Deafneſs*, when the diſeaſed can neither hear a great nor ſmal ſound, or it is diminiſhed when loud ſounds are heard, but with difficulty, ſmall ſounds not at all; which diſeaſe is called hardneſſe of hearing; the Greek name *Barucoia*, *Ducecoia*, *Hypocophoſis*; or it is depraved when there is a hiding in the ears, which diſeaſe the Greeks call *Ecos* and *Sorigmos*, *i. e.* a hiding, a whiſtling, a hiſſing.

Symptomes of ſmelling The ſmel is hurt when it is aboliſhed, diminiſhed, or depraved; when things ſeem to ſtink, have in them no ill ſmell.

Of taſting. Moreover the taſte is either plainly taken away, or elſe diminiſhed or depraved, when a thing ſeems to taſte otherwiſe then it doth.

Of feeling The touch is either wholly loſt and can feel nothing, or is diminiſhed, which is called *Numneſs*, or 'tis depraved, as in pain, or itching, hitherto alſo belongs want of ſenſe in the teeth.

CHAP.

CHAP. VII.

Of the Symptomes of the Internal ſenſes.

THe Symptomes of the Internal ſenſes are watchings and ſleepings, when either of them are contrary to nature; as likewiſe dreams; the error in watchings are when men either ſleep not at all for a long time, or if they do, they ſleep too little. *Symptomes of the common ſenſe.* *Too much watching.*

Sleep is oppoſite to watching, if it be too much, which comes to paſſe when it is natural, but not abſolutely ſuch; but longer either from the repletion of the head by vapours, and exhalations, as in drunkenneſs, or by the conſuming of the heat and ſpirits through too much labour. *Too much ſleep.*

But preternatural ſleep is ſuch as doth proceed from a morbifique cauſe, which is a *Catáphora*, or a *Coma*, that is, a diminution of the action of the common ſenſe, which, as it were, a wreathing, neither ſuffers the Animal Spirits to be diffuſed into the external ſenſes; nor being entertained by them, doth know, and judge aright of other objects. A *Coma* is two-fold, ſomnolent and vigilant; ſomnolent is that which is oftentimes called an abſolute *Coma*; with which diſeaſe thoſe that are affected, the eyes being ſhut, do ſleep ſound and too much: but a vigil is when the ſick have a propenſity to ſleep, yet nevertheleſs they cannot; but onely ſhutting their eyes and winking, they are poſſeſſed with too great a deſire of ſleep. *Coma two-fold.* *Somnolent* *Vigilant.*

In ſleep there oftentimes happens dreams, wherein the action of the phantaſie doth concur; for dreames are nothing elſe but the deliriums of the brains of ſleepers, although dreams happen to thoſe which are well, yet contrary to cuſtome, they often remain longer, and during the whole night, or are terrible, and trouble the mind exceedingly, and bring great anxiety in ſleep, and wearieſomneſs when one is awake. *Dreams.*

To theſe kind of Symptomes belongs an extaſie, and that natural, which is nothing elſe but a heavy ſleep, with heavy dreams, and hence ſo netimes cometh a *delirium* therewith. *An Extaſie.*

As alſo the affects of Sleep-walkers, who whileſt they ſleep, ariſe out of their beds, walk, and perform certain works, as waking people do, at that time when they ought to reſt; yet if the imagination be together offended, theſe Symptomes may be referred to that rank wherein many internal ſenſes are hurt. *Sleep-walkers.*

As

Whether the Phantaſie, and reaſonable faculty be always hurt together.

As for what belongs to the offending of the reſt of the Internal ſenſes, ſometimes one of them is offended, ſometimes many together; for the moſt part the Phantaſie and Ratiocination are offended together, yet not alwayes; for although the underſtanding be buſied about Phantaſms, yet the underſtanding acting, illuſtrates the Phantaſms, and frees them from their ſuppoſed matter, and runs from one thing to another, and is buſied about the *Idea's* retained by the memory, by which the errour of the Phantaſie may often be known, ſometimes alſo the memory is together offended; yet ſometimes remains ſafe from the errors of the phantaſie, and the reaſonable faculty.

The Memory aboliſhed and diminiſhed.

But thoſe actions are either aboliſhed, or diminiſhed, or depraved; nevertheleſſe the memory whoſe office it is not to judge, but only to receive repreſentations, may be ſo much debilitated and aboliſhed, namely when it does not receive, and retain thoſe things which it ought, or it receives nothing, and retains nothing, and ſo a man forgets all things: it cannot be depraved, but if ſometimes it receives and retains falſe objects that is not to be aſcribed to it, but to that faculty which diſcovers abſurd and falſe repreſentations, the memory ſeems then to be depraved to ſome, when it doth not render things in that order which it received them, but errs in order; but this ſeems to happen onely by reaſon of the weakneſſe of the memory.

The Phantaſie, and rational faculty diminiſhed and aboliſhed.

The principal actions are aboliſhed and diminiſhed in the imbecility and dulneſſe of the mind, ſlowneſſe of the Wit, ſtupidity, when a man hath a certain knowledge of the chief things, and draws ſome concluſions from them, but with great labour.

Folly.

The greateſt fault, and the greateſt hurt of the Phantaſie, and Ratiocination, yet without *delirium*, is fatuity.

Fooliſhneſſe. Madneſs.

But when a man is ſo deſtitute of all ingenuity, and the phantaſie and Ratiocination are ſo hurt that they can neither know the firſt principles, and can beget no conceits, it is called fooliſhneſſe, and madneſſe; eſpecially if the action depraved concurre, and a man judgeth not only a little but falſe.

A Delirium.

But the imagination and reaſonable faculty is depraved in *deliriums*, whereof there are ſeveral kinds; for a *delirium* is either with a Fever, or without a Fever; with or without a Fever, is either ſimple, *viz.* A moderate *delirium*, and without madneſſe ſtirred up by hot vapours in a Fever, or by watching, or drinking too much Wine, which the Greeks call *Paraphroſune*, or *Paraphrora*.

Melancholy.

A Frenzy is with a Fever, which is a continued *delirium*, ariſing

arising from the inflammation of the Brain and its Membranes.

But a *delirium* without a Fever is Melancholy, and madneſſe; Melancholy is a *Delirium* without a Fever, with ſorrow and ſadneſs, as it is commonly defined; or a failing of the Phantaſie and reaſonable Faculty about one certain thing: and indeed the Phantaſie is principally offended, but the reaſonable Faculty not alwayes nor in all, but the memory for the moſt part is ſafe.

To melancholy *Deliriums* alſo is referred Mad Love, wherein concur various paſſions, now they conceive joy with hope of obtaining the thing beloved; where they do many things, and ſpeak beyond decency, and now ſorrow and anger when they deſpaire of obtaining the thing beloved. *Mad love.*

Madneſſe is a *delirium* without a Fever, with Fury, Fear, Audacity, Anger, Quarrels, and Ferosity. *Madneſſe.*

To madneſſe are referred Wolf-madneſſe, Dog-madneſſe, Badger-madneſſe, fear of Water, *viz.* a Diſeaſe wherein if one be bitten with a Dog, a Wolfe, a Badger, or any other ravenous Animal, he becomes altogether averſe to all liquid and potulent drinks, although as for other things, they do not ſhun them; alſo thoſe that are bitten by a *Tarantula*, leap and dance, and a *Corea* or company of S. *Viti*, which is a kind of *delirium* and madneſs, with which thoſe that are affected ſtrive to dance night and day.

CHAP. VIII.

Of the Symptomes of the motive Faculty.

Symptomes about motion.

ANimal motion is either aboliſhed, diminiſhed, or depraved; motion is aboliſhed, not onely in the Palſey, which is impotency of motion, wherein the next inſtruments of motion are relaxed, and ceaſed from their action, and are not contracted, but cannot be moved by reaſon of putting out of joynt, fractures of bones, wounds of the muſcles, dryneſſe and induration of the parts ſerving for motion. It is diminiſhed in the green ſickneſs, or in lazineſſe when the motion is become weak. *Palſie.* *Laſſitude.*

It is depraved in trembling, which the Greeks cal *Tremos*, wherein the part cannot move freely, but is now elevated, and anon depreſſed: for although in reſpect of the motive faculty, trembling is onely imbecility of the motive faculty; yet becauſe the motive *Trembling*

tive faculty doth not wholly faile, but the member which contrary to the dictate of the will is depreſſed by its own weight, it endeavours in ſome meaſure to elevate it ſelfe; here is made a depraved motion, where in the ſmalleſt intervals of time the member is lifted up, and depreſſed in a continual courſe.

Kinds of Convulſion fits. As alſo in the Convulſion, which is a preter-natural contraction of a Muſcle, towards its beginning, contrary to the will; and a violent ſtretching out of the part, into which a Tendon is inſerted. A Convulſion is either Univerſal or Particular, Univerſal is three-fold, *Emproſthotonos, i. e.* when the Neck and the reſt of the Body is bowed forward, ſo that the diſeaſed cannot ſet himſelfe upright. *Opiſthotonos*, when the body is bent backward. *Tetanos*, when the body is ſo ſtiff that it cannot bend any way. A particular Convulſion in regard of ſeveral particular parts, hath divers names, *Aſpaſmos Cynicus*, a Convulſion of the Muſcles of the Mouth. *Triſmos*, a Convulſion of the Muſcles of the Jaws, with grating and grinding of the Teeth. *Strabiſmos*, a Convulſion of the Muſcles of the Eye.

Convulſive motions. To theſe belong Convulſive Motions, wherein is made a Contraction of the Muſcle towards his beginning, but continues not in one difference of Location; but it happens with various concuſſions and agitations of the Member, as in an Epelepſie.

A Palſie. Cramp. Complicate Sometimes alſo a Palſie and a Spaſme are complicate, ſo that by changes and turnes they afflict, and ſo the part is ſometimes contracted, and ſometimes dilated.

Voice hurt. Hitherto is to be referred the error of the voice, which either is aboliſhed, as in *Aphonia*, or dumbneſſe, or diminiſhed, as in an inward and obſcure, or ſmall and low voice, or it is depraved, being broken in a ſhrill, ſharp, hoarſe, or trembling voice.

Hurt of ſpeech. The ſpeech alſo is hurt, which is either taken away, as in thoſe which are called mute, or elſe it is difficult, as in thoſe who pronounce certain Letters, eſpecially *R*, with great difficulty; or it is depraved, as in thoſe who in ſpeaking now ſtop, and anon precipitate their ſpeech, which evil, the Greeks call *Traulotes* and *Pſellotes*, the Engliſh, *Stammering*.

Amongſt theſe errors of Motion, thoſe Symptomes are to be reckoned wherein the natural expulſive Motion, being ſtimulated by a preternatural cauſe, ariſeth up to expel; it cannot perform motion without the help of the animal vertue, and Organ, ſuch as are a cough, ſneezing, yawning, quaking, ſtretching.

A Cough. A Cough is a depraved motion, and vehement efflation occaſioned

ſioned from the ſudden conſtriction of the Lungs, and Breſt, whereby that may be expelled, which was troubleſome, and be ſent forth by the inſtruments of breathing.

Sneezing is a motion of the Muſcles, primarily of the Brain, ſecondarily of the Breſt, and inferiour Muſcles, whereby that may be expelled, which is troubleſome to the Brain. *Sneezing.*

Yawning, or Geping, is that motion whereby nature endeavours to expel the flatuous vapours by breathing them out of the mouth. *Yawning.*

Stretching is a diſtention of the members in the whole Body, diſcuſſing the vapours in them. *Stretching*

Shaking fits, that is a concuſſion of the skin of the whole body, to ſhake off ſome troubleſome thing. *Horror.*

Cold fits, that is a ſhaking of the whole body, to put off that which offends it. *Cold fits.*

CHAP. IX.

Of the Symptomes wherein all, or moſt part of the animal actions are hurt.

BUt ſometimes it happens that either all, or moſt of the animal functions are offended together; amongſt theſe Symptomes, a Vertigo is the firſt, the Greek *Dinos* and *Iliggos*, 'tis ſuch a miſchief, and depravation of the imagination, ſometimes of the common ſenſe, that all things ſeem to run round in a circle, and for the moſt part, the motion is ſo hurt, that a man falls down. Sometimes the external ſenſes are affected likewiſe, which if it happen at the ſame time, the eyes are obſcured by a fuliginous miſt; the Greeks call it *Scotoma*, and *Scotodinos*, *i.e.* a ſhady diſeaſe. Sometimes the hearing is ſomewhat depraved, or ſome certain ſwimming ariſeth, or ſome other ſenſes are affected. *A Vertigo.*

Moreover an Incubus, or a riding of the Mare, or an hindrance of breathing, and interruption of ſpeech, and hindrance of motion, as it were, an oppreſſion of the body, with a falſe dream of a weight lying upon the breſt. 2. *An Incubus.*

A Lethargy, which is a perpetual deſire of ſleeping, with a giddineſſe of the head, with forgetfulneſſe of all things, or it is a continual *Delirium*, with a weak Fever, heavineſſe to ſleep, and deſtruction of memory. 3. *A Lethargy.*

A Carus, which is a profound, or dead ſleep, wherein the ſick hear not, and being pricked, ſcarce perceive it, or a deep ſleep with 4. *A Carus.*

with diminution, or taking away of ſenſe, motion, and imagination, the breathing being gone.

5. *A Catoch.* A Catoch, or Catolepſis is a Diminution of the principal functions, or external ſenſes, eſpecially of feeling, and voluntary motion by abolition; or 'tis a ſudden apprehending, whereby thoſe which are affected being ſtiff, remain in the ſame place and geſture of body as they were in when they were taken, and opening, and not moving their eyes, they neither ſee nor hear, nor perceive; the breath and pulſe onely remaining ſafe.

6. *An Epelepſie.* An Epelepſie is an ablation of the principal actions, and of ſenſe and voluntary motion, with a preternatural Convulſion, or Convulſive motion of the whole body.

An imperfect Epelepſie. To the Epelepſie alſo are referred certain Diſeaſes, as it were, ſmal Epelepſies, wherein the ſick are not velified in the whol body, neither do they fall down, but ſome parts onely are twitched, as either the head is ſhaken, or the eyes are drawn, or the hands and feet are ſnatched this way and that way, or the hands are held ſhut, or the diſeaſed is turned round, or runs up and down, and in the mean time ſpeaks nothing, hears nothing, perceives nothing.

An Apoplexie. Laſtly, an Apoplexy, which is an abolition of all animal actions, to wit, of motion and ſenſe, in which the whole body, with the hurt of the principal faculty of the mind, reſpiration after a ſort being ſafe.

CHAP. X.

Of the Symptome of the changeable qualities of the Body.

The difference of qualities changed. THe ſecond kind of Symptomes are thoſe which conſiſt in a ſimple affect of the body, or the qualities of the body changed; namely, when ſome natural quality of the body is changed, by reaſon of which change, there follows no hurt of the actions; their differences are to be ſought out of the number of the external ſenſes.

Colours changed. The viſible qualities changed are colours contrary to nature, either in the whole body, as in the yellow Jaundice, or in a *Cachochimy*, or ill habit of the body, or in ſome part, as in the Face, Tongue, an inflammation, black Teeth, yellow Nailes, and ſuch like.

Smells changed. Smells contrary to nature are changed, when a man breaths forth

forth an ill ſmell, either out of the whole body, or from ſome part, as the Mouth, Noſe, hollow of the Arm-pits, or ſoals of the Feet.

Taſts or Savours are changed when the ſpittle, or any thing elſe which ſwims in the Mouth is ſpit out, and gives a ſharp, ſalt, bitter, or other taſte; but ſince theſe qualities are not the parts of the Body, but Excrements; they may be more fitly referred to the third kind of Symptomes. *Taſte changed.*

To the fourth belong Tactil qualities onely, as they are contrary to nature, and troubleſome, but do not hinder actions, as Heat, Cold, Softneſſe, Hardneſſe, Hoarſeneſſe. *Change of Tactil qualities.*

To Hearing may be referred, ſounds, warbling, crackling, grinding of Teeth, and ſuch like, which are perceived by hearing.

Laſtly, hitherto are to be referred common ſenſible things, as Figure, Magnitude; if they are preternatural, and all thoſe things which are ſpoken of in the Hypocratical Face, and are deſcribed in his Firſt Booke of Prognoſticks.

CHAP. XI.

Of the Symptomes of Excretions and Retentions.

THe third ſort of Symptomes comprehend the errors of thoſe things which we ought to be caſt out of the body, or uſe to be retained in it, contrary to nature; in which kind of Symptomes regard is not to be had to the excreſſion it ſelfe, or action of caſting forth, whoſe faults are the Symptomes of actions hurt, but onely to the matter which is caſt out, which as it recedes from the natural ſtate, conſtitutes this or that ſort of Symptomes. *Errors of Emiſſion and Retention.*

Retentions and Excretions offend either in the whole ſubſtance, or in quality, or in quantity. Firſt, in the whole ſubſtance they offend, which ought never to be found in the whole body, in the ſtead of an Excrement; ſuch are Stones, and divers ſorts of Wormes, little Hairs, and ſuch like. Secondly, thoſe which in their whole ſubſtance are not contrary to nature, but are caſt forth in this or that manner, or place, contrary to nature; ſuch are the Courſes out of the Noſe, Eys, or Tears, the Ordure by the Mouth. Thirdly, thoſe things which are plainly natural, yet ought rather to be retained then evacuated, as too much profuſion of blood by the Mouth, Paunch, Noſe, Bladder, Pores *Excreſſion and Retention offend in ſubſtance.*

Pores of the Skin, which happens in a bloody ſwear. To theſe belongs particular ejections out of the Lungs, and other parts. In quality they offend many wayes, in heat and cold, moiſture and drineſſe; In colour, ſmell, and taſte, in quantity, excretions offend, when either more or leſſe then ought to be are caſt forth, which often happen in the dregs of the Panch, Urine, and Courſes..

The end of the third Part and firſt Section; of the ſecond Book.

THE

Book. II.

PART. III.

SECT. II.

OF THE

CAUSES OF SYMPTOMES.

CHAP. I.

Of the causes of the Symptomes of the natural faculty.

SIthence we have reckoned all the differences of Symptomes, order now requires that we may shew their Causes in the same order we have set down them; and as for the Symptomes of the Natural Faculty, amongst them the first is *Atrophy*, or want of nourishment; and that is either in the whole, or in some part. Atrophy in the whole is occasioned through the debility of the faculty, or default of the nourishment; the vertue is weakned through a

The cause of want of nourishment.

In the whole.

dry diſtemper, and ſometimes hot, which principally proceeds from the Heart, labouring with the like diſtemper, as in Hecticks, and other Fevers; yet ſometimes from the defect of other parts which may communicate their affects alſo with the Heart, diſeaſes may perform the ſame. Atrophy is occaſioned through defect of Aliment, when either it is not communicated in ſufficient quantity, or when it is affected with ſome ill quality: 'Tis wanting when too ſmall a quantity is received, or although ſufficient quantity be taken, yet 'tis not concocted through the weakneſſe of the bowels; or being concocted, 'tis not diſtributed by reaſon of the narrowneſſe of the Veines about the Liver; or it is diſperſt, or not conglutinated, by reaſon of diſtempers of the parts, eſpecially hot and dry. Atrophy is made through the pravity of nutriment, when ill blood by reaſon of the diſtemper of the bowels is generated, eſpecially hot and dry, and not ſo profitable. *In part.* Atrophy is in ſome part whileſt its force is weak, through cold diſtemper and defect of native heat, or through want of nouriſhment, by reaſon of the ſtraitneſſe of the paſſages, by which it ſhould be communicated to the part, or occaſioned by what cauſe ſoever.

The cauſe of ill habit of Body. The immediate cauſe of depravation of nutrition, and of ill habit, is vitious and raw nouriſhment in the bowels, appointed for publike concoctions, ariſing from the vitious diſpoſition there; to which ſometimes a cold and moiſt diſtemper, and habit of the body is added.

Of the ſcab, leaproſie, &c. The Scabs, the Leproſie and other known cutanious diſeaſes have their original from ill nouriſhment, but not crude, but ſharp, ſalt nitrous, or having ſome other pravity which ſince it is various, various diſeaſes from thence do ariſe.

The cauſe of the appetite taken away and diminiſhed. But amongſt the Symptomes which happen to the concoction which is made in the ſtomach. The firſt is when the appetite is hurt, and the reaſon of aboliſhing or diminiſhing of the appetite is, becauſe either little or no juice is made, or elſe is not perceived; juice is not made, or very little is made, when many crude and watery humours compreſs the mouth of the ſtomach, or the chyle hitherto ſticks in the ſtomach, or becauſe aliment abounds in the body, which may be when it is not evacuated, by reaſon of the thickneſſe of the skin, or idleneſſe, or weak heat, or becauſe it is not attracted, through ſome diſtemper of the Veins, or ſtraitneſſe of the Meſeraick veins, and of the hollow Vein of the Liver, or becauſe concoction and diſtributi- is hindred in the ſtomach. The ſucking is not perceived either through the error of the ſenſitive faculty, when the animal ſpirits

which

which ſhould flow are deficient, or when the action is converted another way, as in ſuch as are out of their wits, or when the nerves of the conjugation are defective, or when the mouth of the ſtomach is ill with ſome diſtemper, as ſwelling, or ulcer, or by the dulneſſe of the ſtomach occaſioned by ſome ſtupefactive Medicines,

The cauſe of daily abſtinence.

Hitherto belongs the daily abſtinence of thoſe men who abſtained not onely ſome dayes and months, but years alſo from all meats; of which wonderful Symptome, although it be not eaſie to render a reaſon, yet it is probable that all ſuch had not need of reſtoring, and that becauſe nothing is taken away, or not in a long time waſted, becauſe of the humours which preſerves our bodies, is ſo diſpoſed, and proportioned to the heat of the ſame, that it could not be deſtroyed by it.

The cauſe of the appetite encreaſed.

On the contrary, the cauſe of the encreaſe of the appetite is too much ſucking, which comes to paſſe either from ſome humour ſticking in the ſtomach; ſuch is Melancholly, which by its ſharpneſſe and auſterenes binds the ſtomach, or through want of nouriſhment, which happens by reaſon of Wormes, which conſumes the Chyle, or by too much labour and exerciſe, watchings, long faſtings, evacuations of blood, vomiting, or from ſome old diſtemper, binding the ſtomach.

But the appetite is depraved by a vitious humour peculiarly corrupted and fixed to the Tunicles of the ſtomach, which is either generated in the ſtomach by ill food, or elſe flowes from ſome other part, eſpecially the Womb, into the ſtomach.

The cauſe of diminiſhing of thirſt.

Thirſt is aboliſhed, or diminiſhed, either from cold, ſweat, unſavory, petuitous, aqueous, many humours generated in the ſtomach, want of meat and drink, or flowing from ſome other parts, continually moiſtening the ſtomach, or becauſe the ſtomach doth not perceive its want of drink, as it often comes to paſſe in Frenſies and burning Fevers.

Of encreaſed.

Again the Thirſt is encreaſed through want, and drineſſe of humours, which proceed from thoſe things which have drying faculties, and ſuch as conſume the primogenial humidity of the ſtomach; ſuch are all drying and heating things, as hot humours, ſharp and ſalt, a hot and dry diſtemper in the mouth of the ſtomach, proceeding either from the whole, which is in Fevers, or in ſome part neer to the ſtomack, which either ſends hot and dry vapours and humours to the ſtomach; or by reaſon of the communion of the Tunicles and Membranes which cover the ſtomach, the orifice of the ſtomach, the Wind-pipe, and the neighbouring parts, communicating a hot and dry diſtemper

to the Orifice of the ſtomach: external cauſes which are evident perform the ſame as thoſe which have a power of heating, drying, and conſuming the humidity in the Orifice of the Ventricle.

Vitious thirſt. Vitious thirſt is cauſed by ſome vitious humour in its whole kinde contrary to nature, ſticking in the mouth of the ſtomach,

Of ſwallowing hurt. The ſwallowing is hurt either when the faculty is offended, or through ſome external error; and indeed the faculty either natural, or animal may be hurt: the natural is hurt whileſt either the attractive faculty cannot draw meat through the ſtrait fibres of the internal Pannicle into the parts; or the expulſive through the Tranſuerſe fibers inſerted into the external Tunicle, cannot thruſt food which is drawn into the mouth of the ſtomach, farther down into the ſtomach; which is cauſed through the relaxation of the fibers of the Orifice of the ſtomach, by reaſon of a cold and moiſt diſtemper, when the matter flows from the head to the chops; or by reaſon of their drineſs occaſioned by ſome Tumour, Ulcer, or Excoriation.

The animal faculty is hindered when the Muſcle which is before the gullet, either is inflamed, which uſe to be in the Quinſie; or 'tis contracted either by Convulſion, or Palſie; it is hindered alſo by reaſon of the ſtraitneſs of the entrance into the ſtomach, which proceeds from divers cauſes, as Tumours in the Throat, Relaxation of the Vertebraes of the Neck, and Back: external things being ſwallowed, as when Fiſh-bones, Pins, and other things ſtick in the mouth of the ſtomach, as alſo Wormes.

The ſwallowing is hindered by ſome external error when any thing, hard, dry, ſharp, rough, viſcid, or ungrateful is ſwallowed.

The cauſes of Retention of meat hurt. The retention of meat ſwallowed is hindered, when it is abolliſhed, diminiſhed, or depraved. Retention taken away and diminiſhed proceed from the ſame cauſes, the one from the greater, the other from the leſſer: and this comes to paſs if the Retentrix be weak. The Oblique fibres looſned by a cold and moiſt diſtempers, or if any Tumour, as an Inflammation or Ulcer be preſent. The cauſe of windineſs in the ſtomach, is windy meats, and a ſtomach not cold enough, but the cauſe of floating with a noiſe, is when the ſtomach is freed from that which might be turned into wind, yet ſtill remaining full of drink, or extreamly cooled.

Of Palpitation. But the retentive faculty is depraved when the ſtomach doth not lightly infold the meat, and indeed a Palpitation with heat-

floating and noiſe happens through the weakneſs of retention and thick winds pen'd into the ſtomach, which ariſe either from the cauſes of crudity, or from flatulent meat, or yellow, or black choller ſpread over the ſtomach; But a conſtriction, and a certain ſighing, or Hiccock happens, when after emptineſſe and defect of aliment, the ſtomach too violently contracts it ſelf, having newly received meat. *Of Convulſion.*

Trembling is cauſed by the imbecility of the retentive faculty from a cold diſtemper, and the wait of the meat oppreſſing: and a certain Quavering when the Ventricle is moleſted by any biting thing, eſpecially choller. *Of trembling.* *Of Shaking.*

For as much, as what belongs to the concoction hurt, is either abolished or diminiſhed in the ſtomach, they both proceed from the ſame cauſes, they onely differ according to Major and Minor, and the concoction is hindered, either primarily and by it ſelfe, when it cannot do its office withour the hurt of the reſt of the faculties. Or ſecondarily, and by accident, when it is vitiated by the retentive or expulſive faculty. For unleſſe meat can be retained ſo long as it ought. The concoction cannot be rightly performed. The concoction is hurt by its ſelf, either when the faculty is hindered, or by ſome external error, the faculty being hurt is hindered through ſome diſtemper of the ſtomach, from what cauſe ſoever ariſeth, or other diſeaſes of the ſtomach, tumours, ulcers, and ſuch like which hinder concoction; the concoction is hindered through external errors; firſt, by reaſon of Excrements, which if they abound in the ſtomach and offend with cold, they are the cauſe of abolition, and diminition thereof. Secondly, by meats which offend either in quantity, or elſe divers and various kinds are taken, or in quality, if the meats are cold, or hard, and clammy, and hard to be concocted. Thirdly, by reaſon of the time of taking food; namely, if meat raw betaken, before it is boyled. Fourthly, after the taking of meat, if a man watch the whole night, or ſleep very little, or exerciſe himſelfe violently, or ſuffer the paſſions of the mind. *The cauſe of aboliſhing and diminiſhing of concoction in the ſtomach.* *Faculty hurt.* *External error.*

The corruption of meat is two-fold, the one nitrous, the other acide; the nitrous hath its beginning from a hot diſtemper of the ſtomach, the chollerick excrements being collected in the ventricle by hot aliments which are obnoxious to corruptions; ſuch as are ſharp, oyly, pinguious things, Milk, Muſhrooms, garden Fruit, and ſuch like; but crudity produceth acidity, through the cold diſtempers abounding with cold aliments; cold, pituitous, and melancholy humours in the ſtomach. *Depraved.*

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We have ſaid the Symptomes of the expulſive faculty of the ſtomach, are Hiccock, Loathing, Vomiting, Choller, Belching.

Hiccock. The immediate cauſe of Hiccock is ſomething troubleſome to the ſuperiour part of the ſtomach, eſpecially to the Oriſice thereof, which it endeavours by that motion to put away and expell, but the cauſes which trouble the ſtomack on this manner, are either in the Stomach it ſelfe, or in the parts which can draw the Ventricle by conſent. The cauſe of Hiccock in the Stomach it ſelfe, is matter either oppeſſing by its plenty, or offending in quality, as ſharp meats, and biting, and ſuch like humours, ſharp medicines, malignant and foul vapours, either generated in the ſtomach, or ſent thither from elſewhere, Worms, an immoderate cold diſtemper, and thoſe things which outwardly preſs the ſtomach, which may happen by the preſſing and bending the extremities of the ribs to the ſtomach. But Hiccock by conſent happens when the nerves of the ſixth conjugation ſuffer together, in an inflammation and percuſſion of the braine; as alſo inflammations of the Midriff, the Lungs, the Liver, the Gutſtion.

Cauſes of loathing and vomiting. Loathing and Vomiting have their riſe from the ſame cauſes differing according to Major and Minor, either in the ſtomach it ſelfe ill affected and weak, or from ſomething contrary to nature, tearing the ſtomach. The ſtomach is ill affected by a cold and moiſt diſtemper; or by conformation thereof, or by a certain native ſtraitneſſe thereof, by reaſon of dryneſſe and leanneſſe, ſwelling an Ulcer, whereunto belongs frequent vomiting, which indeed it ſelfe diſpoſeth the ſtomach to more frequent vomiting: as alſo the ſhutting of the inferiour Orifice of the Ventricle by ſome tumour, as an obſtruction alſo of the Guts and meſentary, and inverted motion of the fibres of the Guts. The diſeaſes called the Chollick and Stone, by the communion of the Membranes; and laſtly, wounds and hurts of the Braine and its Membranes. But the matter which Irritates the ſtomach to expel, either loading it with its plenty, or twitching it with its ſharpneſſe, or mollifying the ſuperior Orifice, or by ſtimulating it with a malignant quality it doth it; whether it be meat and drink, or medicines, poyſons, worms, blood, quitture; choller effuſed into the ſtomach, which happens to thoſe which have a vitious implantation of the Pores of the Veſſel that carries the Choller into the bottom of the ſtomach. The evident external cauſes are too much exerciſe of the body, and the ſight of loatheſome things.

The

The cauſe of Choller is offenſive, and ſharp matter irritating the expulſive faculty of the ſtomach by its plenty, and its quality to expulſion, and ſtimulating it to evacuate, upwards and downwards. Such is Choller collected about the Liver, Pancreas, and parts adjacent, alſo ſharp aduſt humours, ſalt, nitrous, and other peccant humours bred of corrupt food, as Muſhrooms, Garden-fruits, and ſuch like ſtrong purging Medicines and Poyſons do the ſame, and ſtir up this matter. *Moiſt Choller.*

As for the difference betwixt the other Choller and this, which we have newly explained; that is dry, this is moiſt, the cauſe is a flatuous and ſharp ſpirit ſtirred up by yellow, black, and aduſt Choller ſpread over the ſtomach. *Dry Choller.*

Belching is occaſioned by thick and fuming vapours breaking out upward, and ſtimulating the ſtomach to expulſion. *Belching.*

Concerning a looſeneſſe, the cauſes of a Lyentary and Cœliack affects are for the moſt part the ſame, differing onely in magnitude; And in this alſo that a Cœliack is rather a Diſeaſe of the Guts, then of the Stomach, although its name ſeems to ſignifie otherwiſe; For in a Lyentary, as hath been ſaid, the meat is caſt forth crude. *Alientary and Celiack affects.*

In a Cœliack the Chyle is ejected contrary to nature; and therefore the cauſe of a Lyentary is the hurting of the retentive faculty of the Ventricle and Inteſtines, by reaſon whereof the meat before it be perfectly concocted, deſcends into the Guts and is caſt out, And indeed in a Lyentary the retentive faculty of the ſtomach is principally hurt. Nor can it be that meat unconcocted can be caſt forth out of the Panch, unleſs it be ſent too ſoon into the Guts, by reaſon of ſome fault of the retentive faculty of the ſtomach; but the Cœliack is occaſioned rather by ſome hurt of the retentive faculty of the Inteſtines, becauſe Chyle generated in the ſtomach, ought to remain ſome time in the Guts; that it might there be in ſome manner elaborated, and be conveniently drawn by the meſeraik veines, and the ordure ſhould be throughly elaborated: If the retentive faculty of the Inteſtines be hurt, all theſe things cannot be performed, but the Chyle untimely, and in ſome, as meaſure crude is caſt out of the Panch, but the retentive faculty of the Stomach and Guts is hurt either of its ſelfe, or by accident: of it ſelfe through a cold and moiſt diſtemper, and that either alone, or joyned with a phlegmatick humour, as alſo by cicatriſing after a diſentary, and the immoderate uſe of fat things, and ſuch as cauſe Lubricity. By accident it is hurt when the expultrix being ſtirr'd up exceedingly, drives the meat preſently downward, by reaſon of

the ulcerous diſpoſition of the Stomach and Guts cauſed by biting and ſharp humours, ſometimes alſo by a hidden quality, or from hurtful and poiſonous meats, or ill diſpoſition of air.

A Diarhæa. A Diarhæa proceeds from the expultrix of the Guts ſtir'd up by plenty of humours, crudity, or pravity, whether they proceed from corruption in the ſtomach, and guts, or flow from the whole body, or any part to the guts, from what cauſe ſoever they are generated and collected. The more remote cauſes of Diarhæa are imbecility of concoction, and diſtribution, through the diſtemper of the ſtomach, and parts adjacent; ill diet, untemperate air, omitting exerciſes of the body, or taking a ſtrong purge.

A Dyſentary. The cauſe of a Dyſentery improperly ſo called, or of voiding of blood without exulceration of the Guts are the opening of the mouths of the Meſentary Veines, either by too great plenty of this blood, or by crudity, by reaſon of the concoction of the Liver, or being retained too long in the Liver Veines, and by a burning with a preternatural heat. But as for Dyſentery properly called, the cauſes are ſharp and biting humours, whether they flow from the whole, or from ſome part to the Guts, or are generated in them, and are peculiarly troubleſome to them, of which kind alſo are ſharp gnawing drugs, eſpeciplly violent purges, ſharp quitture and poyſons,

A Teneſm. A Teneſmus, or deſire to go to ſtoole and cannot void any thing but blood, comes for the moſt part from the ſame cauſe, yet principally, ſalt phlegm, and a ſharp humour, clammy, thick, cloſely ſticking to the skin of the Gut, called *Rectum*.

Suppreſſion of the belly. The Belly on the contrary is ſuppreſſed either becauſe the expulſive faculty of the Inteſtines is hurt, or becauſe the Muſcles of the belly do not help to expel, or becauſe the ordure doth not ſtimulate, or becauſe the Guts are not alwayes ſenſible of pricking and ſtirring up: the expulſive faculty doth not expel, either becauſe it is hurt or fruſtrated by ſome external error, or fault in the object. 'Tis hurt either becauſe it is weakened by a cold and dry diſtemper, or it is hindered by the ſtrength and drineſs of the retentive faculty, or by the narrowneſſe of the Guts which proceed, firſt from aſtringent and drying things. Secondly from their inflammation, or a Tumor bred in them. Thirdly, from growing together, eſpecially of the Fundament. Fourthly, from the going out and turning of them which happens in a Rupture. Fifthly, from obſtruction, by reaſon of the hardneſſe of the fiedge, Worms, Stones, vilcous Phlegm. Sixthly, from

from the Muſcles refrigerated and ſtraitned, ſhutting the Gut *Rectum*.

The belly is ſuppreſt through default of the object when the Ordure is too thick, viſcid and hard, the Muſcles of the Panch do not help to expel, either becauſe they are weak, or becauſe they, or the parts under them endure pain; the Ordure doth not ſtimulate when either there is but little, or when there is no mordication, or it hath no ſharpneſſe, or by reaſon of eating of cold meats, or becauſe yellow Choller is not mingled therewith.

The Guts are not ſenſible of ſtimulation, either becauſe their preception is dull, or becauſe through long retention they are accuſtomed to, and become familiar with the Ordure, or becauſe they are ſtopt with phlegm.

The Illiack paſſion hath its original from the inverted motion of the fibres of the Inteſtines, which proceed from ſome inflammation, or obſtruction, from hard dung, or from a Rupture, or from Exulceration, or a Canker, or from a high flowing of humours. *Illiack.*

Moreover for what belongs to elaboration of blood, that is hindered either primarily, and by its ſelfe, or ſecondarily, and by accident; Primarily it is offended either when the faculty is hindered, or by ſome external accident; when the faculty is offended, 'tis done by reaſon of ſome diſeaſes of the Liver, diſtemper (by reaſon of which alone, without any other manifeſt diſeaſe of the Liver; thoſe which are troubled with its imbecility are called Hepaticks) obſtructions, tumors, ulcers. But it is hurt by ſome external error, when either the Chyle is not rightly elaborated in the ſtomach, or when it is throughly elaborated, ſome peccant matter is mingled therewith. Secondarily, or by accident it is hurt, either when the attractive faculty is hindered, by reaſon of diſeaſes of the Liver, or obſtruction of the Meſentary, or becauſe the retentive faculty in like manner is hindered through ſome diſeaſe of the Liver, and eſpecially through its moiſt diſtemper, opening and gnawing of the veſſels, and thinneſſe of Chyle, or by the expulſive faculty; principally by cold diſtemper, and obſtructions of the gibbous parts of the Liver, by reaſon whereof the blood cannot be diſtributed. *Sanguification hurt.*

But as for the Symptomes which happen in making of Urine, the firſt is an Iſcury, or ſuppreſſion of Urine, and making of leſſe Urine: 'tis properly ſo called when the Urine is in the Bladder, and is not ejected, or very little is caſt out; which *The cauſe of an Iſcury, and of little Urin.*

Symp-

Symptomes ariſe from the ſame cauſes, differing only according to Major and Minor; but the Urine is ſuppreſſed, or little is made, becauſe the xepulſive faculty is either hurt and weakened, or hindered. It is hurt whileſt either the ſenſitive faculty of the Bladder being hurt, doth not perceive the pricking of the Urine; namely, when the proper Nerves of the Bladder are affected either by ſome ſtroak, ſliding, looſening of the Vertebraes in that part, wounds of the ſpinal Marrow and Tumors, as alſo ſtupefactive Medicines being applied thereto, or it may happen when the expulſive faculty is hurt, and the tranſverſe fibres of the Bladder appointed for expulſion, or affected with ſome cold moiſt diſtemper: or are extended over much, that they loſe their tune or note; ſo that afterwards they cannot be contracted, which comes to paſſe when the Urine is too long retained, or the Muſcles which help and aſſiſt the Bladder to expel Urine, are affected ſo that they cannot be contracted. But the expulſive faculty is hindered whileſt the Neck of the Bladder and Urinary Paſſages are not open, and is either ſtopt by a little Fleſh or Callous Subſtance in the paſſages, or is obſtructed by Gravel, clotted Blood, Quitture, or thick humours; or it is compreſt by a Tumour in compaſſing the Neck of the Muſcle of the Bladder, or of the neighbouring parts, or it is ſhut by contracting of the Muſcle of the Neck, or it is preſſed and wreathed by the falling of the Bladder out of its place. Urine alſo is not made when too great plenty thereof is long retained, too much dilating the fibres of the Bladder, ſo that afterwards they cannot contract themſelves, nor cannot ſqueeze out, nor expel Urine, which comes to paſſe either when the Urine (mens buſineſſe being urgent) of its own accord is retained long; or when the pricking of the Urine, as is ſaid before, is not perceived. Laſtly, Urine is not caſt out through its accuſtomed paſſage, if by ſome Wound, Ulcer, Fiſtula of the Bladder and Urinary paſſages, the Urine which ought to paſſe through them, goes out by a way opened elſewhere.

There is another Iſcury leſſe properly ſo called, or ſuppreſſion of Urine, when little or no Urine is ſent, and comes into the Bladder, which happens when the attractive faculty of the Reins is hurt through diſtemper, eſpecially cold, or is hindered by obſtruction and ſtraitneſſe of the emulgent veſſels, or when the Urine is carried to another place, and is caſt out of the Panch, or by Sweats, or is collected in the Panch, and ſtayes in the firſt paſſages, as in a Dropſie,

But

But a Dusury properly so called, or difficulty of making Urine, is when the time of making water, and the quantity, is a little altered, yet in the very making water, the Urine doth not passe out freely, but is made with great striving, pain, and burning, which comes to passe by some fault of the Urinary passage; namely, whilest it is affected with some Ulcer, and is eroded, or the Vrine it self being sharp doth it, or the passage was formerly ulcerated. *Difficulty of making Urine.*

The cause of a Strangury is either some sharp thing which stimulates nature continually to expel, but because nature is sensible of pain, it hinders free emission, the Urine is made drop by drop, and dribling, which is caused by crude Urine unconcocted, or having a sharp humour mixt with it, by Gravel sticking in the neck of the Bladder, or some fault of the Urinary passage: whereunto belongs Intemperature of the Bladder, and inflammations of the same, and of the parts neer thereunto: hot humours, also exulceration of the neck of the Bladder and Urinary passage. *Of a Strangury.*

Involuntary pissing, which happens both to those that are sleeping and waking, is caused for the most part when the contractive power of the Muscle *Sphincter* of the bladder is taken away, which is occasioned by a Palsie, proceeding either from a cold and moist distemper of the same, or by hurting of the Nerves which come to this Muscle, by compression in loosening the turning joynts of the back neer the Hucklebone by a stroak, a fall, or some tumor, or obstruction, or by hurting of the same Muscle, or certain fibres, in cutting the stone of the bladder; yet sometimes Urine is made against our wills, when the Muscles of the Panch are exceedingly drawn together, so that the Urine by reason of their constriction and compression of the belly is, as it were forced out of the bladder, as also sometimes it happens to those that are great with Child in their last months. For the same reason they cannot contain their Urine. *Of Involuntary pissing.*

But if a man contain his Urine waking, and in his sleep let it go from him. That happens by a certain imbecility of the *Sphincter* of the Bladder. Yet there concurs a more deep sleep, and a certain negligence of the superiour faculty, as also custome. *Of pissing in ones sleep.*

It is not easie to explain from what cause a Diabetes doth proceed; To this obscure matter I say, It seems probable that the immediate cause is the hurting of the retentive faculty of the Reines, by too great plenty of Urine; which when the Reines cannot endure, they suffer it to flow into the bladder. This *Diabetes.*

plenty

plenty of Urine ſeems to be occaſioned by the heat of the bowels, liver, and ſpleen, and the veins, drawing drink very powerfully, and melting of the humours in the veins, to which for the moſt part there happens imbecility and relaxation of thoſe parts which carry the watry humour from the Stomack to the Liver, and Spleen; by reaſon whereof the drink is ſuddenly carried to the Reins.

The cauſe of defect of milk. The cauſes of thoſe Symptomes which are deſervedly joyned to theſe, and belong to the generation of milk, ſeed, and courſes of women; milk either is wanting, or corrupt, it is wanting either when it is generated in too ſmall quantity, or through ſome diſtemper of the Paps, or ſome diſeaſe or ſtraitneſſe of paſſages, by reaſon whereof they cannot draw and elaborate ſufficient quantity of blood.

Vitious. Vitious and corrupt milk is generated either through the pravity of the matter, and fault of the blood, or by ſome diſtemper of the breſts.

Coagulated. Laſtly, Milk grows thick, and coagulates whileſt either it is burnt by too much heat, or if it abound in quantity, and is retained too long in the breſts, or if any vitious humour be mingled therewith, which hath a power to coagulate.

Gonorhæa. A Gonorhæa, or emiſſion of Sperm againſt ones will, happens without erection of the Yard, and deſire of Venery; 'tis occaſioned either by the hurting of the retentive faculty, or ſome external error; the faculty is weakned through diſtemper, principally moiſt, rendring the ſpermatick veſſels more looſe: whether it proceed from too great a flux of flegmatick humours, or too much coition, or other cauſes. But from external hurt, or fault of the ſeed, whether it be too cold, watry, thin, or crude, ſometimes alſo a Gonorhæa happens by convulſion, as in ſuch as have the falling ſickneſſe.

Of nocturnal polution. The cauſe of Nocturnal pollution is too great plenty of ſeed, heat and ſharpneſſe, ſtimulating the expulſive faculty; and therefore this infirmity principally happens to thoſe whoſe Reins and parts adjacent are very hot, and to thoſe who have ſharp humour flowing to the ſpermatick veſſels, and then eſpecially, when nature in venereal dreams is irritated to ejaculate ſeed, or their loyns are become hot, by lying on their backs.

A Venereal Gonorhæa. But the cauſe of a Venereal Gonorhæa is poyſonous ſeed, corrupt, ſharp and foul ſtirring up, and ſtimulating the expulſive faculty:

The

The cauſe of ſuppreſſion of Courſes, is the narrowneſſe of the veines belonging to the Womb, and the foulneſſe of the Blood, as for the ſtraitneſſe of the veins, they are moſt frequently the cauſe of ſuppreſſion of Menſtrues, by reaſon of thick blood, and dull humours; ſometimes they grow together with the veſſels after abortion, or compreſſion of the ſame, by ſome Tumours of the parts neer thereunto, or from condenſation, contraction, and drineſs of the ſubſtance of the Womb, but by default of the blood, the Courſes are ſuppreſt whileſt that is thick, viſcid and unapt to move. *The cauſe of ſuppreſſions of Courſes.*

The ſame cauſe, but more gently occaſioneth ſmall evacuation of Courſes, *viz.* They either flow in leſſe quantity, or elſe more ſlowly. *Cauſes of diminiſhing of Courſes.*

The comming down of Courſes when they come out drop by drop, and with pain is occaſioned through default of the blood when there is too much, and is thick, viſcid, biting, and ſharp, and flowing down to the Womb with too great violence, ſome way obſtructs the paſſages, and extends them, and ſtirs up pain, or elſe through default of the paſſages, or veins about the Womb, and in the Womb when they are become narrower then they ought. *The dropping of Courſes.*

Too much flowing of the monthly Terms, ariſeth when the veſſels are opened, either by an *Anaſtomaſis*, when the mouths of the veins are opened, or a *Diaireſis*, when they are divided, or when the blood being hotter, thinner, more moveable, ſharp, and troubleſome to nature, ſtimulates the expulſive faculty to expel. *Of too much flowing.*

Now for the Cauſes of encreaſing vitiated Terms; 'tis manifeſt what things ſhew the cauſes of diminution thereof, from what is ſpoken of want of nouriſhment. But the cauſe of too much encreaſe is too great plenty of blood, from too plentiful uſe of meat and drink, full of nouriſhment, an idle life, much ſleep, too frequent uſe of baths, of fair water, and manly ſtrength, which converts the blood into the ſubſtance of the parts. *Cauſes of encreaſing vitiated.*

And theſe are the cauſes of the Symptomes of the natural faculty ſo far, as they belong to the preſervatien of individuals. Now follows the cauſes of Generation hurt, and that either taken away, or depraved, there is no generation made; and barrenneſſe happens either in reſpect of the Man, or of the Woman. *The cauſes of generation hurt.*

In regard of the Man, it is hurt either through default of the ſeed, or by vitious ejaculation of the ſame: unfruitful ſeed, or not ſufficient, is generated, or the faculty is hurt through ſome diſtemper *In reſpect of the man.*

diſtemper of the Stones, eſpecially cold and moiſt; whence unripened, thin, and leſſe ſpirituous is generated, or elſe ſome hot, whence too ſharp ſeed proceeds; or through default of matter, whileſt the blood and ſpirits neceſſary for the generation of ſeed, or by old age, or ſome diſeaſe drying the body, or its principal parts, or by faſting are defective, or when the veſſels which are neceſſary for generating, and carrying of the ſeed be wanting, or when the nutriment turns into fat, or when the blood is vitious. The emiſſion of the ſeed into the Womans Womb is vitiated by the Yard, either ſhorter, whether by nature or by a diſeaſe, or crowded through the ſhortneſſe of the ligament.

In reſpect of the Woman. The action is hurt by default of the Woman, either when no ſeed, or unfruitful ſeed, is generated and emitted for the reaſons lately mentioned, Secondly, if ſhe do not draw and receive the mans ſeed, by reaſon of her cold and moiſt diſtemper of the Womb; or by reaſon of a Tumor, Ulcer, or Straitneſſe of the neck of the Womb. Thirdly, if ſhe cannot retain the ſeed received, becauſe of the moiſt diſtemper of the Womb; an Ulcer, opening of the mouth of the Womb, a flux of Courſes, and other humours. Fourthly, if the Seed be not well tempered by the womb, or being ſome other way affected, is not rightly cherished. Fifthly, if the blood neceſſary for the forming of the young be deficient, or very little.

Generation is depraved when the young are very weak, or when monſters are generated, which comes to paſſe through the foul Seed of the Father, or the imagination of the Mother.

Abortion. Laſtly, the cauſes of abortion, are either too great bigneſſe of fruit, or defect of neceſſary nouriſhment; or humours which are contained in the Membranes; which when they are broken, are poured into the Womb, putrifie, and become ſharp, and ſtimulate the expultrix, or by a breaking and looſening of the veſſels by which the Child adheres to the Womb.

CHAP.

CHAP. II.

Of the Cauſes of the Symptomes of the vital faculty, and of the hindrance of reſpiration.

THe Symptomes which happen about the vital faculty, or as hath been ſaid Palpitation of heart, ſwooning and ſudden deprivation of the ſenſes; the cauſes of the Palpitation of the heart are, firſt, things troubleſome to the heart, meeting with it which it deſires to remove from it; namely, vapours, either in plenty, or quality, either manifeſt, or occult, or both; troubling the heart: putrid humours, ſharp, hot, abundantly ruſhing into the heart, or preſſing it, alſo tumours, and fleſhy excreſcencies and callous fleſh bred about the heart, or Worms moleſting it in the Cheſt thereof; moreover ſome moderate defect of the vital Spirits, through want, too great evacuations, paſſions of the mind, vehement griefe, too much exercife, which the heart ſtrives by more vehement pulſation, to reſtore and ſtrengthen. Thirdly, preternatural heat encreaſed, not onely conſumes and ſcatters the Spirits, but alſo enflames them, which that nature may reſtore temperate and coole; it appointeth this motion of the heart. *Cauſes of the Palptation of the heart.*

The cauſes of Sypothymy, are defect and want of vital Spirits, which either are not generated, whether by defect of matter, namely, of air and blood, or the debility of the generative faculty, and from diſeaſe of the heart, or being generated, or taken away and deſtroyed, whileſt either they are ſuffocated, or diſperſed, or corrupted by ſome occult, or malignant qualities. *Of Sypothymy.*

Theſe cauſes if they are very grievous, produce ſwooning. The changes of Pulſes ſhall be ſpoken of in their due place.

Reſpiration is hurt, firſt when the moving faculty is hurt, and that either of the Lungs, or Breſts; the faculty of the Lungs is hurt either by its ſelfe, when its temperament is deſtroyed, and the innate heat is deficient, as in ſuch as are dying, or it is hindered, and hurt by accident, when the breſt by what means ſoever becomes ſtraiter, and the Lungs have not ſpace wherein to dilate themſelves. The faculty of the Breſt is ſaid to be hindered by its ſelf, or by accident; by its ſelfe when the animal ſpirits neceſſary to motion is wanting, or becauſe it decayes, as in ſuch as are dying, or its influx is not made, as in an Apoplexy; or it is not received through default of the Nerves carrying the animal Spirits to the Muſcles of the Breſt and Midriff; but 'tis hurt *The cauſe of Reſpiration hurt. Faculty of Lungs hurt. Of the Breſt.*

hurt by accident, when by reaſon of the pain of the ſide, or parts adjacent, or matter and blood contained in the Breſt, or Wind, or Tumours, or ſomething in the Panch, the Breſts, and Midriff cannot freely be moved; or when the Bowels in the Panch hanging about the Midriffe are obſtructed exceedingly, and ſwell ſo that by their weight between breathing, the Midriff ſuffers not them to move freely.

Of Inſtruments. Secondly, Reſpiration is hindered by reaſon of the Organs, when there is any Organick Diſeaſe, or ſolution of continuity in the Lungs, Midriff, Muſcles of the Breſt and Panch, the Wind-pipe.

In regard of uſe. Thirdly, when the cuſtome of breathing is changed; namely, when it is too violent through the fiery heat kindled in the Lungs and Heart.

Of Air. Laſtly, Reſpiration is hindered, by reaſon of the ſharpneſs which we draw in in breathing, if it be not fit for cooling, and fanning of the heat.

The cauſes of an Aſtma, and ſhortneſſe of breath. The difference of an *Aſtma* and an *Orthopnæa*, which are peculiar diſeaſes of ſhortneſs of breath, is this, when a man conſtantly breaths with great difficulty, without a Fever, ſuch as do, thoſe who after a violent race and exerciſe ſtop, The immediate cauſe is ſtraitneſs of the mouths of the Lungs, or the uſe encreaſed, by reaſon of the narrowneſs of the Pipe of the Lungs; but that ſtraitneſs is cauſed by ſtoppages, or preſſure of the Lungs, or of the Wind-pipe of the Lungs; and both obſtruction and compreſſion are cauſed firſt by thick and viſcid humours; but ſometimes by thin and ſerous humours, but in great plenty: Moreover a Crude Tumour, or by ſome ſwelling, or gravel ſticking in the Lungs, which cauſe obſtructions when they ſtick in the Pipe of the Lungs, but compreſſion when they are in the ſubſtance of the Lungs, or its Veins, and Arteries. This matter ſometimes is gathered by little and little through its weakneſſe, ſometimes it flows from elſewhere, and moſt commonly it is thought to flow from the head by the vulgar; but to me it ſeems more probable to flow through the Arteries Veins, from the Liver into the Lungs, whileſt crude humours are generated therein, or abound in a venemous kind, which even that ſhews that in an *Aſtma* the cough is not alwayes preſent, which nevertheleſſe perpetually accompanies a *Catarrh*, and becauſe thoſe that are troubled with an *Aſtma*, have always an ill habit of body, and the ſigns of debility of the Liver.

A Crude Tumor may conſiſt not onely in the Wind-pipes, but without it; which when it happens, and conſiſteth about the

the ſmooth Arteries, yet it preſſes the rough Arteries, and reſpiration is thereby hurt, and the Heart is drawn into conſent, and an uneven pulſe is produced.

CHAP. III

Of the cauſes of the Symptomes of the external ſenſes.

SInce order requires that we ſpeak of the cauſes of the Symptomes of the Animal faculty; firſt of all the the ſight is hurt divers ways by reaſon of diſeaſes of parts conſtituting the eyes, and the default of the optique and ſpirits.

The Tunicle called *Cornea*, which comes in the firſt place, ſince it is tranſparent, and void of colour, that it may permit the paſſing through of viſible ſpecies, if it loſe its tranſparency, or be affected with a ſtrange colour it hinders the ſight: it loſeth its diaphanity if it be thicker, and become more denſe, or be moiſtned, or puſtules, or little skins cover it. It grows thicker, and more denſe by drying, and that either the whole, which diſeaſe is called *Caligo*, or elſe ſome part, is become white, which is called an *Albugo*, which ſpot if it be perfectly white, and darkning, ſo that it permit no paſſage for viſible ſpecies, and cover the whole Pupil; it cauſeth blindneſs; but if it be not perfectly white, nor hinders all the paſſage for viſible ſpecies; it cavſeth onely debility of ſight, or brings forth ſome depravation, and deception: If it doth not cover the whole Pupil, ſo that things ſeem as if they were divided; the ſame comes to paſs by reaſon of cicatrizing left after wounds, and ulcers. By its moiſture it loſeth its tranſparency in an inflammation of the eye: Moreove by puſtules bred therein; and the naile of the eye which the Greeks call *Pterugion*, or a Tunicle. But if the *Cornea* be affected with any ſtrange colour which very ſeldome happens, the ſight is depraved, and repreſents viſible ſpecies in other colours, not their own.

Faults of the Cornea.

Caligo.

Albugo.

Secondly the Aqueous humour offendeth either in quantity, or manner of ſubſtance, or colour.

Defects of the Aqueous humour.

It offends in quantity if it be wanting, or leſſoned by a wound or ulcer, when the *Cornea* being cut, or eroded by a ſharp humour it flies out, or by quotidian diſeaſes, or extream old age, and as it is wanting more, or leſs: it cauſeth blindneſs, or diminution, or depavation of ſight. Sometimes it offends in ſubſtance, when it is

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become thick or impure, or any thing is mingled with it of a different ſubſtance; if it onely become thick, the ſight is made duller; and thoſe things which are obvious to the light are ſeen, as it were, through a cloud; and if they are remote, they could not be diſcerned; but if they are neer, they are not exactly ſeen.

A perfect Cataract. But if the mucous and thick matter be mingled therewith, and be ſo thickened, that it loſeth all tranſparency, and fills up the hollowneſs of the Pupil, it cauſeth blindneſs, and that diſeaſe is called vulgarly a Suffuſion, or a Cataract; but if the whole aqueous humor be not obſcure and dark, but onely ſome part thereof obſcure and dark, if through that part which is dark, viſible ſpecies are not received, but onely through that which is perſpicuous at once not more, but fewer things are diſcerned; but if in the center and middle of the Pupil onely a particle of ſuch a thick and dark humour be preſent, and all the parts round about of the aqueous humour be tranſparent, whatſoever is beheld ſeems not to be whole, but perforated and hollow in the middle; but if the little dark bodies are not continuous, but divided and many of them ſtick in the aqueous humor, Gnats, Flies, Cobwebs, and ſuch like, ſeem to appear in the air; but if the extremities are obſcured with ſuch a humour, the object is not diſcerned whole: when you look forright. The ſame alſo may happen in a diſeaſe which is *Hypopuon.* called *Hypopuon*, when there is purulent matter collected under the Cornea

A ſpurious Cataract. There is alſo another Suffuſion, which is called *Notha*, or a baſtard Cataract, which is when vapours are carried to the eyes from the reſt of the body, through the Arteries and Veins, the aqueous humor being ſafe, which happens to thoſe which are drunk, and in burning Fevers. Laſtly, if the aqueous humour be affected with ſome ſtrange colour, there ariſeth the ſame depravation of ſight, as when the Cornea is diſcoloured, and all thoſe things which are brought before the eyes, repreſent that colour, wherewith that humour is died.

Diſeaſes of the Pupil. The Pupil which is as it were the window of the eye, four ways recedes from its natural ſtate. 1. Whileſt either it is dilated, or contracted, or cloſed, or is removed into another part, or broken, or obſtructed. The Pupil is dilated by the extending of the *Uvea*, when it is ſtretched,

ſtretched, or through dry diſtempers, or by a Tumor, or by wind included, or ſome ſpirit or humor, for thoſe which have a broad Pupil; in the night time, and in an obſcure place ſee beſt; but in the day time, and a light place ſee worſt; but it is become narrower, when by its moiſture it is looſned, and falls as it were into its ſelfe: moreover when the aqueous humor is wanting. 3. When ſome thick matter ſticks in the aqueous humor, for thoſe who have a narrow Pupil diſcern more clearly in the day, not ſo well in the night: the Pupil is diſlocated and broken, which when it happens, and changes its place, thoſe things are ſeen better, which are ſet on the ſides of the eye; then thoſe that are ſet oppoſite to it, and thoſe which are oppoſite ſeem not to be ſo, until the ſight ſhall be moved thither where it may be oppoſed to the viſible things, which affect is called a *Strabiſmos*, in Engliſh ſquint-eyed.

Contracted

Diſlocated and broken

A ſtrabiſmos.

The Chriſtal humor recedes from its natural ſtate, either according to the manner of its ſubſtance, and quality, or according to its ſituation. As for the manner and quality of the ſubſtance; If it be ſomewhat more ſolid, thicker, more obſcure, ſo that it wants greater illumination night-blindneſs ariſeth; but if in ſome part, or altogether, it loſeth its clearneſs, there follows debility of ſight, or blindneſs. If it contracts a grey colour, it is called *Glaucoma*, with which diſeaſe thoſe that are affected ſeem to ſee through a cloud, as it were, and through ſmoak, but if the ſame humour change its place and decline downward, or aſcend upward, all things ſeem double, if towards the ſides, things ſeem more to the right hand, or the left, then they are; If it recedes towards the middle, or center, things nigh are rightly, far off are not diſtinctly ſeen: if it ſhould go back beyond the middle and center towards the Nerve Optique, things remote would ſeem leſſer, and thoſe which would diſcern them truely, muſt needs put them cloſe to their eyes, which diſeaſe is called Mouſe-ſight and Pur-blind; but if the contrary happen towards the fore part of the Pupil thoſe who have the Chriſtaline ſo placed, things nigh ſeem leſs, and things a far off bigger, which happens to old men, and eſpecially to thoſe who were employed all their life times in reading, and other buſineſſes where their eyes were continually buſied.

Diſeaſes of the Chriſtal humor.

Nyctalopia.

Glaucoma.

Myopia.

Luſciositas

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Diseases of the vitreous humor. If the vitreous humour either change its place by some contusion, and some part of it is carried before the Christal humour, and puts the Christal besides its place, or changes its clearness and perspicuity, or is become thicker, divers diseases of the eye do happen.

Diseases of the whole eye. But if the whole eye, or most of its parts are not rightly placed, the sight is diversly hurt, and is either plainly abolished, and blindness follows, or it is weakned, or depraved; namely, when the whole eye wants nourishment, or changes its situation in coming out too forward, by what means soever occasioned, as also in a *Strabismos*, or Convulsion of the Muscles of the Eye, or it is not moved as in a Palsie, or more humors are fallen out of the eye, by reason of its wide wounds, inflammations, and ulcers.

Diseases of the vitive spirits and of the Optique Nerve. The sight is hurt by default of the Optique Spirits (where we also conclude the errors of the Optique Nerves) if they are deficient in the brain, being hurt through cold distemper, compression, obstruction, and then for the most part, the other senses both internal and external are affected, or at least that part of the braine is affected from whence the Optique Nerves have their original, and then the sight onely is taken away, or by default of the Nerve Optique it self, which is its narrowness, or by rupture which proceeds from obstruction of the Optique Nerves, compression, percussion, a stroak by chance, contorsion, or by any violent motion whatsoever.

Causes of glittering eyes. Lastly the cause of Splendor and Glittering of the Eyes is reflection of the Rayes of the internal light, by reason of the Object, a more thick body or vapours, or thick humours, if they are mingled with the Christaline, or vitrious, humours, or cover them.

Causes of deafness. The hearing is hindered through default of the Organ of hearing, or of the spirits; and first of all if the external eares are wanting, sounds, and articulate voices seem like the warbling, or purling of Waters, or singing of Grashoppers. Secondly, if the auditory passage either wholly, or in part br hindered, either from an external cause, as a little Stone, a Kernel, Water; or an internal cause, as a Tubercle, an Ulcer, and such like; and so either deafnesse is occasioned, or hearing diminished, or depraved. Thirdly, if the Membrane which they call

call the Drum is too thick, or moistened too much, or is loosened, whether it be from the first birth, or afterwards from internal, or external causes the hearing is hurt. Also if it be too much dryed by any grievous diseases, or old age, deafness doth arise; But if it be broken either by internal force, as by the violent putting in of an ear-picker, or by an extream shrill sound, or is eroded by an Ulcer, deafness is occasioned. Fourthly, if the other parts of the ear be not rightly constituted, and the air implanted be impure, or deficient, or the Nerve being dilated is cooled, or is made thicker, or affected with a Tumor, or those three little bones either are not well framed by nature, or are moved by some violence out of their places, or the internal passages are filled with vapors and humors flowing contrary to Nature, or the Arteries passing under the ears are filled with too much spirit, and heat, and too much agitated; or lastly, the auditory Nerue either is not rightly framed from our first beginning, or is obstructed and compressed by a humor, according to the diversity of the disease, the hearing is sometimes abolished, sometimes diminished, or depraved. Lastly, the hearing is hurt through default of the Spirits either through the straitness of the passages of the braine, as in an Apoplexy, or through its perturbation, as in an Epilepsie. or through cold distemper, by reason whereof difficulty of hearing is occasioned.

Causes of smelling hurt.

The smelling is hurt through default of the Organs, or Spirits, or some external error; the faults of the Organs are the narrowness of the Adæquate senses, and external Nostrils, whether from compression, or constipation, or obstruction of the Scive-like bone, and its Membrane, as happens in such as are great, or by the distemper of the chief Organ of smelling, the mammillary process; but especially moist distemper, or obstruction of the same, from matter flowing, which happens in Catarrhs, and according to the variety of these diseases, the smelling is sometimes abolished, sometimes diminished; the smelling is offended by reason of the animal spirits, if either they are deficient, which are in those which are ready to dye, or are hindered from flowing, as in an Apoplexy, an Epilepsie, and such like diseases of the brain. Lastly, the smelling is depraved through some external errors, whilest a vapour, or some filthy and stinking matter

matter ſticks in the wayes through which the ſmell paſſes, for here it is infected by the foul ſmell thereof, ſo that things having no ill ſmell, ſeem to the ſenſe of ſmelling to ſtink.

Cauſe of taſte hurt. The taſte alſo is hurt through default of ſpirits, or by ſome diſeaſe of the Organs, or ſome external error: The taſte is hurt by reaſon of ſpirits when they are deficient, which uſeth to happen to ſuch as are dying; or the taſte cannot flow to the Organ, either through ſtraitneſs of that part of the brain, from whence the Nerves appointed for the taſte ariſe, or from obſtruction, compreſſion, or wounds of the ſaid Nerves. The taſte is hurt through default of the tongue, as of an inſtrument, whileſt it is troubled with cold and moiſt diſtemper, or cold and moiſt matter is poured on it, or whileſt it is dryed, or is troubled with Puſtuls, or an Ulcer, and according to the magnitude of diſeaſes, the taſte is either wholly abolished, or diminiſhed. Laſtly, the taſte is depraved by external error, or from external cauſes; as from ſomething taken into the mouth, whoſe ſavour is not eaſily taken away, or from an internal cauſe, as a humour, or a vapour wherewith the tongue is imbued, being communicated from the ſtomach, the Lungs, the Brain, and other parts to the tongue.

Cauſe of feeling hurt. Laſtly, for what belongs to the cauſes of hindering the touch, inſenſibility and dulneſs happens through defect and diminition of the animal ſpirits of the Organ touching; this come to paſs either becauſe the animal ſpirits are not generated through imbecility of the native heat, which happen to them in years, or defect of matter, by reaſon of great evacuation, or whileſt they are reſolved, or ſcattered, or cooled, or ſtupified by a Narcottique Medicine, or when they cannot flow to it, through the narrowneſs of the Nerves, obſtruction, conſtipation, compreſſion, ſolution of continuity of the ſame.

Cauſe of pain. The proximate cauſe of pain is ſolution of Unity in a membranous part, whether it be occaſioned by ſome primary quality, or ſecondary, whereof this ſtirreth up ſolution of continuity not ſo manifeſt, but rather contemplable, by reaſon; but that is manifeſt, which therefore is properly called ſolution of Unity.

Itching. Laſtly, itching is ſtirred up from thin, ſalt, and ſharp Excrements, collected in the ſkin, moving man to ſcratch.

CHAP.

CHAP. IV.

Of the causes of the Symptomes of the internal senses.

Causes of too much watching.

OVer much watching is occasioned by too much effusion of the animal spirits, to the Organs of the senses: through defect of restraint of the first sense, and too much irritation of the common sense, the bond of the first sense, or sweet exhalations are defective, either because they are not generated in the body, which comes to pass by long fasting, or the use of meats, which do not produce such exhalations, or because they are consumed, scattered, and called away from the brain, which comes to pass in a hot and dry distemper, either of the whole body, or of the brain, and when hot humors and vapors are elevated in the brain, which often happens in Fevers and Deliriums.

The same causes also, for the most part have a power of stirring up the common sense, and besides those, principally grief, which in what part of the body soever it is, when it violently affects the sense of touching; it also stirs up the common sense, which once moved irritates also the rest of the senses, and so it is necessary that over much watchfulness must ensue.

Cause of too much sleep. Non-natural.

The causes of too much sleep, and first the causes of non-natural, are all those things that hinder the spirits from being sent forth to the external parts, in due manner and season; such are those which dissipate and consume the heat of the spirits beyond measure, or they are called back too much into the internal parts, or hinder the spirits that they cannot go out to the remote parts, as too much exercise, paines taking, too much watching, baths, and such like, which fill the braine with halituous vapours.

Preter-natural.

Moreover the causes of a preter-natural and diseased sleep so called, are also against nature; namely, those things which detaine the spirits against nature, so that they cannot freely paße to the Organs of the senses.

Coma and Catapbora.

The cause of a Coma, or a dead sleep is a plentiful vapor, whether cold and moist, or hot and moist, either generated

generated in the brain, or ſent thither out of the whole body, or part of it; but principally ſtupifactive, rendring the animal ſpirits heavy and drowſie.

Coma vigil. When there is too greedy deſire of ſleep, the ſame ſtupifactive vapor is the cauſe, but becauſe hot and ſharp vapours are mingled with it, and many various and abſurd imaginations are brought to the fancy, the ſleep is troubled and interrupted.

Of immoderate dreams. The cauſes of immoderate dreams are impure vapours, black and melancholy, ariſing from food and humors, cauſing exhalations of the ſame nature, and ſtirring up the animal ſpirits, or a diſtemper of the brain, ſtirring the vapors aſcending from the interiour parts and ſpirits in the brain.

Of an extaſie. A natural extaſie hath for the moſt part the ſame cauſes, for thoſe which are troubled therewith, have in their deep ſleep various ſhapes and images repreſented to their fantaſie, about which, the imagination being too much buſied and fixed, the reſt of the ſenſes ceaſing: when they awake they account thoſe dreams by reaſon of the too much intentiveneſs of the fantaſie for truths; and think and ſay to themſelves that thoſe things did really happen.

Sleep walkers. The cauſe of ſuch as walk in their ſleep, is a ſtronger imagination from an internal object, repreſented by a dream, the fantaſie being violently affected, ſtimulates the deſire, and thence the motive faculty, to perform ſomething; the ſenſes for the moſt part being bound, and the rational faculty obſcured, but the imagination doth depend either on ſome vehement diurnal diſeaſe, which hath gone before, or on the diſpoſition of the ſpirits, which the vapours thicken, which are not onely mingled with the ſpirits, but alſo have force of binding all the ſpirits, and ſet before you many cleare dreames.

Aboliſhing and diminiſhing of the memory & fantaſie. The memory, as the imagination, is either aboliſhed, or diminiſhed, principally through the fault of the inſtrument, which is the brain: through its too cool a diſtemper thereof, whereunto belongs, not onely innate heat, but default of ſpirits: the default of innate heat is either native, and contracted from our birth, or happening afterwards from our birth. Heat is deficient to thoſe who have too great heads, or a brain weak, and cold by

nature 5

nature, and mixt with too much moiſture, or a head too little, and therefore little brains, or a figure, too conciſe, the figure alſo it ſelf of the head, may hinder theſe actions. After a mans birth the native heat is deficient through old age, and what other cauſes ſoever, which may deſtroy and debilitate the innate heat, and may cauſe foul ſpirits, whether they be internal, and diſeaſes and vitious humors, or external, as cold meat, moiſt, thick, corrupt and impure air, over-much watching, ſtroaks and wounds of the head. Beſides the defect and cold diſtemper of the native heat, the memory alſo is weakned, yea and taken away, ſometimes by too much moiſture of the brain; the ſame alſo is hurt ſometimes by external error, namely through the fault of objects, whileſt in certain diſeaſes it is confounded, and diſtracted, by almoſt innumerable objects, which may likewiſe happen to ſuch as are well; who whileſt they are buſied in telling any ſtory, by reaſon of ſome object happening by chance, they are ſo called aſide, that they cannot make an end of their ſtory.

But the reaſonable faculty is not diminiſhed nor aboliſhed of its ſelf, nor by reaſon of its inſtrument, but becauſe the fantaſie is hurt, and ſometimes the memory, and ſometimes both.

The depravation of the imagination and ratiocination happens in divers kinds of Deliriums, and all have their riſe from ſome default of the animal ſpirits, which being ill diſpoſed, repreſent objects ſo diſpoſed to the fantaſie, and whereas for the moſt part, the imagination, and ratiocination are both affected in a Delirium; and the imagination uſeth a corporeal Organ with its Spirits, but the ratiocination uſeth none, but onely beholdeth fantaſms. In every Delirium, the next cauſe of the hurt of the imagination, is the vitiouſneſſe of the animal ſpirits, but the depravation of the rational faculty is cauſed by the fantaſms.

The imagination and underſtanding hurt, called *Paraphroſune* hath its beginning from hot vapours, which in burning Fevers and inflammations of the interiour parts are elevated to the brain, and diſturb the animal ſpirits, yet moderately, which thing alſo may happen if any one ſhould take in his meat or drink that which may trouble the ſpirits. On this manner commeth ſottiſhneſs, and

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such as is caused by Wine, the weed Darnel, Hops, and such like.

A Frenzy. A Frensie is caused by a hot Tumor of the Brain and its Membranes from whence the hot vapours being advanced continually trouble and stir the spirits in the brain.

Of Melancholy. The cause of offending the imagination in Melancholy, is dark animal spirits, but the causes of depraving of the rational faculty, are dusky fantasms, but the animal spirits are become dark and black two ways; first when the spirits themselves are pure in their own nature; but some strange foul and blackish matter is mingled with them. Secondly, when the spirits themselves are darkish in their own nature, and generate such; the former is caused three wayes; the first is when the matter dark and impure clouding the spirits is contained in the vessels in the head. Secondly, when the matter is communicated to the brain from the whole body, and principally from the greater veins. Thirdly, when it is transmitted principally from the *Hypocondries*, which is thence named *Hypocondriacal* Melancholy: the latter is occasioned two wayes, either when the vital spirits are generated vitious and impure in the heart, which when the matter of the animal spirit is such in the braine, 'tis necessary that there be generated in such black animal spirits in the braine, or because although the vital spirit be good and pure; nevertheless the constitution of the brain is vitious, which changeth the pure vital spirit into a black animal spirit.

Of mad Love. The cause of mad Love is sorrow and continual solitation, to which anger is often joined, arising through the desire of a fair thing whether it be really so, or seem so to be; for although the amorous herb Philtra may stir up desire to lust, yet that desire is not terminated in any definite person, nor can the mind of a man be compelled to love that which he is unwilling to love, and that Philtra doth not cause love, but madnesse also, as experience often teacheth.

Madnesse. The cause of madnes is a hot and fiery disposition of the animal spirits; such hot and fiery spirits proceed from a hot distemper of the braine, or hot vapours mingled therewith, which black Choller will set forward, sometimes in the veins of the head only, other times in the whole

whole body, especially in those that are great with child, and when it rides about the womb, whether they are generated of fervent blood, or adust colour, or dryed Melancholy.

The disease which causeth men to think that they are turned into Wolves, is called *Lycanthropie*, if it proceed from a natural cause; and not from the Devil; It ariseth from the depravation of the imagination and ratiocination, and the blood of living creatures being drunk, may be very powerful to cause the same, yet for the most part it becomes from poyson communicated to us by the biting of any mad living creature, or by the froth of their mouths thrown upon us, by spittle, by receiving their breath with our mouths, by eating the flesh of ravenous animals, whence Wolf-madness, also Dog-madness, and Badger-madness do arise, as *Hydrophobie*, which is when one is distractedly timerous of waters, which nevertheless may be occasioned without the biting of any mad animal by poyson in mans body, but principally is occasioned by terror of the observations of Physitians do witness, and then the disease is not to be referred to madness, because those Symptomes which are proper to those that are bitten with mad creatures, do not appear in these, but onely the diseased are adverse to all liquid things, and neither can swallow liquid things, but also at the sight and noise of them, they fall in danger of swooning and death, which nature is peculiar to this poyson, nor can any other cause be rendered from manifest qualities. *Lycanthropie.*

But the disease of Tarantators, occasioned by the venemous biting of a Tarantula, and the Chorea of S. *Viti*. so called, hath its rise from a venemous and malignant humour somewhat like to the venom of a Tarantula, begotten in mans body, and indeed is the cause of the Symptomes of the rest of the poysons in general, but because they dance in this manner, that is proper to this poyson onely, neither can there be rendered any manifest cause thereof, but here it is necessary to fly to that sanctuary of ignorance; and to say that this poyson is destroyed in an occult manner by the force of musick, and this little creature is harmoneous, and delights in musick. *Of Tarantulas and a company of S. Viti.*

CHAP.

CHAP. V.

Of the causes of the Symptomes of the mooving faculty.

Cause of the Palsie. IN the first place the cause of a Palsie, or deprivation of motion in one part, or more, is the defect of animal spirits in the Organs appointed for motion; the spirits are deficient when they are not sent out by the Nerves from the braine, as happens in an Apoplexy, sometimes also this disease is called a Palsie; for although they are emitted yet through the ill disposition of the part they cannot exercise motion, and sense therein; they are not admitted through default of the Nerves, and spinal Marrow; namely, when they endure some cold distemper and moist, especially; yet sometimes hot and dry, or are dull, or are cut, or knockt, or beaten, or are made narrower, or by obstruction, or compression, by reason of some humor, or tumor, or tubercle, whether they are in the Nerves themselves, as after wounds of the Nerves, and contusions of the same, scars do arise, or in the parts neer thereunto by some contusion, by a stroak or a fall, by a sudden relaxation made of the Vertabres, or being bound.

Cause of taking away motion. Besides a Palsie there are other impotencies of motion, the cause whereof, besides that of the Nerves, even now explained in a Palsie is the fault of the part instituted for motion, a vitious disposition and disease, namely, if the bones in the joynts which are framed for them cannot move, or cannot rightly be removed out of their place, through ill conformation, fracture, relaxation, if the ligaments which come about the joints, and continue in motion in a natural state are broken, cut asunder, eroded, attenuated, or become softer, or on the contrary are dryed, hardned, and filled with a hard and knoty substance, if the Muscles and their Tendones are cooled too much, and their native heat be, as it were, dulled, or moistned by some humour contrary to nature; or on the other side if they are dryed and hardned, if any tumor, knot, bunch, hard flesh ariseth in them, if they are wounded, if the Tendones are so stretched out by violent motion, that they become longer then they were, or wont to be, or as

it

it were broken with bonds, or if a painful tumor be in a Muscle.

The cause of Lazinesse is the reception of trouble in the Muscles, and parts appointed for animal motion, but since this slowness is two-fold, voluntary, and against our wills, the one comes without much exercise, and labour from vitious humours, burning the parts appointed for motion; the other which is also called Excicrative, comes after too much labour and motion, the parts serving for motion, being dried and the spirits consumed. *Of Laziness.*

The cause of trembling is the imbecility of the motive faculty, which cannot keep the member in that part wherein it is placed. The faculty is become weak through the faintnesse of the strength, and some defect of animal spirits, whether they are not generated, by reason of some distemper of the brain, or defect of the vital spirits, either scattered, or consumed, both which may be occasioned by too large evacuations, long fasting, watchings, long and tedious sickness, too much Venery, or through diseases of the Nerves, as distemper, especially cold contracted by what meanes soever, or want, or losse of sense is occasioned by stupifactives, or by straitnesse, but lesse then in a Palsie. *Of Trembling.*

The cause of Convulsion is the irritation of the expulsive faculty, of the Fibres and nervous parts in the Muscles, by reason of something troublesome, which draws the part joined to it into consent, and stirs it up to this motion, whereby the Fibres being contracted, the Muscle is drawn back to its original. *Emprosthotonos*, is made in the Muscles, which bends the body of such as are affected, forwards. *Opisthotonos* by the Muscles affected, bends the body backward. *Tetanos* is from an equal contraction of the Muscles. The *Spasmus Cynichus*, or troublesome Cramp ariseth from a convulsion of the Muscles of the Mouth; *Trismos* from contraction of the Muscles of the Jaws. *Of Convulsion.* *Emprosthotonos.* *Opisthotonos.* *Tetanos.* *Spasmus Cynicus.*

Also the cause of convulsive motions is a humor, or a vapor, an enemy to the whole generation of Nerves, irritating the expulsive faculty in them, and stimulating them to expulsion, yet is not fixed, but hath various motions through all nervous parts, and so the member is agitated in various motions, and for the most part it happens *Of grinding Teeth.* *Of convulsive motions.*

happens that the braine is affected, and matter is ſent from thence into all the Nerves.

Of the complication of the Cramp and Palſie.

When the Cramp and Palſie are complicate, the humour is of a mixt nature, which hath force partly of looſening Nerves, partly of vellicating and twitching them.

Privation of ſpeech.

Privation of ſpeech happens through default either of the Spirits and Nerves which carry them, or of the parts which are neceſſary for the bringing forth of a word. The ſpirits are deficient in an Apoplexy, Epilepſie, and Dumneſſe, properly ſo called. Men are become dumb through the fault of the Nerves when either the Nerves of third pair are affected, from whence the tongue alſo receives its Nerve; which defect if it be native, for the moſt part the hearing is aboliſhed, by reaſon of the communion of the Nerves of the tongue and the ear, that fellowſhip is hurt, or when the Nerves of the ſixth and ſeventh conjugations, and thoſe going back, and vocal Nerves are either cut, or ſtretched, or cooled, or intercepted, or hurt by what means ſoever. The voice is hurt through organick diſeaſes thereof, if either the Membranes of the Larinx, or top of the Wind-pipe are filled with ſome humour, and grow ſoft, or ſome chink thereof be ſhut, by what means ſoever, or if the tongue be cut about, or maimed, or the Muſcles which move the Larinx, Tongue, or Throat are hurt, or relaxed, or knockt, or wounded, or any other way affected contrary to nature: or laſtly through default of the wind-pipe, if that be cut, exulcerated, or cloſed.

Of the voice and ſpeech diminiſhed.

The ſame cauſes are if they are leſſe, diminution of voice and ſpeech is occaſioned, yet more frequently the cauſe remains in the tongue, namely, if the ligament be too long from one birth, ſo that it extends to the extremity of the tongue, or if after a childs birth it be wounded, exulcerated, ſwollen, or be affected with a Palſie on the other ſide.

Of ſtammering.

The cauſe of depravation of voice and ſpeech, and firſt of ſtuttering, and ſtammering is principally a moiſt diſtemper of the inſtruments of voice and ſpeaking, and ſometimes a dry; alſo an ill framing of the Tongue and its Muſcles, a Tumor borne under it, as alſo the fault of a ſwelling at the entrance into the Throat, and want of the fore teeth.

Hoarſ-

Of hoarsenesse.

Hoarsenesse ariseth from over much humidity of the ourlides or the instruments for speech, whether that matter flow from the head, or be cast out of the brest, from loosenesse and inflammation of the Columella, or a fleshy substance in the entrance into the throat, as also from external and evident causes, first from air violently straining the voice daily, which causeth inequality of the Wind-pipe.

Of a cough.

All the causes of the Cough are those which hinder the instruments of breathing, whether they be internal, or external causes, either by Idiopathy, or by Symptothy stir up the Cough by Idiopathy, an unequal distemper, principally cold causeth the Cough, which is the greatest enemy to the brest, sometimes also distempers hot and dry; moreover the roughnesse of the Wind-pipe which happens either through distemper, or through biting humors flowing from the head, or by Medicines, or sharp drinks, or obstruction by a humour, thick, or thin, a pimple, gravel, worms, a little hard swelling, clod of blood. By Sympathy the Cough is raised, if the other parts which can draw the Organs of respiration into consent be affected, namely the Midriff, Liver, Spleen, Stomach, which by reason of the common Tunicle, they have vellicate the instruments of breathing, or send vapors to them, or presse the Midriffe, by reason of some Tumor, or obstruction. But the external causes are cold air, dry, cold water, too much desire of drink, cold medicines applied to the brest, dust, smoak, sharp vapors, soure aliment, sharp things, and whatsoever contrary to the order of nature slide into the wind-pipe, straying, or wandring in the guller, if it intercept the way, or stop it, or exasperate the Artery, or any way molest the Wind-pipe.

Of sneezing.

Those things cause sneezing whatsoever doth stimulate the Nostrils, and the fore part of the Brain to excretion, whether generated in the body, as humours flowing from the Brain, or those things which affect the Nostrils by communion with the interior skins by Sympathy, which comes to passe when worms stick in the Guts, or whether they happen from without, as whatsoever sharp things are drawn by the nose, smells also and sharp vapours, the splendor of the Sun, and over much light.

Gaping

Of yawning. Gaping, or Yawning is when halitious vapours ſtick in the Muſcles appointed for chewing, and moving the lower chop, which nature endeavours by this motion to caſt off, but ſome times imagination is the cauſe thereof.

Of ſtretching. Stretching ariſeth from ſuch vapors as may be emitted through the Pores, which nevertheleſſe are not ſharp, but being ſtore of them they cauſe trouble, in the ſpaces of the Muſcles of the whole body ſtirring up the expulſive faculty to expel, which the nature may diſcuſſe, it uſeth ſuch a motion of the Muſcles by conſtriction of them.

Shaking fits and trembling. Laſtly, Horror and Trembling, which are Symptomes neer alike, as alſo are vehemency, and greatneſſe of motion; and ſo is the difference of the cauſe, they are ſtirred up by ſomething that offend in the circumference of the body ſuddenly vellicates the ſenſitive parts, and ſtimulates them to expulſion, which it ſtrives to perform by a natural concuſſion. But the cauſes which bring forth that twitching, are either external and evident, as whatſoever befalls the body, or vellicates the ſenſitive parts, or cauſe the ſharp humours contained in the circumference of the body to be ſtirred and moved as a ſpark of fire caſt on, ſcalding water thrown upon, a biting medicine applyed to an Ulcer; piercing cold, and ſuch like for internal, as humors, or ſharp vapors, either generated in the parts themſelves, or drawn, or ſent from elſewhere.

CHAP.

CHAP. VI.

Of the cauſes of Symptomes wherein all or moſt animal actions are hurt.

THe cauſe of a Vertigo is inordinate and circular motion of the animal ſpirits in the brain; but the cauſes which perform this circular motion in the brain are internal, or external; internal is an inordinate motion of a flatulent ſpirit, moving the animal ſpirits circularly, and exhibiting a falſe repreſentation of the moving of external things, and of its own body; but this flatulent ſpirit takes the occaſion of its motion, either from its ſelfe, ſeeing that every ſpirit by nature is moveable and fluid, eſpecially if it be hotter, and more fervent then ordinary, or moved by ſomewhat elſe, whereas hereafter ſhall be ſhewen, which the ſtraitneſs of the veſſels, or of the Pores of the brain occalioneth; for if both the flatulent ſpirits, and animal ſpirits are moved in paſſages that are obſtructed, they return back and move circularly, they are generated either in the brain, whence a Vertigo by Idiopathy ariſeth, or are ſent from elſewhere upward, either from the whole body, as in ſome Fevers, or from ſome part, as the Stomach, Spleen, Womb, whence it is called a Vertigo by Sympathy, the external and manifeſt cauſes are whatſoever humors can ſuddenly turn into and diſſolve into vapours, or ſtir up an inordinate and circular motion, with winds, and ſpirits; ſuch as when the conſtitution of the air is ſuddenly altered, immoderate and untimely exerciſe, emptineſſe, baths, anger, turning round of the body, the beholding of bodies ſwiftly turning round, or otherwiſe moving with violence, looking down from a high place, ſhaking of the head, a fall and ſuch like. *Of a Vertigo.*

The cauſe of an Incubus, or riding of the Mare, is a thick vapour aſcending from the lower parts of the body and obſtructing the hinder parts neer the Spinal marrow, and hindering the paſſages of the ſpirits to the muſcles of the breſt, whence reſpiration is hindered, which when a man perceives in his ſleep, conſidering various cauſes, he fainеth and adviſeth with himſelfe, and even from this *Of an Incubus.*

or that, he imagineth himselfe to be oppressed and suffocated in his dream. This vapor is elevated from thick flegm, or a Melancholy humor residing in the Hypocondries, or proceeds from surfetting, or swelling by lying supine, or flat on the back: in children also a vapour of the same nature is occasioned by worms.

Of a Lethargy. A Lethargy commonly proceeds from a flegmatick humor thickning in the brain; and so the matter of its selfe is cold, yet by accident it happens to be hot, but it is impossible that out of flegm only putrified, both a fever and a deep sleep should arise; for this humor is neither apt of its selfe to admit of putrefaction, especially in the head, neither if it should admit of it, can it utter so much as will diffuse the heat over the whole body, and kindle a Fever, and heat the Heart especially if it putrifie without the substance of the Brain, or its vessels in its bosomes and turnings; but it is more agreeable to reason that this drousinesse either is not a primary disease of the brain, but occasioned from stupifactive and pituitous vapors rendring the animal spirits dull, and are the Symptomes of a Fever, which are called companions; namely, of a continued Quotidian of a bastard Tertian, and Semitertian; or if it be a primary disease of the Brain, it doth not seem to have its beginning only from putrified flegm, but rather from a petuitous inflammation of the Brain, or from an inflammation arising from the blood mixt with flegm. In both these Lethargies there is present great heavinesse, and hurt of memory, by reason of stupifactive, and pituitous vapors, but a delirium, by reason of vapors risen out of the putrid humors troubling the animal spirits.

Of a Carus. The cause of a Carus is either the straitnesse of the Brain by compression, or obstruction neer the bottom thereof from cold humors, or a moistning, cooling, and repletion of the Brain from a cold and pituitous humor, and an alteration of the spirits by the same, or a stupefactive power, rendring the animal spirits unfit for the actions of the senses and motions; wherewith not only stupefactive medicines are endued, but also some poysons, humors in certain Fevers, Smoaks, and Vapors of Coals, new Wine, and new strong Beer, &c.

A Catoche. A Catoche hath its beginning from a cold and dry vapour, endued with a peculiar force of fixing the animal spirits

spirits rushing into the brain, and in some sort stopping the spirits, rendring them immovable, and, as it were, congealing them, which for the most part is stirr'd up by a Melancholy humor; such also is the force in a Thunderbolt, and it is sometimes taken from the vapors ascending out of the earth in an Earthquake, and breaking out of their cells, but the spirits serving for imagination, and ratiocination are rather fixed and stopt then those which lately were dispersit into the members of the body, which is apparent from hence, that although those that are Cataleptick move no member, yet if they are moved by another the power of moving exerciseth its selfe, and being struck they fall down, and moreover spreading their eyelids they keep their eyes open.

Of an Apoplexy.

The immediate cause of an Apoplexy is a flowing of the animal spirits into the organs of the body, hindering sense and motion; but the influx of the animal spirits is hindered either by the passages through which they should flow into the organs of sense and motion, or the narrownesse of the beginning of the Nerves, or through the unaptnesse of the animal spirits themselves, or by too great a quantity, or perturbation of the same. The straitnesse of the passages of the animal spirits is made when the beginning of the Nerves in the bottom of the brain is so shut, that the passage and way for the animal spirits and motion into the organs of all the external senses are intercepted; a few onely resisting, which flow from the Cerebellum, which scarce suffice for the motion of the brest which striveth exceedingly for respiration. The beginning of the Nerves cause this straitnesse, first the flegmatick humor poured into these places performs it by obstruction, or compression, which the Antients took for the principal, nay some for the only cause of an Apoplexy. Secondly, blood poured out of its vessels by a stroak, or any other cause whatsoever into the basis of the Brain, and pressing the beginning of the Nerves. Thirdly, placing of flegm when the vessels of the Braine, their being plenty of blood, are filled and stretched that the substance of the Brain is compressed, and the Pores and passages being made narrower, a free ingress for the animal spirits into the Nerve is hindered. Fourthly, a blow, or fall violently pressing the Brain it self, and so the beginning of the Nerves, rendring the animal spirits flow,

as it were degenerated from their nature, and are made altogether unfit to perform animal actions, bring forth vapors which contain in them a ſtupefactive power; moreover the effuſion of animal ſpirits by deep wounds, and troubling of them by a ſtroak, and by a great fal and commotion of the Brain may take away all ſenſe and motion from a man, but that Apoplexy which ariſeth from a pituitous and ſtupefactive power is the chief, and is underſtood for the moſt part when mention is made of a perfect Apoplexy, to wit, which is occaſioned by its ſelfe, when the other Apoplexies by reaſon of the differences of cauſes, either are occaſioned by ſome external and violent cauſe, as by a ſtroak, by a fall, or they follow other diſeaſes.

Of an Epilepſie. An Epilepſie is occaſioned from a vaporous and thin matter, whether by its acrimony, or venomous and malignant quality vellicating and moleſting the Brain and all the Nerves, and together afflicting the animal ſpirits, darkning and troubling of them: and there are to help this matter forward not onely certain humours corrupted in a peculiar manner, and fit for an Epileptical diſpoſition, but alſo parts of the body corrupted in like manner, as Worms, After-birth, and ſuch like.

An imperfect Epilepſie hath the ſame cauſe with the perfect Epilepſie, but more gentle and leſs ſtore of humours, which otherwiſe could not vellicate all the Nerves, yet may trouble them all, but cannot trouble and darken the animal ſpirits in the Brain.

CHAP. VII.

Of the cauſes of Symptomes which happen to qualities changed.

Cauſes of colour changed. And theſe are the cauſes of the actions hurt, or of the firſt kind of Symptomes which conſiſt in the actions hurt: the ſecond kind, or colour of the whole body, or of its parts changed, contrary to nature are humors of the body, ſuch are the colours of the whole body, or its parts, as are the humors in them, ſo in the yellow Jaundice, by reaſon of yellow choller effuſed into the body, the whole body is coloured with the yellow choller in a Dropſie by flegm it waxeth pale.

The

The teeth grow black either through default of aliment, or when any slimy matter flowing from the Stomach, *Brain*, or elsewhere, or also from meat left behind sticks to the teeth; and putrifying corrupts and make them black. *Causes of change of the colour of teeth.*

The Nailes change their colour through peccant matter nourishing them. *Of Nails.*

Fifthly, smells and exhalations are breathed out of the whole body, when hot and moist bodies produce plenty of crude humours, which when they cannot be overcome by heat, become putrid, and send forth a stinck from the whole body. *Of stinking smells.*

A stink is sent out of the mouth, when either many crudities are heaped together in the Stomack, which are corrupted, and send forth putrid and stinking exhalations by the Pallate, or when filthy vapours exhale, from the putrifaction in the Lungs, or when such matter cleaves to the Teeth, Gums, or Pallate, and infects the air which is breathed out with its stink. *Of stinking breath.*

The smell of the Arm-pits which they call Goats smel, proceeds from excrementitious humors, which are sent from the heart, and internal parts in such aboundance to these places and emunctories, that all of them cannot easily be discussed, but corrupt, and send forth filthy smells. *Stink of the Arm-pits.*

The fætid smell of the Groin comes from the same cause, namely, too great plenty of excrements which are sent out from the Liver and Veins to those emunctories. *Of the Groin.*

The foul smell of the Nostrils is caused by excrementitious humours there collected and putrifying by a Polipus, a Canker, or an Ulcer in the Nostrils. *Of the Nostrils.*

The ears stink by an Impostbume and Ulcer in the internal Ear, or by vitious humours sent out of the Brain. *Of the Ears.*

Lastly, the Feet send forth an ill smell, when the moist excrements in them, which are of a hot and moist constitution; and given to surfeit, are collected and putrifie in the Feet, being drawn thither by their motion, especially when they are covered with such garments, that they cannot freely expire vapours. *Of the Feet.*

The causes of tactil qualities changed, appears by those things which are spoken of the Causes of Diseases when sometimes they are referred to the rank of Diseases, sometimes to the number of Symptomes; namely, as some- *Of tactil qualities changed.*

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times the actions are hindered by them, sometimes they hinder not the actions, but onely cause trouble to the touch.

CHAP. VIII.

Of the causes of Symptomes in those things that are sent forth and retained.

Causes of excrements contrary to nature.

AS for what belongs to excretion, and those things which in their whole kind are contrary to nature, and may be generated in the body, as stones, worms, since the same belongs to the causes of Diseases they are spoken of before in the second Part, and the ninth Chapter; but artificial things, as instruments of Iron, Knives, and such like cannot be generated in mans body, but by the inchantments of the Devil are insinuated into the body, or are fitted to parts without, through which they cannot come back, and are there shewen, as it were, going back.

Excressions through unaccustomed passages.

If those things which are wont to be cast forth naturally are cast out another way, which comes to passe because the accustomed ways either are grown together, or obstructed, or some way or other shut, for then nature by reason of plenty of matter, which it was wont to evacuate through the usual ways, they being shut, it wearied seeks new ways, either more open, or otherwise, to which some pricking humor leads it, or which it chuseth of its own accord.

Of bleeding contrary to nature.

Thirdly, the effusion of blood contrary to nature through what place soever happens because the Veins and Arteries are opened contrary to nature, for those reasons which before in the Second part and thirteenth Chapter are explained; and particularly sweating of Blood happens through the thinnesse of the Blood, rarity and laxity of the skin, and debility of the retentive faculty. Small parcels are cast out of the body, when from any internal part which was wont to be evacuated that way, or in that way by an Ulcer, Putrifaction, and eroded by a sharp humour, and separated from the body.

As for the causes of excretions offending in quality hot ordure is cast out, if choller and hot humours are mingled.

gled. If the Liver and Guts are too hot, if hot meats are uſed. The ſiege is cold by the extinguiſhing of the native heat, the uſe of cold meats and the mixture of cold humours.

Moiſt Excrements are caſt out either through crudity, when the meat is not concocted, or by obſtruction of the Meſeraik Veins, by reaſon whereof the Chyle cannot paſſe to the Liver, and therefore being mingled with the ordure ſends it out moiſt, or by taking of meats that looſen the belly, or by defluctions from the Head to the Guts, or by the effuſion of Choller, and other thin humours to the Guts. *Cauſes of excretions peccant in quality.* *Hot.* *Cold.* *Moiſt.*

But the ordure is become hard by too much heat which conſumes almoſt all the humidity, whether it be that internal heat of the Liver, or of other parts neer thereunto, or of the whole body, either natural, or preter-natural; moreover from the drineſſe of the Guts, or of the whole body. Thirdly, if there be too much Urine, or if there be a continued ſweat. Fourthly, by thickning and aſtringent meats. Fifthly, by long ſtay in the Guts, by reaſon whereof the moiſture is ſucked out. Sixthly, through want of aliment in the parts, and too much attraction of the members. The dung is ſharp through the mixture of ſharp humours, & uſe of ſower meats; 'Tis become fætid through the uſe of ſtinking meats, and ill concoction, eſpecially by the mixture of divers ſorts of meats; as alſo by the humidity and heat of the body, which diſpoſeth it to putrifaction. Ordure is caſt forth with a noiſe through the mixture of much wind violently breaking forth. It becomes white, when choller is not mingled therewith, as in the yellow Jaundice, through the uſe of meats that are whitening, being mixt with plenty of flegm alſo. It becomes yellow through much much mixture of yellow Choller. It becomes green through æruginous choller. It grows black by reaſon of a black humor, by the uſe of Caſſia, and ſuch like. It becomes red by the mixture of blood, or aduſt yellow choller. It becomes frothy by reaſon of ſlimy flegm and a defluxion of windy matter from the head, and mixture of wind. *Of ſharp.* *Fætid.* *White.* *Yellow.* *Red.* *Black.* *Frothy.*

The cauſes of the the changed qualities of Urine ſhall be explained in the following book.

Hot ſweats proceed from hot humors either whileſt the humors wax hot, or eſpecially when the matter is over-hot. *Cauſes of ſweat preter-natural*

overcome, is attenuated and concocted, cold are cauſed through plenty of cold matter, which cannot be ſo eaſily overcome as heat, or by the reſolution of ſpirits and extinction of the native heat, or through the malignancy of the matter. The ſweat ſmels by reaſon of too great plenty of ſtinking filth, they are yellow in the yellow Jaundice by the mixture of yellow choller. Green by mixture of leek-coloured choller, red and bloody by the watriſhneſs and thinneſs of the blood, looſeneſſe of the skin, and weakneſſe of the retentive faculty, yet there are adminiſtred Wines, which being drunk in ſome diſcolour their ſweat. They are ſalt for the moſt part, which conſiſt of a ſalt and ſerous excrement. Bitter by the mixture of Choller, ſharp by the mixture of ſharp humours.

Of vitious Courſes

The menſtruous blood offendeth in quality whileſt it is white, yellow, black, or has any ill colour; moreover whileſt it ſmells foul, and is too watry, which comes to paſſe whileſt the like humors are gathered together in the body, or about the womb, and goes out through it with the menſtruous blood.

Of the ſpittle changed.

The ſpittle is too thick if it be contained too long in the Mouth, and its thinner parts conſumed; or if thick matter diſtil from the head, or be mingled with it, or if it be thickned by heat, which happens in Fevers. It becomes frothy through the mixture of ſpirit, and much air. Spittle borrows its taſtes from ſalt, bitter, ſower, humours, eſpecially cleaving to the Stomach. It receives its colour from humours in the bowels, and the vapours going out of them. 'Tis become white from flegm; Yellow from Choller; Red from Blood; Black from Melancholy, or thick dryed Blood; Green from æruginous Choller; it acquires a foul ſmell from inward putrifaction, eſpecially from an Ulcer of the Lungs.

Cauſes of excrements changed

At length the excreſſions erre in quantity, the excrements of the belly are caſt forth in greater quantity then is convenient; Firſt by reaſon of moiſt food, eſpecially if after the uſe thereof ſtore of drink be taken. Secondly, by reaſon of meats containing little alimentary juice, but much excrementitious. Thirdly, through the ill diſtribution of Chyle. Fourthly, by conflux of Excrements from the other parts to the Guts. But fewer then is convenient are ejected for contrary reaſons; namely, if the meat be hard, and principally if little drink be taken after it,

it, if the meat be of good juice and nouriſhment, and be taken in ſmall quantity; if the Chyle be greedily ſnatched from the Meſeraik Veines; and if Choller, (which is, as it were, the Goad to ſtimulate and expel dregs) come not much into the Guts.

The quantity of Urine ought to anſwer likewiſe to the quantity of drink, but that alſo is ſometimes made in greater or leſſe quantity, the cauſes whereof ſhall be ſhewed in the following Book.

Cauſe of ſtore of ſweat.

The cauſes of plenty of ſweat are rarity of body, ſtrength of the expulſive faculty, aboundancy, and tenuity of Excrements; and therefore in the Crytis of a diſeaſe great ſweats ariſe, whileſt all the excrementitious matter together, and at once is put forth. Little ſweat is occaſioned by contrary cauſes; namely, by the ſmalneſſe, or thickneſſe of Excrements, ſtraitneſſe of paſſages, weakneſſe of expulſion, by the vehemency of the matter which deſtroyes heat.

Of Courſes

Laſtly why Courſes ſometimes flow more plentifully, ſometimes more ſparingly then is convenient; above in the Third Part, Second Section, and Firſt Chapter, where we have ſpoken of ſuppreſſion, diminution, and flowing of Months.

The end of all the Second Book.

BOOK

Book. III.

PART. I.

SECT. I.

OF

SIGNES

In General.

Of the Difference and Heads of Signs.

CHAP. I.

Of the neceſſity and benefit of the Method of Signs.

Neceſſity of the Semiotick Method.

SInce we have hitherto explained what health is, and wherein it conſiſts, and what is the difference of things contrary to nature; we now rightly come to the Method of healing and preſerving health, and are to teach by what means health may be

be preſerved, and diſeaſes taken away, but nevertheleſſe ſince arts are converſant about individuals, and a Phyſitian doth not cure in general man, but *Peter* and *Paul*, &c. The Method and way is firſt to be explained whereby the preſent conſtitution of every man, both ſick and well may be known, which now lies hid in individuals, they may be found out by the ſigns of a diſeaſe, and what may be known and hoped for, of the event and end of diſeaſes, and the Method of ſigns are to go before. Moreover there is that benefit of this Method, that whileſt the ſick, ſee thoſe things that may happen to them, being known to the Phyſitian, they may truſt the more to him, and obey him; for the Phyſitian when he foreſees thoſe things which ſhall happen to the ſick may have time to prevent them, and avoid the reproaches of the vulgar, whileſt he foretells thoſe things which ſhall come to paſs, and that they may not rail againſt the beſt Medicines, being given to thoſe that are deſperately ſick *The benefit of it.*

By the name of Signs we do underſtand all thoſe things which ſignifie any thing, or all evident things which lay open a hidden matter, or as the Author of Phyſical definitions ſpeaks, A ſign is a manifeſtation of ſomewhat hidden, or every thing that ſhews any of thoſe things which are in the Method of healing, and can demonſtrate them, and make them manifeſt. *A Sign what 'tis.*

CHAP. II.

Of the differences of Signs.

OF Signs of this kind there are certain differences; firſt according to varieties of Bodies, ſome Signes are counted wholeſome, which ſhew ſoundneſſe and health; others unwholeſome, which ſhew unſoundneſſe, others are neutral, which ſhew a diſpoſition to neither. *Differences of ſigns wholeſome and unwholeſome.*

Secondly, certain Signs are called *Diagnoſticks* and *Deloticks* demonſtrating, and demonſtrative, which demonſtrate thoſe things which ſhew the preſent conſtitution of the body, whether it be according to nature, or contrary to nature; certain are Prognoſticks, which foreſhew *Diagnoſtick.* *Prognoſtick.*

Anamnesticks. foreshew what shall come to passe; certain are Anamnesticks which call to memory the state of the body which is newly past.

Proper. Common. Thirdly, some signs are proper, others common, proper are such as agree to one disease onely, Common are such as are found in many diseases. *Galen*, in the first of the differences of Fevers appoints three kinds of proper Signs, and the one he calls unseparable, another proper in its kind, a third proper and inseparable; also he calls those unseparable, which cannot be separated from the effect which they shew, and agrees to every such effect, but not onely proper, are such as agree to those alone, but not to all. Proper and inseparable are such as agree to such an effect alone, and to all.

Out of this division there ariseth other differences of Signs, they are called by the Greeks *Pathognomonick, Synedruons, Epiginomens, Epephanomens*; in English unseparable, sociable, concomitant, subservient, and such as appear afterwards.

Pathognomonicks. *Pathognomonicks* are such as follow the disease also and necessary inhere in it, and therefore presently in the beginning of a disease is present and cannot be separated from it, and agrees to every such disease, and alwayes where they are, they shew the disease that must necessarily be there present, yet it seldom happens that there is one Pathognomonick sign, but for the most part the Pathognomonick signs are constituted of more joyned together, which if they are taken severally are not Pathognomonicks.

Synedruons. *Synedruons*, that is sociable ones, are such as are not inseparable from a disease, nor do they necessarily cohere to the essence of a disease, nor are alwayes present, but besides the Pathognomonicks, sometimes they appear presently at the beginning, sometimes they follow afterwards, and sometimes they are not present at any time of the disease; and therefore they do not shew the disease it selfe, or its kind, but signifie some condition thereof.

Epiphanomenacs and Epiginomenaes. *Epiphanomenacs* and *Epiginomenacs* are such as neither shew the kind of a disease, nor the condition thereof, but shew onely its mutation, and they are threefold; some signs are of concoction, and crudity, others signifie health and death, others are Critick,

or

or decretory which foretell the termination of a diſeaſe.

CHAP III.

Of the heads of Signs.

OF the heads of Signes, although there are many, yet they ſeem to be reduced to theee; the firſt are taken from the nature and eſſence its ſelfe of the thing, or as *Galen* ſpeaks from things eſſentially enhering in the ſubſtance; whether it be a diſeaſe, or a cauſe of a diſeaſe, or a Symptome; namely, when a thing in its own nature is ſo manifeſt to the ſenſes that there needs no other ſignes. *Fountains of ſigns.* 1 *Eſſentially inhering.*

Secondly, ſigns are ſought from diſeaſes, that is, from all things which follow health; a diſeaſe and the cauſes of diſeaſes, accidents and Symptomes, whether they be actions, or excrements, and retentions, or qualities of the body. 2. *From the effects.*

Thirdly, from cauſes whether they be external, or internal, by themſelves, or by accident, or what other ſoever. 3. *From the cauſe.*

Whereunto belongs ability and diſpoſition of body, and from hence tis eaſie, or difficult to fall into this, or that diſeaſe, for this ſhewes alike temper, that a contrary, ſuch as helpe alſo, and ſuch as hinder; as thoſe which encreaſe a diſeaſe are an argument that the diſeaſe hath an agreement with the thing, which increaſes it, but that which delights, and profits is a token that there is in nature ſomething contrary to the diſeaſe.

To theſe heads of ſignes ſome adde ſuch as are alike and diſalike, underſtanding by thoſe things, either a body which is compared to another body, or a part, which is compared with another part, or with it ſelfe, yet others think that ſimilitude and diſſimilitude is not a peculiar head of ſignes, but rather a reaſon of fitly comparing other ſignes among themſelves, but the comparilon may be right *Things alike and unlike*

the

the manners properly, and nature of the ſick ſhould be known, wandring diſeaſes commonly belong to theſe; when if many happen to be ſick of one common infirmity, and he which is ſick begins to be ſo as the reſt were, it is to be ſuſpected that he hath the ſame diſeale.

SECT.

Sect. 2.

Of knowing the Temperature of Mans Body, and of his Principal Parts.

CHAP. I.

Of the Signs of a wholesome Body.

AFter we have spoken of the Signs in general, we come now to handle the several kinds; and because bodies are two-fold, Sound, and Sick, and there is a certain difference and latitude of a sound body, which embraces neither of these; first we are to speak in what manner the various constitutions of a sound Body, and of its parts are to be known; and going back from thence, even from a natural state may be understood how a diseased, and 'tis not difficult to discern a sound from a sick: and all those that are to be accounted for sound, who can perform all those actions which

which belong to a man. Yet how such counterfeit diseases are to be found out. *Galen* teaches in a peculiar Book; but since there is a great latitude of health, first of all the signs are to be proposed of the best constitution of body, which is, as it were, a rule for the rest, and to which, as to the statue of *Polycletus*, the natures of men of all of Ages, Sexes, Countries, and Conditions are to be compared. The signs of such a Constitution, as also of others differing from it, *Galen* in his art of Healing, and fifth Chapter draws from two heads; first from those which essentially inhere, and which according to the nature of the essence are in them. Secondly, from those which necessarily follow those in their operations and accidents.

Signs of a found body. First, therefore it is necessary that a sound body may obtain the most convenient temperature and constitution of the simular parts, fittest for all actions. Secondly, a convenient number it ought to have of organick parts, and likewise magnitude, figure, situation, connexion with others, and all things in all respects, which are required to the constitution of a part, as it is organick. Thirdly, all the parts in order ought to be united and joined, but in respect of actions, a man that is very sound doth very well perform all the actions convenient for a man, natural, vital, and animal; So that there is no defect in them, and observes moderation in them all, and is very little subject to diseases, and withstands all the causes of diseases, violent excepted: the excrements observe their natural substance, quality, quantity, time, and convenient part on't; which to be ejected, the qualities which follow the best constitution of a Body, are a rosie colour of the face, nay and of the whole body, calidity, frigidity, softnesse and hardnesse, smoothnesse and roughnesse; a sound body well constituted observes mediocrity, the body is neither bald, nor too rough, but the hairs themselves keep mediocrity, and in youthfull age tend to yellownesse, in manly to blacknesse; the habit of the body is the middle betwixt too corpulent, and too slender, good flesh, and good stature, out of all which the handsomenesse of the body proceeds; yet all these most evidently appear in the middle and flourishing age.

CHAP.

CHAP. II.

Of the Signs of Bodies differing from the best constitution.

But Bodies which differ from the best constitutions, either are sick, which are discerned from sound Bodies, by the hurting of the actions; and the sign which distinguishes betwixt a sound and sick body, is sensible hurt of the actions; Or they are hitherto sound, which have not their actions hitherto sensibly hurt, whereof there is a great latitude, and some in the temperature of the simular parts, some in the composition of the organick parts,, some of them both deviating from the best constitution.

Signs of a hot body.

And first those bodies which are too hot, yet moderate in drineſſe and humidity, such discover themselves to the touch, hair abounds in the whole body, and is yellow and thick. They are thinner, as to matter of fat: they are swift and strong for motion, prone to anger, the colour of the face is redder then of a temperate body, they are easily hurt by hot causes.

Of a hot and dry.

If dryneſſe be joined to the heat, which they call cholerick, the body shall be hot, hard, thin, and lean, hairy, and the hairs are black, curled, the Pulse of the Arteries are great, and the Veins great, they are angry persons, which are endued with such a temperature, obstinate lovers of brawlings, they desire few things, they are fit for the generation of Males.

Of hot and moist.

If moisture be joyned to the heat, which temperament they call Sanguine, the bodies shall be hot, and soft, abounding with much blood, fleshy, endued with large Veins, and those which are so in their youth, often have the Hemorrhoides of the Nose; and if the humidity somewhat abound, they are apt from their youth to diseases of putrifaction.

Of a cold.

If the body be too cold, such a body is perceived by the touch, 'tis white, fat, slow, soft and bald, 'tis easily hurt by cold things, it hath a narrow breſt, and without hair, and narrow veins scarcely appearing, the hairs are thin

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and of ſmall increaſe for the moſt part, they are fearfull that are of that temperament.

Of a cold and moiſt. If moiſture be joined to the cold, not much, nor that coldneſſe great, the body ſhall be white in colour, fat, thick, ſoft, red hair, inclining to paleneſſe; but if the frigidity with the humidity be more intenſe, the body ſhall be thick, coloured yellow, exceeding bald, the hair ſmooth, the veins lying hid, ſuch temperaments are dull and ſlow of apprehenſion, and for the moſt part altogether idle, no wayes ready, ſimple, and not prone to anger.

Of a cold dry. If frigidity is joined to drineſſe, ſuch a body is diſcerned by the touch, thoſe ſhall be lean, bald, pale, which are of ſuch a conſtitution they are ſlow in going on, dejected in countenance with their eyes fixed.

Of Melancholians. And for what belongs to Melancholians in particular, not onely whom the vulgar, but whom *Ariſtotle* in the thirtieth Section, and firſt Problemie accounts ingenious; wherein the ſaid *Ariſtotle* writes that much and cold choller is black; theſe are fooliſh, and idle, wherein there is much and hot choller, thoſe are quick-ſighted, and ingenious, apt to love, propenſe to anger and luſt, and ſome greater bablers: but thoſe whoſe heat is more remiſs, more temperate, and as it were reduced to mediocrity, thoſe are much more prudent, and although they leſs exceed in ſome matters; yet in others they are far better then the others, ſome in the ſtudy of Literature, others in Arts, others in Common-wealths; namely, thoſe Melancholians are ingenious, who by nature abound with good and plenty of blood, wherewith ſome part thicker and dryer is mingled, which adds, as it were, ſtrength to the blood, and when attenuated, and, as it were, poured, it is ſpiritual.

Saturnines And whereas the differences of bodies are conſtituted according to Aſtrologers, and according to the number of Planets. Thoſe that are born under *Saturn* have a dry skin, black hair, and are delighted with thoſe black things; they have little eyes, ſmall pulſe, a ſlow and dull gate, they are fearful, ſad, love ſolitude, they are buſie-bodies, covetous, ſlow of endeavouring, ſilent, laborious, they have terrible and obſcure dreams.

Jovials. Thoſe under *Jupiter* are fair, and have roſie countenances, with a pleaſant and venerable aſpect, they have

black

black eyes, are of a fit ſtature, and handſome compoſure of all the parts, their habit of body is good, fleſh, blood and ſpirits, pure and in great plenty; hence they are milde, joyful, ingenious, bountiful, moderate lovers of friends, juſt, and all their manners compoſed with comelineſs, and their gate is moderate.

Thoſe under *Mars* abound with choller, have a lean body, rather then a fat, have red faces and ſhadowed, burning and threatning eyes, a broad breſt, an upright neck, they are propenſe to anger, contentious, bold, and often precipitate, contemners of danger, ſeditious, *Martial.*

Thoſe under *Sol* are of a yellowiſh, or a Saffron colour tending to red, they have yellow hair, golden, and curled, black eyes, ſwelling, full faces, moderate garbs, and have hotter blood and ſpirits; hence they are courteous, wiſe, open hearted, honeſt, ſtrong, magnificent, and aſpiring to high things, and ſometimes proud. *Solares.*

Thoſe under *Venus* are faire, coming nigh to the feminine beauty, and ſoftneſs, delicate colour is red, or of white, inclining to red, their eyes ſhining, ſparkling, and caſting lacivious looks, the brows and lips thin, they are quiet, joyful, pleaſant in converſation, delighted with jeſts, company, ſinging, delighted with Muſick, lacivious and principally love neatneſs, and ornaments of the body, *Venereus.*

Thoſe under *Mercury* are rather little in body then great, in face ſomewhat pale, they have little eyes, and thoſe buried within their orbs, thin lips and noſe, and youthful face in manly years, very thin beard, quick voice, light ſpirits, whence they are wiſe, ſubtile, ſtudious of ſects, and ſubtile things; prevalent in memory, eloquent, but unconſtant, and ſometimes alſo crafty, deceitful, witty lyars. *Mercurians.*

Thoſe under the *Moon* are great in body, fat, thick, white, unſtable, and ſometimes delighted with one thing, and ſometimes with another. *Lunar.*

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CHAP. III.

Of the ſigns of the conſtitution of the brain.

NOw follows that which belongs to the conſtitution of parts, and firſt of the Brain; although a juſt conſtitution of the Brain be neceſſary to perform animal actions, proper to the Brain, yet to perform them, a right compoſition and conformation of the head, and of the brain depending thereon, do much avail; wherefore following *Galen* in the art of Phyſick, we will propound in the firſt place certain ſigns of the conſtitution of the brain, drawn from the figure and magnitude of the head.

A little head. A little head if the body be great is an ill ſign, for the brain alſo in ſuch a head is little, becauſe it will generate but few animal ſpirits, or if it doth generate animal ſpirits enough, yet they cannot be moved well enough in ſo narrow a room, but either being pen'd in they ſtick, or being ſtir'd up they move too violent, whence the animal actions are the weaker; and thoſe that have ſuch a body are unſtable, and do many things inconſiderately; the brain alſo in a little head for the moſt part is intemperate and dry, and it argues unaptneſs, and debility of heat, and of matter in their formation, and eſpecially a little head is naught, if it alſo have an ill ſhape.

A great head. A great head if it be well ſhaped, and have the joining parts, as, to wit, the neck, the ſpine of the back, and all the Nerves correſpondent, it ſignifies the brain is well conſtituted, and is a token that the formative vertue is powerful, which can rightly inform and elaborate plentiful matter; but if that be wanting, it ſignifies only plenty of matter: but weak power, which is unfit for ſuch matter, and therefore is no token of a good conſtitution of the head, and ſuch for the moſt part are dull and unapt.

The beſt figure of the head. The natural and beſt figure of the head is moſt like to a ſphear, gently preſt on each ſide, ſo that that compreſſion may be lengthned from the ears towards the fore-part, and thoſe which have that excell in wit, judgment, and

and memory, are ſtrong in body, but thoſe which differ from that beſt figure are generally accounted *Phoxa*, that is, vitious; figure, namely, to wit, wherein the anterior part, or poſterior, or both of them are deficient in their excellency, ſo that either behind, or before, or upward, ſuch heads ſeem ugly; but if ſome excellency be deficient, and the reſt well raiſed up, or grows narrow at top, *Galen* calls it a vitious formation of growing ſharp. and thoſe which have this figure of the head, are the moſt unwiſe, impudent, fraudulent, and moſt baſely corrupted with other vices, that there be a riſing up of the hinder part of the head, and the other bones anſwer to it, is a good ſign, for much good matter is preſent, if it have a handſome figure alſo, not elſe: but if in a thin, too long, and a weak neck, the hinder part onely riſeth up in greatneſſe, or is deformed; 'tis an ill ſign, and ſignifies onely plenty of unprofitable matter, and weakneſſe of the formative faculty. The former part of the head, the hinder part not being altogether deficient in riſing up, if it be more lifted up is a good figure, and all the ſenſes are well; and therefore 'tis no ill ſign, but on the contrary, if that magnitude be joyned with a deformed figure, and the ſenſes are weak, it ſignifies imbecility of the formative faculty; thoſe whoſe fore-heads are low, have weak ſenſes, and are ſtupid, yet they often have good memories, and ſtrength of body; on the other ſide, thoſe whoſe hinder parts of the head are not raiſed enough up, have all their ſenſes whole, but are deſtitute of memory and ſtrength of body; but thoſe that lack raiſing up before and behind, and the head riſeth much in the middle, are called *Oxucephaloi*, ſharp pointed, thoſe are unfit for all animal actions, and weak through the narrowneſſe of the brain; if the head grow great neer the ears on each ſide, it is a token of unfit matter, and of a weak motive faculty.

But for what belongs to the conſtitution of the brain, they manifeſtly ſhew themſelves by their animal actions, and thoſe things that follow them; namely, a temperate brain, doth perform all animal actions well; unleſſe there be any fault in the organs of the external ſenſes, it eaſily reſiſts external hurts, and injuries. Its excrements are moderate in all, and are caſt out at convenient places, eſpe- *Signs of a temperate brain.*

eſpecially the Palate, their ſleep is moderate, their hairs in Infants are yellowiſh, in Boyes more yellow, in young Men yellow; in figure indifferent betwixt curled and ſtrait, nor doth it ſoon fall off, nor they become bald.

Of a hot. Thoſe which have a hot brain are changeable in their opinions, ſwift in motion, ripe in their wits, they uſe little ſleep, and not very ſound, the excrements of their heads are few and concocted, ſo that no error be committed in their dyet, they are eaſily offended by hot things, their face is redder, and veins apparent in their eyes, their hair ſoone grows, and ſoon falls away, 'tis ſtrong, thick, and curled, and for the moſt part tends to blackneſſe.

Of a cold. Thoſe which have a cold brain, their ſenſes are ſlower and weaker, and their apprehenſion, memory, and wit dull, and the motion of their body, not ſo lively and quick; They are moderately inclined to ſleep, they abound with excrements of the brain, although they are not full of braines; from without they are eaſily offended by cold things, which eaſily occur, eſpecially by the north wind: thoſe parts which are neer their heads are neither ſo warm to thoſe that touch them, nor ſo red to thoſe that behold them, and the veins which are in their eyes are not ſo diſcernable, their hair is ſtrait and reddiſh at middle age, bred more ſlowly, yet they are laſting; firſt they are thin, but age coming on they are more burley.

Of a dry. Thoſe which have a dry brain have ſharp ſenſes, piercing and ſubtile, they are very watchful, and have very few excrements, ſtrong hair, and often curled, which do ſo ſoon grow, and ſoon fall away, and are hurt by drying things.

Of a moiſt. Thoſe which have moiſt braines, their ſenſes are duller and more turbulent, they are accuſtomed to much and profound ſleep, they have ſtore of excrements, thin hair, ſoft, whitiſh, and durable; and they are ſeldome or never bald, they are comforted by dry things, and offended by moiſt.

Of a hot and dry. Thoſe who have a hot and dry braine, are ingenious, and induſtrious in taking in hand, and performing of buſineſs, the force of apprehenſion is moſt exquiſite in them-

them, and they are fit for motion, yet more active for the moſt part, then behooves them to be, they are alſo moſt vigilant and ſleep very little, and have few excrements of the brain; to thoſe that touch them, their head appears hot, their face until they come to full ripeneſs of years is red, afterwards the heat decaying more pale, they are offended with air, and other hot and dry things.

Of a hot moiſt. Thoſe which have a hot and moiſt brain, if either quality a little exceed, the excrements of their heads are many, the colour of the head is white, mingled with red, the veins in the eyes great, the hair ſtrait and yellowiſh, and do not eaſily fall away; they are eaſily hurt by heating things, and are pained in the head, and many excrements are collected to the other eſpecially, if they are moiſt, but if both qualities abound, the ſenſes are not ſo ſharp, they cannot watch long, yet their ſleep is not pleaſing and continued, they have divers dreams, and ſtrange ones, their heads are obnoxious to many diſeaſes; ſince it collects more excrements then it can diſcuſſe, they are eaſily hurt by heating, and moiſtning things, and principally by the South Wind; but if one quality overcome the other, there ſhall be more evident ſigns of the one, and more obſcure of the other, which is to be taken notice of in the other temperaments alſo.

Of a cold and dry. Thoſe which have a cold and dry brain are too ripe witted, but in proceſs of time, ſharpneſs of the wit and ſenſes abateth, and they grow old and dye before their time; eſpecially if a diſtemper of the Heart and Liver concur with that of the Brain; the ſame are unhealthy, and are eaſily offended by external cauſes, by cold aire, and error in their dyet; the head to the touch is cold, nor have they good complexions, unleſs they have the better colour, from the hot diſtemper of the Heart and Liver, the Veins of the Eyes do not appear, their hair grows ſlow, and is thin and reddiſh, and if the dryneſs overcome the cold they are well,

Of a cold and moiſt. Laſtly, whoſoever have cold and moiſt brains, are ſlow and dull of apprehenſion, and their ſenſes not ſo ſharp; they collect many excrements, they ſleep much and ſound, they are eaſily offended with the coldneſs and moiſture of the air, and are apt to cold diſtillations; they have long and ſoft hair, and whitiſh from their childhood, they are never bald.

CHAP.

CHAP. IV.

Of the ſigns of the conſtitution of the heart.

Signs of a temperate heart. IF the heart be temperate, mediocrity is obſerved in its motion, the Pulſe of the Arteries and reſpiration, and thoſe who have ſuch a heart, they are endued with good manners, not effeminate, nor mad headed, or angry, but humane, not covetous, nor prodigal, but liberal, not diſſemblers, nor proud, but candid, without haughtineſs of mind, benigne, temperate, not precipitate, nor medlers, nor buſie-bodies, but mature in counſels, not envious, but deſirous of others good.

Of a hot. Thoſe who have a hot heart, their whole body is hot, the motion of the heart, the pulſe, reſpiration, through urgent uſe, exceeds all mediocrity in magnitude, celerity, and frequency, they are couragious, and ſwift, and unweary of undertaking enterpriſes, and bold in undergoing dangers: they are rough, and full of briſtely hairs in their breſt, and the breſt in compariſon of the head is great.

Of a cold. The ſigns of a cold heart, are contrary to thoſe which are of a hot, the whole body is leſs hot, unleſs the liver be hotter, the motion of the heart, pulſe, and reſpiration when cuſtome doth not ſo require it, is not ſo great, and ſometimes ſmall and ſlow, if there be a greater receſſe to frigidity; and ſuch a heart argues ſlowneſs to anger, fear, diſtruſt, ſlothfulneſs, and lingering; whence ſuch are effeminate, contemners of glory and honour, their breſts are without hairs, and in compariſon of their heads little.

Of a dry. Whoſe heart ſoever is dry, their pulſe is hard, they are not prompt to anger, but being ſtirr'd up to anger are implacable and mad, and they can diſſemble their anger, they are obſtinate, and covetous, the whole body for the moſt part is too dry, unleſſe the moiſture of the liver correct it.

Of a moiſt. Moreover he whoſe heart is too moiſt, his pulſe is ſoft, they are apt to anger, but eaſily pleaſed, the habit of the body is dryer, except the dryneſs of the liver reſiſt it.

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The ſigns of a hot and dry heart are a hard pulſe, great ſwift, frequent, great reſpiration, ſwift and frequent, thoſe who have ſuch a heart are fit to take in hand and perform actions, couragious and bold, apt to anger, and unplacable, envious, proud, and if there be exceſs of heat, and drouth, are mad, cruel, unmerciful, and ſparing none; the ſame are hairy, eſpecially in the Breſts and *Hypocondries*, the whole body is hot and dry, unleſſe the conſtitution of the Liver hinder it, the Breſt broad and wide. *Of a hot and dry.*

The ſigns of a hot and moiſt heart, are ſoft pulſes, great, ſwift, and frequent, and the reſpiration anſwers to the pulſe, ſo that the breſt anſwers to the heat of the heart, and thoſe who have ſuch a conſtitution of the heart, are induſtrious, and prompt to actions, and not wild, they are apt to be angry, yet it is not ſharp and durable, but placable, and this temperature, ſo that humidity do not too much exceed, moſt fit to prolong life, but if the humidity doth much overcome the heat, putrifaction is eaſily cauſed, and putred fevers are generated. *Of a hot and moiſt.*

Thoſe who are cold and moiſt in the heart, bring forth a ſoft pulſe, little, ſlow, thin, thoſe which have ſuch a temperament, are not bold, but fearfull, and diſtruſtfull, effeminate, ſlow, and not apt to anger, and if they are ſtirred up to anger, it is not violent, but eaſily appeaſed, they are alſo gentle, ſhame-faced, deſperate in adverſity, and altogether endued with a ſoft and effeminate mind, their breſts are bare, and the whole body, and the breſt anſwers to ſimple conſtitutions in amplitude. *Of a cold and moiſt.*

Moreover in thoſe who have a cold and dry heart, there is found in the pulſe hardneſs, ſmallneſs, thinneſs, and ſlowneſs, and ſuch is their breathing, if their breaſts be ample, they are no ways propenſe to anger, but being ſtirr'd up, and as it were forced to anger, retaine it very long, they are alſo covetous, and of all others moſt naked in the breſt. *Of a cold and dry.*

Yet here you are to be admoniſhed, that thoſe things which are ſpoken of ſignes, of the moral actions by Phyſitians, are not of acquired manners, and ſuch as are compleated by education, diſcipline, and cuſtome, but are to be underſtood of the native and congenite manners, which *Galen* calls *Hormas*, and when Phyſitians tell us that manners follow the conſtitution of the body, that *Whether mens manners are according to their temperature.*

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is to be taken of the native and ingenite manners, not ſuch as are acquired.

CHAP. V.

Of the ſigns of the conſtitution of the Liver.

Signs of a temperate Liver. IF the Liver be temperate, the habit of the whole body is in the middle, betwixt being too fat, and too lean, the colour of the body is roſie, and for the moſt part, the reſt of the ſigns appear, which are found in a temperate body, the Urine is excellent.

Of a hot. If the Liver be too hot, yellow Choller abounds, and in middle age black, or chollerick, and aduſt blood, the Veins are broad, and ample, the whole body more hot, the Belly and Hypocondries rough and hairy; and thoſe which have ſuch a conſtitution of Liver, are carried away by pleaſures, eſpecially by meat and drink, they are offended with hot meats and drinks, and hot air; but cold air and cold meat and drink help them; their Panch is dry, they are thirſty, unleſs the coldneſs and moiſture of the ſtomach hinder it, and they are very obnoxious to hot diſeaſes.

Of a cold. In a cold Liver all things are contrary, the veins are ſtrait, the blood colder; and hence the whole body colder, except the heat of the Heart hinder it, the belly ſmooth.

Of a dry. The ſigns of a dry Liver, are little blood, and thick hard veins, and the habit of the whole body thin or lean.

Of a moiſt. The ſigns of a moiſt Liver, are abundance of blood, and that thin and watriſh, and the whole body more moiſt.

Of a hot and dry. The ſigns of a hot and dry are amplitude and hardneſs of veins, and hotter blood, thicker, and dryer; the Hypocondris are exceeding rough, and the whole body hotter and dryer.

Hot and moiſt. But if the Liver be hot and moiſt, more ſtore of blood is generated, and that of an indifferent conſiſtence, the veins are great and broad, and ſoft, and the habit of the whole body moiſter and ſofter, the Hypocondries hairy enough,

enough, and if either quality do much exceed, thoſe who have ſuch a conſtitution fall into many diſeaſes, which proceed from putrefaction.

If the Liver be more cold and moiſt, crude and pituitous blood is generated, the veins are narrow, and the whole body, if the heart hinder it not, is colder and moiſter, and the Hypocondries are void of hair. *Cold and moiſt.*

Moreover the ſigns of a cold and dry Liver are little blood, and ſo the nutrition not ſo happy, leſs ſtore of hair, and the whole body is colder and dryer, unleſs perchance the heart do correct the frigidity of the Liver. *Cold and dry.*

CHAP. VI.

Of the ſigns of the temperature of the Teſticles.

THoſe whoſe Teſticles are in good temper are fruitful; thoſe whoſe Stones are too hot, are lecherous, and apt for *Venus* betimes, and fruitful alſo, and beget boyes, and they alſo have hair in their privy parts betimes, and have beards alſo very young. *Signs of temperate Teſticles. Hot.*

Thoſe who have cold Stones are not apt for *Venus*, nor fruitful; and if they do generate, they rather procreate Females then Males, and their genital parts are more bald, and have leſſe hair, and they ſlowly, or never put forth a beard. *Cold.*

Thoſe who have moiſt abound with much ſeed, but watry, and have broad beards, *Moiſt.*

Thoſe who have dry ones, generate little ſeed, and that indifferent thick, and are apt to have little beards. *Dry.*

Thoſe who have hot and dry Teſticles generate thick ſeed, and are fruitful, and are timely ſtirr'd up to *Venus*, and yet are eaſily hurt by *Venus*, they beget Males, unleſs the ſluggiſh nature of the woman hinder it; hair comes betimes in the genitalls, and plentifully, and in all the parts neer, upwards in the parts nigh the Navel, downwards to the middle of the Thighs. *Hot and dry.*

Thoſe who have heat and moiſture, do more abound with ſeed, they affect *Venus* moderately, and can eaſily brook it, if the conſtitution of the reſt of the body agree, nay ſometimes they are offended by retaining of the ſeed, they generate as well Males as Females, and are no ſo rough about the Genitals. *Hot and moiſt.*

Thoſe

Cold and moiſt. Thoſe whoſe Teſticles are cold and moiſt begin to uſe *Venus* late, neither are they prone to *Venus*, and they are alſo unfruitful, or if they generate fruitful ſeed, 'tis more fit to procreate Females then Males, and the ſeed is thin and watry.

Cold and dry. Laſtly, thoſe that have cold and dry Stones, Generate thick ſeed, and but little, and are more hurt after Coition then cold and moiſt ones.

CHAP. VII.

Of the ſigns of the conſtitution of the ſtomach.

Signs of a temperate Stomach. A Temperate Stomach ſhews it ſelfe moderate in all things, it deſires ſo much as it can concoct, and concoct it well, and neither corrupts ſoft meats, which are eaſie to be digeſted, nor leaves hard meats unconcocted, and crude, nor is it eaſily hurt by meat that overwhelms it.

Of a hot. But a hot Stomach concocts better then it deſires, it digeſteth meat hard and difficult to be concocted, happily, but on the other ſide, it corrupts ſoft meats, and ſuch as are eaſie to be digeſted, and brings forth a nitrous crudity; 'tis delighted with hot meats and drink, and that ſo powerfully, that it is not hurt by the moderate uſe of cold things, but is preſerved from the fartheſt decay, which will be preſerved by heat; Thirſt is greater then the deſire of meat.

Cold. A colder Stomach more greedily deſires then it can concoct, and principally cold meats, and ſuch as are hard to be digeſted, are not eaſily well concocted by it, but eaſily grow ſower in it, and a little after eating plentifully, a ſenſe of heavineſs is perceived about the Stomach, and floating, and loathing, and ſometimes vomit.

Moiſt. A moiſt Stomach doth not eaſily thirſt, it is not eaſily hurt by much drinking, 'tis delighted with moiſt food, and eaſily brooks hunger.

Dry A dryer Stomach is more thirſty, yet unleſs the thirſt ariſe from ſome part neer thereunto; it is hurt by too much drink, it deſires dry meat.

From theſe ſigns of the ſimple conſtitutions of the Stomach

mach, may eaſily be collected, the ſigns of the mixt conſtitutions.

CHAP. VIII.

Of the ſigns of the conſtitution of the Lungs.

Signs of hot Lungs.

THoſe who have hot Lungs do much dilate their breſts in breathing, they are thirſty, and the thirſt is not allayed unleſs it be in long time, and with cold things.

Of cold.

Cold Lungs are much hurt by breathing in of cold air, the reſpiration in thoſe who have cold Lungs is little hot, that is leſs cold, and is a friend to breathing; alſo in cold Lungs many excrements are gathered together, which are ſometimes caſt out by coughing, ſometimes by ſpitting only.

Dry.

Dry Lungs collect not many excrements, and therefore hath no need to caſt up any by cough or ſpittle.

Moiſt.

Moiſt Lungs on the contrary gather many excrements and therefore between whiles in ſpeaking, 'tis neceſſary to ſpit often.

Signs by the voice.

The voice alſo is ſhewen by the conſtitution of the Lungs and Wind-pipe, a great voice and vehemency of effliation ſhews a wide Wind-pipe, and heat of the Lungs; a ſmall voice ſhews the contrary; the Wind-pipe rightly conſtituted, cauſeth a ſmooth even voice; a ſharp voice but joined with clearneſſe, ſignifies drineſs of the Wind-pipe, a ſharp voice with hoarineſs, and obſcurity proceeds from a plentiful humor moiſtning the Arteries, and rather belongs to a preter-natural conſtitution then a natural; a ſharp voice ſhewes narrowneſs of the throat, and conſequently coldneſs of the Wind pipe; on the contrary a great voice ſhewes wideneſs of the top of the Wind-pipe, and therefore ſignifies heat ſtrong from their infancy.

Book. III.

PART. I.

SECT. I.

OF

URINES.

CHAP. I.

Of the abuſe of inſpection of Urines.

The vulgar opinion of Inſpection of Urine.

AFter we have ſpoken of thoſe things which are to be known about the conſtitution of a ſound body, now we are to ſpeak of the knowledge of things contrary to nature; but becauſe amongſt ſignes Urine, and Pulſe do ariſe from the fountain, we will ſpeak of them in the firſt place: and firſt for what belongs to Urine, although a falſe opinion is deeply ſeated in the minds of many, that by the inſpection of Urine alone, and wholly, the ſtate and condition of the ſick, and what ill he ſuffers, either within or without, from what cauſe ſoever may be known, and whether the ſick be a man, or woman, whether a woman be great with child or not: Yet ſuch like are beyond the power of the Art of Phyſick, by the Urine to divine. In the mean time the Inſpection of Urine is profitable, but as *Hypocrates* alſo 1. *Aphor.* 12. teacheth that Urine may teach many things

things of the condition of a diſeaſe; but that there may be a right judgement of Urine, the differences and cauſes of the differences are to be known.

CHAP. II.

Of the differences of Urine, and firſt of the ſubſtance of Urine.

FIrſt in Urine too things are to be conſidered, in regard of the ſubſtance thereof, the liquor, and that which is contained in the liquor. In the liquor again two things, the Conſiſtence and the Choller. *The ſubſtance of Urine.*

Firſt for the Conſiſtence, ſome are thick, ſome are thin, others indifferent. *Conſiſtence of Urine.*

That Urine is thin, which for the moſt part conſiſts of watry and potulent matter, but of ſerous and ſalt matter, that which is ſeparated in the Veins and Liver; or of another humor, which hath little or no mixture with it. *Thin Urine.*

On the contrary, a thick Urine is that which contains much mixture of ſerous and ſalt humidity, or alſo of other humors. The middle is that which hath ſo much of that ſerous excrement, and aqueous humidity mixt with it, as for the moſt part is wont to be in a natural conſtitution of the body. *Thick.* *Indifferent.*

Moreover ſome Urines are clear, others troubled, or foul; thoſe are troubled, through which the ſight cannot paſſe; but 'tis not the ſame thing for Urine to be thick and troubled, when as other liquors; ſo Urines alſo are accounted thick, which nevertheleſſe are cleare, and perſpicuous; but a clear Urine is either made clear and ſo remains, or elſe 'tis made clear, and afterwards is troubled, which is properly called troubled Urine; but troubled Urine, properly ſo called, is that which is made ſo, and either remains ſuch, which Urine commonly is called ſubjugal, which is like the contents of the Urine, or is made foul, or troubled, and afterwards become cleare, and becomes ſo afterwards, as is ſpoken. Moreover in reſpect of the colour, there are accounted ſeveral differences, but the principal colours, according to which the Urines differ are ſix. *Troubled and thick Urine no the ſame.* *Troubled.*

Firſt,

Firſt white; ſecondly, pale; thirdly, flame colour; fourthly, yellow; fifthly red; ſixthly, black.

White Urine. Firſt to the white Urines belong the aqueous, which bare the colour of pure water, then thoſe which repreſent thin wine, or fair water, into which is caſt a little Oker, or Choller, as alſo ſnowy Urine, which repreſents the whiteneſs of ſnow, as alſo milkey and light gray, or ſuch as repreſents the colour of clear horn.

Pale. The ſecond is pale like the colour of Oker, or ſubpallid, which is ſeen in water tinckted with Oker, but ſome call theſe Urines ſpicious, or the colour of ears of corn, and ſubſpicious, and compare this colour to the colour which is ſeen in chaff that is old, or in ſtraw.

Straw colour.

Flame colour. The third colour is flame colour, ſuch as is that of a Citron, and in fire burning clear, which if it be more remiſs, 'tis called ſubfulgent; *Actuarius* calls theſe golden Urines, and ſubaureous, becauſe they are like gold.

Yellow. Fourthly, the next and neereſt to this fulgent is yellow, yet ſo differing from it, that this inclines more to white, that is more ſhining and ſplendid, or neer to the

Brighter yellow. colour and ſplendor of the Stars; that which is not ſo deep but clearer, then yellow is called ſubflavous; *Actuarius* calls theſe colours croceous, or ſaffron colours, or ſubcroceous, ſuch as are in waters wherein ſaffron, or wilde ſaffron flowers are mixed.

Red. The fifth colour, or red, whereof *Galen* makes three ſorts, and places red in the middle, extream red, the higheſt, and reddiſh the loweſt, and thoſe he places in Bole-Armonack, and Vermilion, and red, in Cherries and Apples; others make four differences, and firſt they place the colour that is a mixt red, ſuch as is the hair of thoſe who are ſaid to be red hair'd, which again is diſtinguiſhed into red, and reddiſh; the ſecond is Roſie; the third purpurious; the forth ſanguineous.

Vine colour. To theſe *Actuarius* joines a vine coloured Urine, which repreſents the colour of a red Urine inclinable to

Blackiſh. black, to this he addes the colour of dry grapes, like new Wine (out of doubt of red Wine) boiled to the third part, or which is preſt out of dried Grapes, or of Cherries, inclining to a black colour.

Black Urine. Moreover there is a black Urine, under which ſome-

Phyſitians

Phyſitians comprehend more colours, green, yellow, black, and ſuch like; although there be innumerable differences of green plants, yet two here are the chiefe, Leek-colour, which is ſeen in the blades of Leeks; and Eruginous which is like Verdy-greaſe, and yellow, which repreſents the colour of red Lead, and therefore called plumbeous. *Eruginous*

To theſe differences they refer Oleagenous Urine, which repreſents the colour and conſiſtence of Oyl. *Oyly Urine*

Now theſe differences which are taken from the ſubſtance and colour are complicate, and conſtitute, compound differences, amongſt which the chief are ſeaven, Urine thin and white, thin, pale, thin flame colour, or fulgent, thick white, thick red, thick black *The ſmell of Urines.*

Moreover beſides theſe there are other differences leſs principal, which are taken from other qualities and circumſtances; firſt from the ſmell, for ſome Urines ſmell little, others very little, and have that odour which is natural to Urine, others ſtink exceedingly, and others ſmell pleaſant.

From the ſound, for ſome Urines whileſt they are poured out make no noiſe, others make a noiſe.

From the quantity, for ſome Urines are made in an indifferent quantity, others more ſparingly, others more plentifully.

From the manner, for ſome are made without difficulty and pain, others with pain, ſome drop by drop, and others altogether.

CHAP. III.

Of the Contents in Urine.

A Content in a Urine is every corpulent and viſible thing which is mingled with the liquor of the Urine; ſome Contents are eſſential, others accidental; the eſſential are thoſe which appear for the moſt part in all the Urines of ſound perſons, and moſt of ſick, but the accidental are thoſe which neither alwayes nor moſt frequently are diſcerned in Urines. *Contents what, how many fold.*

Eſſential in reſpect of ſcite or place, in which they abide there are three; the ſediment, the ſuſpenſion, and

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the clouds, the altitude of the whole Urine is to be divided, as it were, into three parts, into the bottome of the Urinal, and the higheſt region of the Urine, and the medium betwixt theſe two extreams.

The ſediment of Vrine. The ſubſidence or ſediment of Urine, is that in Urine which deſcends towards the bottome, and ſettles in the bottome.

The ſuſpenſion of Vrine. Suſpenſion, or ſubliment is that which is contained in the middle, and is, as it were, ſuſpended.

The nubecula. The clouds and little clouds is that which hangs in the higher part of the Urine like a cloud, yet ſuſpenſion in Urine is ſometimes taken by *Hypocrates* by the names of a cloud, as in the ſecond of his Prognoſticks, in the 29. Title is manifeſt.

Yet theſe Contents do not alwayes exactly keep their natural place, for the ſediment ſometimes plainly ſticks in the bottom, and ſometimes aſcends higher, and tends to ſuſpenſion, and ſometimes ſuſpenſion alſo aſcends a little higher from the middle ſometimes deſcends lower; ſo alſo Clouds plainly overſpread the extremities, ſometimes incline towards the middle.

The difference of Contents. In theſe three Contents, other differences moreover are to be conſidered from the ſubſtance; a Content is ſaid to be thick, or thin, equal, or unequal, plain and ſmooth, or rugged; equal is when all the parts of the Content are of the ſame thinneſs or thickneſs; unequal is when one part is thick and another thin; plain and ſmooth is that which obſerves continuity of parts divulſed, or rugged, is when there is no continuity for the colour, A Content is either white, red, or black, or tinctured with a colour neer to one of theſe. In reſpect of quantity 'tis either little, much, or indifferent, out of which complicated divers other differences again do ariſe.

Accidental differences. Concerning the accidental differences which are contained in the Urine contrary to nature, ſome ſettle in the bottome, others in the middle, others in the ſuperficies, ſome ſtick to the ſides of the Vrinal, others are confuſedly mixt with the Vrine.

Farenacious ſediment like leaves, like Pulſe. Of the firſt kind are farenacious ſediments, which repreſent thick bran, little flakes which are like leaves, grainem, which repreſent a kind of pulſe, or corn, beſides theſe ſometimes in a Vrine, there are clots of blood, ſmall ſands, ſtones, little rags of fleſh, quitture, worms.

In

In the middle of the Vrine there sometimes swims little bodies like Attomes, threds, or rags, and haires, and sometimes small sands, cleave to the sides of the Vrinal, representing the substance of Tartar. *Hairs in Vrine.*

But in the superficies there appears principally four things preter-natural, bubbles and those various, froth, a crown according to the common opinion; when notwithstanding 'tis nothing else then a shadow, or light, passing through the circumference of the Vrinal, received within the compass of the Vrine, and so is not properly called a Content, and Fat, yet besides these sometimes fine Sand swimming in the superficies of the Vrine *Bubbles. Froth. A crown.*

CHAP. IV.

Of the causes of the various consistence of Vrines.

After we have mentioned the differences of Vrine, next we must find the causes of all those differences; and first the cause of a Vrine of an indifferent consistence is a serous excrement of blood, mingled with an indifferent quantity of water which happens when the faculty concocting is well. *Causes of Vrine of an indifferent consistence.*

The cause of a thin Vrine which hath little of that serous excrement mixt with it, is debility of concoction, especially in the Liver and Veins, which coldnes of the Stomach may occasion, but principally store of drink, also a cold distemper of the Reins. Thirdly, obstruction, and straitnes of the vessels through which thick humors cannot flow with the Vrine. Fourthly, the changing and converting of the matter in another part. *Thin.*

Thick Vrine is made by the mixture of any thick matter which happens when crude humors, which are cumulated in the Veins, are expelled by nature this way, or when any obstruction is opened out of the Spleen, Liver, Reins, and other parts, or an impostumation is broken, or ulcer, the thick matter is mingled with the Vrine, or if there be store of serous and salt humors. *Thick.*

If the Vrine be made clear and remain so, and be of good consistence, it is a token that such clearnes proceeds from the natural heat rightly elaborating the matter, for nature elaborates not only aliment, but excrements also, as much as it can, and impresses convenient qualities in them; but if Vrine be thin and clear, also 'tis a token of crudity; neither hath nature then begun concoction of humors, and if Vrines have any other colour, then such watrish, they obtain it from collerick humors mixt therewith. *Clear. Thin and clear.*

Troubled. But if the Vrine be made clear, and afterwards be troubled, and that be in a found body, it is a ſign that he declines from his beſt health, and is prone to ſome diſeaſe, eſpecially a Fever, and it ſignifies the humors in the Veins to be indigeſted, which nature now hath endeavoured, yet hitherto hath not perfectly concocted: but if the ſame happen to thoſe that are ſick, it ſignifies that ſome concoction is now to be made, and ſomething of the peccant matter to be mingled with the watry ſubſtance; but that mixture not to be ſo exact, and happening by ſome occaſion from the external air, or the heat vaniſhing of its own accord; the vitious matter is ſeparated from the other humors.

Troubled, which grows clear. But if Vrine be made thick, and afterwards become thin, that happens becauſe the natural heat begins to perform and concoct the matter, and to ſtir it, and mingle it, which notwithſtanding ſince it is not exactly mingled, the heat afterwards ceaſing, the Heterogeneal parts are ſeparated of their own accord, and the thicker reſide in the bottome. The ſame comes to paſs if the Vrine be thin, but ſome matter may be mingled therewith in its paſſage; but ſince it is not exactly mingled with it, but only confuſed afterward of its own accord, it ſettles in the bottom.

Troubled which remains ſo. Laſtly, if the Vrine be made thick and remain ſo, it ſignifies great confuſion of humors is made in the Veins by the heat ſtirring the humors, but not rightly concocting them, nor is there good concoction made, which the excrements elaborate to make after their manner, and indeed if ſuch a Vrine appear in the beginning of ſuch a diſeaſe, wherein no concoction ſeems hitherto to be made by the natural heat; it is a token that 'tis cauſed by the fiery heat contrary to nature agitating and troubling the humors in the veins; but if the Vrine in the beginning is not made thick, but clear, and afterwards becomes turbulent, it is a ſign that the diſeaſe grows worſe, and that the heat acting upon the matter contrary to nature is encreaſed, yet always this and alſo other ſigns muſt have regard to the reſt of the conditions of the Vrine, and hence it is to be collected, whether ſuch ſigns be made by the ſtrength of nature working upon the vitious humors, or by the encreaſe of the preter-natural heat, and putriſaction, or debility of ſtrength.

CHAP. V.

Of the cauſes of colours in Vrines.

The cauſes of a golden colour in Vrine. CConcerning the cauſes of colours in Vrine, a golden colour, which agrees to the Vrines of found men proceeds according to the vulgar opinion from ſome portion of yellow choller, or rather

rather from a ſerous and ſalt excrement, yet that alſo ſomething tinctured with choller, which is mixt with the Vrine.

Of a whit

A white Water is made, either becauſe nothing is mingled with it which may colour it, which is properly called aqueous, or becauſe ſome white body is mixed therewith.

Of an aqueous.

The firſt cauſe of aqueous Vrine is Crudity and weakneſs of the native heat, by reaſon whereof this excrement is left, as it were imperfect. Secondly, obſtructions of the paſſages through which the matter uſeth to flow to the Vrine. Thirdly, if choller, and therewith that ſalt humor be carried to another place, as happens for the moſt part in acute Fevers, and Phrenſies with them. Fourthly, much drink. Fifthly, heat of the Reins and Liver, which plentifully draw drink to them, but do not concoct it. Sixthly, Gravel in the Reins, or Bladder, too much of that which is ſalt, and thick adheres, but the aqueous flows out.

Of milky

Vrines of another kind are made by the mixture of ſome white ſubſtance, whether it be flegm, or quitture, or ſeed, and theſe Vrines we call milky, yet for the moſt part they are made thick, and afterwards become clear, and the matter ſetling in the bottome of what kind it is, may be eaſily diſcerned.

Of paliſh. Of pale.

A Vrine is ſomewhat pale, when pale choller in a ſufficient quantity, or a little of yellow is mingled with the Urine, but if much pale choller, or yellow in an indifferent quantity be mingled with the Vrine a pale colour ariſeth.

Of yellow.

If yellow be mixed in greater quantity, the Vrine becomes yellow, yet ſome times other cauſes beſides internal, external may give a tincture to the Vrine, as Rhubarb, Saffron, the leaves of Senna, and ſuch like.

Of blood red.

A ruddy colour in Vrine is cauſed by choller and blood, and indeed if the Vrine be coloured with blood it doth not look clear, and is properly called Vrine dyed with blood, and has a colour like water, wherein the fleſh of animals newly ſlain have been waſhed, and is made either in ſome open veſſel for what cauſe ſoever, or by the weakneſs of the Liver and Reins, by reaſon whereof they cannot contain blood and aſſimulate it to themſelves, or becauſe nature at ſet times evacuates the blood abounding in the whole body with Vrine; but the blood which is mingled with the Vrine, is either thin, and the Vrine is made red or reddiſh, or thick, which if much be mingled, the Vrine is made exceeding red, but if little either ſimply red, or of a pale red, but that Vrine which is coloured by ſtore of choller, the choller colouring it and and making it redder, it

ſhineth

ſhineth, and is as it were like flame, ſometimes alſo it is made red and thick by plentiful mixture of aduſt choller, like wine of a blackiſh, or deep red.

Of Vine colour. Wine like Vrine is made by the mixture of ceruleous choller, or repreſenting the colour of Woad, as alſo by the mixture of

Of grape colour. plenty of red choller: Grapy by the mixture of yellow choller exceedingly dryed, and as it were changed into a Violet colour and degenerating towards black.

Of green. A green Vrine is cauſed by plenty of Æruginous, and Leek-like colour.

Of yellow and black. Yellow and black Vrine are ſometimes cauſed by the mixture of external things; as for what belongs to the internal cauſes, the Vrine is made black when either the melancholy humour is evacuated with it, which happens in thoſe which cumulate melancholy humours in the Spleen, or black choller is mixed with the Urine, or when the heat and ſpirits are extinguiſhed in the veins, the blood is corrupted and becomes black.

CHAP. VI.

Of the cauſes of an oyly Vrine, and of other differences.

Of oyly Vrines, OLeaginous Urines either have only fat ſwimming in the ſuperficies, or repreſent Oyl in ſubſtance and colour: the firſt difference proceeds from a melting of the fat, and is rather to be referred to the differences in the Contents; but that Vrine which ſeems like Oyl in ſubſtance and colour, and yet is not truly fat, hath its beginning from the mixture of excrementitious humours, eſpecially of pale and black Choller, as alſo of Flegm, from whence proceeds a crudity with a certain

Black Vrine always thick. greenneſs like oyl; but when the difference in ſubſtance and colour are joined, a black Urine cannot be thin, but if the black humor makes it black, it is neceſſary that there is ſo great plenty thereof mixt with the Vrine, that the Vrine muſt become thick.

A light, red, thin. A light red Vrine is thin from the ſmall portion of blood mingled therewith, but if it be made of a pale red, 'tis by choller which cannot happen unleſs there be ſo great plenty thereof, as may render the Vrine thick.

A pale and thin. A pale and thin Vrine is made when a ſmall portion of choller is mingled with an aqueous Urine, but a pale red and thick,

A pale, red, thick. when choller is mixt in greater plenty, but if any choller be mingled with a thick white Vrine, the Vrine is dyed pale.

CHAP.

CHAP. VII.

Of the cauſes of ſmell, quantity, and ſuch like accidents.

THe Urine which obtains the natural and uſual ſmell, ſignifies that the natural heat is right, and concoction is well performed; but if the Vrine ſmell not, or leſſe then the Vrines of thoſe that are well uſe to do, it is a token that the native heat is weak, and almoſt no concoction performed, nor is the ſerous and excrementitious humour mingled therewith. *Cauſe of the ſmell of Vrine.* *Of no ſmel.*

Sweet Vrine, or that which ſmells well doth not proceed from any internal natural cauſes, but if any ſuch be found it hath acquired that ſmell from meats, or medicines taken inwardly. *Of ſmelling well.*

Stinking Vrines are cauſed firſt from meat and drink, and certain medicines taken, alſo from crudity and corruption of meats, eroſion, and eſpecially from putrifaction, Fourthly, from daily retention of Vrine in the Bladder. *Of Fœtid.*

Vrine naturally ought to anſwer to the drink, but it is made more plentiful then is fit: Firſt, if meats are adminiſtred which are full of aqueous humidity. Secondly, if the aqueous and ſerous excrements, which uſe to be diſcuſſed by motion, or evacuated other wayes be retained in the body. Thirdly, if nature from the other parts, or the whole body expels the vitious humours through the paſſages of Vrine, which uſeth to happen in Critick, and Symptomatick evacuations, as in a Diabetes, or incontinence of Vrine, Fourthly, if Dyuretick medicine be taken. *Of ſtore of Vrine.*

On the contrary, little Vrine is cauſed by contrary cauſes, namely, not only by reaſon of ſmall quantity of drink taken, but of dry meats, moreover if the aqueous matter be conſumed which uſeth to be in burning fevers, as alſo by motion and too much exerciſe. Thirdly, if the Vrine be converted to other parts. Fourthly, by reaſon of the ſtraitneſs of the paſſages, by which the Vrine ought to be expelled. *Of little Vrine.*

CHAP. VIII.

Of the cauſes of Contents in Vrines of thoſe that are ſound.

THe matter of a Content, or Sediment in the Vrines of ſuch as are ſound (for in Vrines of thoſe that are exactly well, there is ſcarce any Content ſave onely a ſediment) is ſome part of aliment which eſcaped concoction; for ſince it neither *The matter of a ſediment in ſound men.*

can

can be changed into perfect blood, nor into the nutriment of any part, after the third concoction it is sent to the Reins and cast out through the Bladder, and there is scarce found a Urine of a sound man, wherein the natural sediment doth not appear; because scarce any body is so exactly sound which doth not generate some such excrement; and no nourishment is to be found which cannot afford matter for such an excrement. Whence according to the diversity of meats, and natures thereof there ariseth diversity of Contents: For although the Contents settle in the bottome, and in those that are exactly sound; yet in those which do not enjoy most perfect health, or do not eat the best meats, it doth not enjoy its natural place; but in some, and those which eat grosser food more then is convenient, it doth settle in the bottome; in others it ascends higher then is fit, by reason of the heat which cannot subdue it.

The causes of diversity of Contents

The cause of the quality of the sediment.

A Sediment is naturally white and takes this colour from the veins and parts which are wont to impress a white colour on those things which they change: Equal and continued is not divided by reason of heat rightly concocting and rendring this excrement equal, and obtains the figure of a Pyramid, which although all parts seem to the senses to be equally thick; yet in truth some are thicker, which settle underneath, others thinner which consist in the superiour part.

Quantity.

A great sediment is through plenty of crude juice which affords matter for a sediment; whence boyes through much eating, and those that live in idleness, and those whose accustomed evacuations are suppressed, and females also have a more plentiful sediment; but men because they are hotter, and have not so many crude humors, have less sediment: the same happens in Summer through fasting, too great evacuations, and other causes consuming the humors, also obstructions, and much and thin drinks, which are distributed and cast forth before it can receive any mixture, or digestion with meat.

CHAP. IX.

Of the causes of Contents in Urines of those that are sick.

The cause of a sediment in the Urines of the sick.

AGain in sick people the sediment consists of the more crude part of the aliment which cannot turn into nourishment of the parts; with which notwithstanding other vitious humors also are mingled, nay sometimes vitious humors onely may afford matter for a sediment, but by how much the more the Contents of those that are sick are like to those that are well

well, by so much they are the better, and shew great concoction, but by how much the more they recede from those either in colour, or other qualities, by so much they are the worse, and indeed the differences of colours of Contents are borrowed from the humour whereof they consist; but as for what belongs to the diversity of substance, that proceeds from the variety of burning heat and various disposition of matter: a farenacious sediment, as *Galen* teacheth, is made from thick dried blood, or flesh unequally consumed by a fiery heat, but rough or scaly, when the solid parts are unequally consumed, and scaly particles are cast forth with the Urine, and bran-like sediment proceeds from a flamy and consuming heat of a Fever, and a sore in the bladder or veins: a sediment that represents pulse proceeds from melting, as *Actuarius* teacheth, when a Fever comes to the flesh and melts it, but it is not thought credible by the late Physitians, that by the melting of flesh any thing so thick can be mixed with the Urine; and moreover those sediments they account do proceed from a scabby, and exulcerated bladder, or from a crude and melancholy humor.

Causes of a farenacious sediment.
Frothy.
Bran-like.
Pulse-like

Small Sand and Gravel proceed from thick and feculent matter which sometimes contains in it selfe a principle of coagulation, and a light occasion being offered, it concreates of its own accord.

Of sand and gravel.

Clods of blood are discerned when either from an ulcer, or otherwise from a hurt, broken or open vessel in a part through which the Veine passeth, blood is cast out.

Of Clods of blood.

Quitture appears in the Urine when an impostume, or ulcer lyeth hid in the Reins, Bladder, or otherwise through which the Urine passeth; or when from the superiour parts, as the Brests, or Lungs, nature evacutates matter through the Urinary passages.

Of quitture in the Urine.

Small pustles of flesh called Caruncles in the Urine of exulcerated Reins, are parts of the substance.

Of Caruncles.

Slimy, thick, and tough flegm like the snot of the nose, if it be made with the Urine, and be voided with pain, for the most part it is a token of the Stone in the Bladder, but that which is made without pain *Fernelius* saith doth proceed from a crude ulcer of the Reins, or parts thereabout, or from an impostume; and truely for the most part, such matter being present in the bladder as it is the beginning, so it is a sign of the Stone of the Bladder; and moreover being sent out it coagulates into a lapidious hardness; but sometimes flegm which is cast forth in great plenty, is the off-spring of crude matter, and ill digestion in the parts beyond the Reins. Worms

Of slimy Excrements.

Of worms. Worms if they appear in the Urine proceed from corrupt and sordid matter, as in other parts.

Of fibres and hairs. Small strings and little bodies like hairs, and cobwebs, if they are put forth with the Urine have their original from a thick humour, either in the veins, or in the reins, or dryed in the ureters, and reduced into this form by the longitude of the vessel.

Of bubbles and froth. Bubbles and froth are generated from wind included in viscous matter, which when it cannot exhale extends the matter into a tumor, and those bubbles may be of divers colours according to the nature of the humour in which the inclosed wind stirs them up.

Of a crown A Crown shews what kind of humors are contained in the greater vessels, and according to the diversity of humors hath divers colours, and is seated in the upper part of the Urine, and in that circle many things are obvious to our eyes, which cannot be discerned in the rest of the humors, because the light in the superficies of the liquor is otherwise divided and received then in the middle.

Of fat. Lastly, if fat swim upon the top of the Vrine it proceeds from melting of the grease, but this proceeds from heat, therefore if the fat continually swim in Urine like cobwebs, it shews consumption and melting of the body; yet *Fernelius* writes that he would advise you of Oyl taken inwardly, least any small bodies of Oyl swim in the Urine by that means.

CHAP. X.

Of the causes of changes in Vrines.

Causes of changing of Vrines. But Urines vary also in those that are sound, in regard of temperaments, sex, age, time of the year, sleep, watching, exercises, passions of the mind, and such like, which are called the causes of variations of Urines.

Vrine of those that are hot and cold. As for the temperaments, hot temperaments have higer coloured Urines, and thinner and less sediment, or in stead of a sediment a cloud, or Nubecula; but colder have Urines paler coloured, and few Contents also, unless raw juice, which proceeds from weaker concoction be mingled with the Urine.

Of Boyes. Youths. Old men. Of middle age. In respect of age, Boyes have white Urines, thicker, with a plentiful sediment; youths thinner with few Contents, but higher coloured; old men have white Urines, but thin and without Contents, unless many excrements meet together, which if they are mingled with the Urines, it happens that the Urine is made thick, and full of Contents; those that are of a middle age have indifferet Urines,

In

In regard of the Sex, the Urines of men are far higher, or deeper coloured then the Urines of women, thinner, and have fewer Contents, but the Urines of women are paler, and by reaſon of crude humors, thicker with more plentiful ſediment; yet nevertheleſs the Urines of men and women do not ſo vary, that they can be known by certain ſigns, whether it be a mans or womans water, for reaſons may be given alſo in men which produce ſuch Urines, as otherwiſe are familiar to women; for although as in ſuch as are great with child there may be ſome change of Urine, when the Menſtruous blood is retained in them, and from thence no ſmall change is made in the body; yet that change doth not afford a certain ſign whether a woman be great, when the ſame cauſes of change may be ſhewen in other women which are not great, but in ſome which are more lively, there is little change of Urine. *Of men.* *Of women great.*

As for the time of the year, the Urines of every kind in the middle of the ſpring are moderate, as alſo in the middle of autumn, but by how much the more the year goes on towards Summer, by ſo much the more the colour of Vrine is encreaſed, and the thickneſs, and Contents are diminuiſhed: in the Summer alſo the Vrines are higher coloured, thinner, and have leſs ſediments; in autumn the colour of Vrines and tenuity are leſſened: the Urines in the Winter come neereſt the beſt ſtate. *Change of Vrine according to the time of the year.*

In hot Regions, and under the hotter degrees of Heaven Urines are made deeper coloured, thinner, and of little ſediment. In colder Climates they are neerer to the beſt ſtate. *According to the Region, and degrees of Heaven.*

Thoſe which exerciſe and labour moderately make well concocted Urines, and in colour, ſubſtance, and contents moderate, but thoſe that exerciſe and labour immoderately, in thoſe firſt the colour is encreaſed, and the thickneſs and contents diminuiſhed; but if the exerciſe continue long, the colour and tenuity is leſſened, when the ſtrength is weakned, but thoſe that live idly make Vrines not much coloured, and moreover thick and with many ſediments. *To exerciſe and reſt.*

In immoderate watchings, firſt the colour is encreaſed, but if they continue long 'tis abated: ſleep if it be moderate cauſeth Vrine to be good in all, but if it be immoderate, it encreaſeth the colour of the Vrine, but abateth the contents and ſubſtance, but if it be protracted longer, it becomes crude. *According to ſleeping and waking.*

The paſſions of the mind, ſince ſome encreaſe the heat, ſome diminiſh it, according to the calidity and frigidity which they bring upon the body, they alter the Vrines. *Paſſions of the mind.*

Laſtly,

Meat, Drink, and Medicines. Lastly, Meats, Drinks, and Medicines change the Vrine, and Meat taken moderately causeth a moderate sediment; more plentifully, a more plentiful; thin causeth none; Meats, also Drinks and Medicines have a power of changing colour and smell of Vrines.

CHAP. XI.

What is to be observed in the Inspection of Vrines.

SInce all these things are spoken of Vrines for that end that from thence diseases & the causes of diseases may be known, and the events foretold, that this may be rightly done, we are to admonish you what things are to be observed in the Inspection of Vrine.

When Vrine is to be received. First the time in making water is to be observed; those Vrines which are made presently after eating and drinking, signifie nothing certainly, especially if much drink be taken, since the decoction is not performed, Vrine is rather to be lookt upon after a perfect concoction, and about the morning. In Fevers regard is to be had of the fits, because in time of the Paroxism the morbifique matter is expelled another way.

Secondly, it is to be weighed whether any meat, drink, or medicine, be taken which may change the Vrine.

The whole Vrine to be taken. Thirdly, the whole Urine made at once is to be be taken, not to be mingled with waters made at several times.

It should first settle. Fourthly, judgment is not to be given of Urine before it hath setled, and the Contents enjoy their proper place.

In what place should be kept. Fifthly, you must beware least the Urine by cold air, or winds especially in an open vessel, being exposed thereunto, should be changed, or corrupted, yet it may be changed no less by too much heat then by too much cold.

Inspection of troubled Vrines. Sixthly if the Urines are troubled they are to be setled by the heat of fire, or rather warm water, that they may return to their former state; yet it is convenient to look upon troubled Urines before they become clear again, since often times in troubled Vrines the substance of the Vrine is more manifest then in clear, and often times Vrines which be not troubled seem to be alike, when troubled they differ exceedingly; and in troubled Vrines oftentimes that matter of the Vrine shews it self, which scarce any one could believe had been contained in it when 'twas clear.

Seventhly the Vrinal in Inspection ought to be quiet, and not to be stirred, only after Inspection it may be lawful to stir the contents.

Eighthly, the Glass wherein the Vrine is to be viewed ought to be clear, perspicuous and void of all colour. Ninthly,

Ninthly, the Urine is to be caſt neither in a place too ſhady nor too light, yet the colours in a ſmall ſhade, ſo not too dark, may be diſcerned beſt, but the Contents in a lighter place.

CHAP. XII.

What may be diſcerned and foretold by a Vrine.

ALL diſeaſes and affects cannot be diſcerned by Vrine only, ſince there are diſeaſes of many parts which alter not the Vrine, and of whoſe cauſes nothing is mingled with the Vrine, but without diſpute the Vrine may ſhew that diſpoſition which is in the Liver and Vrines; ſince the Vrine is an Excrement of the Veins, of the Reins alſo and paſſages through which the Vrine flows, and the diſeaſes of the Bladder and Yard without controverſie the Vrine may ſhew; for if any thing be contained in the ways through which the Vrine paſſeth contrary to nature; 'tis eaſily mingled with the Vrine: moreover the diſeaſes of thoſe parts which ſend matter to the Veins, may be diſcerned by the Vrine. Whence if any peculiar part be affected, and the Vrine changed alſo; if in the part affected there be alſo made any peculiar change, it is a token that ſuch matter is tranſmitted from that part to the Reins and Bladder. On the contrary, alſo when the matter which is contained in the Veins is carried ſometimes to other parts, and cauſeth various Symptomes; the diſeaſes of thoſe parts may alſo be known by the Vrines, eſpecially if other Symptomes agree with thoſe of the Vrine. Laſtly, when Fevers and venemous diſeaſes may be joined with the diſeaſes of many parts, although the Vrines then do not firſt indicate that very diſeaſe of the private part; yet 'tis not unprofitable then to conſider the Vrines, and to obſerve the ſigns from thence of life and death. *What can be known by Urine.*

And thus what may be known, and foretold of every Vrine is manifeſt, from thoſe things which are ſpoken of the cauſes of all the differences which happen unto Vrine.

Book

PART. I. SECT. IV.

OF PULSES.

CHAP. I.

What a Pulſe is.

A Pulſe what.

A Pulſe which the Greeks call *Sphygmos* and *Sphuxis*, is a motion of the Heart and Arteries proceeding from the vital faculty, conſiſting of dilatation and contraction, and is appointed for the preſervation of the Harmony of the native heat. Inſtruments of the Pulſe are the Heart and Arteries, and the Heart is the Fountain, Chimny, and Elaboratory of heat and vital Spirits; but the Arteries are the Channels through which this vivifying heat is derived from the heart, as from a Fountain, and diſperſt through the whole body, which work that they may rightly perform, power is given to them by nature whereby they can dilate and contract themſelves by perpetual motion, by which means Arteries Blood with the vital Spirits, is diffuſed through the whole body, the vapors are expelled, and cold air is drawn in; neither is the motion of the Heart and Arteries made only by the fervent heat of the Blood and Spirits; nor is this motion to be accounted accidental, and, as it were, violent, but the heart by a peculiar faculty which it hath in its ſelf, which they call Vital and Pulſifique is moved; neither are the Heart and Arteries dilated, becauſe they are filled, but they are filled becauſe dilated. Neither is this faculty denied to the Arteries, although in its own manner, it depends on the heart,

Inſtruments of a Pulſe.

Efficient cauſe.

Vital faculty.

The uſe of the motion of the heart and arteries.

The vſe of the Heart and Arteries, and the end of their motion is the preſervation of the native heat, the generation of vital ſpirits, and the diſtribution of them through the whole body; but the native heat is preſerved (as being hotter) whileſt 'tis cooled and fanned, and the matter fit for the generating of ſpirits is drawn, but the fuligenous vapors are expelled. The motion of the Heart and Pulſe performs theſe duties by that double motion, out of the which as of parts it is compoſed, namely by *Siſtole* and *Dyaſtole*, or dilatation and contraction.

But

But becauſe theſe two motions are oppoſite, and a thing cannot be moved againſt its oppoſite unleſs firſt it be quiet. It is neceſſary that theſe two motions admit of two ceſſations between; the one is that which follows the *Syſtole*, the other the *Dyaſtole*. And indeed attraction is made by dilatation; for the cooling and fanning of the heat, and the generation of ſpirits. But contraction is made for expulſion; for the heart when it is dilated attracts blood, the matter of vital ſpirits and arterious blood, and air from the Lungs through the arterious veins; But the Arteries draw ſome of the thinner blood from the Veins, eſpecially they draw aire through their ſmall orifices, opening to the Pores of ths Skin: by contraction the Heart expels fuliginous vapors, and together emits arterious Blood and Spirits into the Arteries, but the Arteries expel fuligenous excrements, and together communicate ſome Spirits and arterial blood to all the parts.

CHAP. 2.
Of the ſimple differences of Pulſes.

THe differences of Pulſes are either abſolute, or relative; abſolute differences are when a Pulſe hath any difference abſolute, and in its own nature, when we conſider it without comparing it with any other. Reſpective are thoſe which ariſe from comparing of the Pulſes amongſt themſelves. Abſolute again are twofold, ſimple and compound. *The differences of Pulſes. Abſolute. Reſpective.*

But ſeeing to the Pulſe, as alſo to every local motion, five things are required. 1. The thing moving. 2. The ſpace through which the motion is made. 3. Time. 4. The reſt between the two oppoſite motions. 5. The inſtrument: according to theſe alſo the ſimple differences of Pulſes are conſtituted, and every ſimple difference regards one of theſe, and ſo there are ten ſimple Pulſes, a great and ſmal in reſpect of ſpace, ſwift and ſlow in reſpect of time, thick and thin in reſpect of reſt between, vehement and weak in reſpect of moving, hard and ſoft in reſpect of the inſtrument. And if amongſt the oppoſit motions we account a mediocrity, or moderate in every kind, there will ariſe 15. ſimple Pulſes And if there may be added to theſe other differences, either they are not comprehenſible by the touch, or they are unprofitable. *Simple.*

A great Pulſe is that which exceeds the ſpace, which by nature is granted for the motion of the Artery. A little Pulſe is that which doth not wholly keep that ſpace. A moderate Pulſe is that which doth obſerve its definite ſpace for its motion; but whereas in ſpace, longitude, latitude, profanditude may be conſidered, ſome divide a great and ſmall Pulſe into other differences, to *A great and a ſmall Pulſe.*

wit,

wit, long and ſhort, high and deep, narrow and broad, to which if a moderate Pulſe be added, then there will be made five kinds, all which kinds if they are joined together, amongſt themſelves make twenty ſeven differences, which comprehend eighty one Pulſes; of which *Galen* in the firſt of the differences of Pulſes, *Cap.* 5.

A ſwift and ſlow. A ſwift Pulſe is when an Artery runs through his ſpace in a ſhort time, a ſlow when in a long time moderate, when in an indifferent time.

Frequent and thin. A thick, or frequent Pulſe is performed, little reſt interpoſing between. A thin when long; an indifferent is performed in the middle of thoſe extreams; but that a frequent and thin Pulſe may be rightly perceived, The Pulſes are to be divided into the ſtroak, and the intervall; the ſtroak is the motion of the Artery reſiſting the touch; but the interval is the time interpoſed betwixt two ſtroaks, whereby the Artery is contracted and dilated, which by how much the ſhorter or longer it is by ſo much the Pulſe is ſaid to be more frequent or thin.

Vehement weak. A vehement pulſe is that which ſtrikes the hand of him that feels it, and reſiſts it: and as it were reverberates. Weak is that which gently ſtrikes the hand. Moderate is the middle betwixt theſe two.

Hard. Soft. A hard Pulſe is when the Artery is hard, and reſiſteth the touch. A ſoft is when the Artery is ſoft and fainty, and gives way to the touch.

CHAP. III.

Of the compound differences of Pulſes.

Out of theſe differences of ſimple Pulſes, compound differences are eaſily to be found, which although they are very many, yet theſe are the chief.

Great.	*Swift.*	*Frequent.*	*Vehement.*	*Soft.*
Great.	*Swift.*	*Moderate.*	*Moderate.*	*Moderate.*
Great.	*Moderate.*	*Moderate.*	*Moderate.*	*Moderate.*
Moderate.	*Swift.*	*Frequent.*	*Vehement.*	*Hard.*
Moderate.	*Swift.*	*Thin.*	*Weak.*	*Soft.*
Moderate.	*Moderate.*	*Frequent.*	*Vehement.*	*Soft.*
Moderate.	*Moderate.*	*Moderate.*	*Vehement.*	*Hard.*
Moderate.	*Moderate.*	*Moderate.*	*Moderate.*	*Moderate.*
Moderate.	*Moderate.*	*Moderate.*	*Weak.*	*Soft.*
Moderate.	*Moderate.*	*Thin.*	*Weak.*	*Soft.*
Moderate.	*Slow.*	*Thin.*	*Weak.*	*Soft.*
Little.	*Swift.*	*Frequent.*	*Vehement.*	*Hard.*
Little.	*Moderate.*	*Moderate.*	*Moderate.*	*Moderate.*
Little.	*Slow.*	*Moderate.*	*Moderate.*	*Moderate.*
Little.	*Slow.*	*Thin.*	*Weak.*	*Hard.*

CHAP

CHAP. IV.

Of an equall and unequall Pulſe.

Reſpective differences of pulſes, equality and inequality.

REſpectively or Relatively, the differences of Pulſes are are three: for either reſpect is had to the equality and inequality, or to order, or to proportion or number; equality and ineqnality of the Pulſe is nothing elſe bnt a congruity or differenee of one thing in pulſes when compared with another.

How manifold equall.

Equality and inequality is either ſimply and abſolutely ſuch; or *Secundum quid*, and which is at leaſt in a certaine kinde ſuch.

Abſolutely equall.

Abſolutely and ſimply, a Pulſe is ſaid to be equall which neither changed in magnitude nor in ſwiftneſs, nor in frequency nor in vehemency, nor in ſwiftneſs, and if equality be obſerved in neither of theſe, it is called a Pulſe abſolutely and ſimply unequall; but if a Pulſe keeps not equality in alltheſe, neither is made unequall in all theſe; it is ſaid according to ſomething, and in ſome reſpect to be unequall, the denomination is to be taken from that wherein it obſerves not equality.

Abſolutely unequall.

Syſtematique inequality.

Moreover theſe unequalities againe are divided into ſyſtematicall or collective, which is obſerved in more ſtroaks, and ſingular, which is in one ſtroake; collective, againe is double, unequality equally, and unequality unequally; unequall Pulſes are equally when the firſt is ſo to the ſecond, as the ſecond is to the third, the third to the fourth, and ſo forward, unequall; unequall unequally are thoſe which are not alike in their change, neither is the firſt ſo to the ſecond as the ſecond is to the third.

An unequall pulſe equally unequall.

Myouros.

We call an unequal Pulſe equally *Myouron*, from the ſimilitude of the tayle of a Mouſe, which as the taile of a Mouſe from ſome thickneſs by little and little and equally tends to ſharpneſs, ſo theſe Pulſes in magnitude are leſſened by degrees and equally, and the following ſtroake is alwayes leſs then the former, which ſome call maimed Pulſes.

Deficient Myouros.

Theſe againe are either deficient *Myourn* which perpetually are leſſoned till at length they plainly ceaſe to ſtrike any more; or ſuch as at length ceaſe to be leſned, and do not plainly give off and reſt; and both of them againe are various, for ſome keepe that pravity to which they are come

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others do not perſevere therein; but returne againe to magnitude, which the Greekes call maimed Pulſes running again, reciprocall ſhortned, or running Pulſes, and theſe again either return to their former magnitude, or to leſſer, or to a greater.

Maimed reciprocall.

Unequally, unequall Pulſes alſo are various according to all the ſimple differences of Pulſes, but the chief, and thoſe which the Ancients gave names unto, are the intermittent, deficient, the intercedent, or intercurrent.

Intermitting.

The name of intermittent is attributed to that inequality which is in pravity and rarity, or only rarity, namely when the arterie is ſo hindered in ceſſation, that one pulſation ſeems to have two or three, between two which ſeeme to be deficient, and after one or more ſtroakes, the intermittent begins to beat againe.

Intercurrent.

Intercurrent, or ſuch as go between, are oppoſite to intermittent, and amongſt them after certain ſtroakes, one or more ſtroakes intervene, which cauſeth inequality of frequency.

Deficient.

A deficient Pulſe is when an artery after it hath made unequall ſtroakes, plainly ſeemes to be defective in motion and to ceaſe; which if it returne to its former motion, it is called a reciprocall deficiency, and this is the difference between an intermitting and deficient Pulſe, that a deficient reciprocall after a long ſpace between, whereby the man ſeemes to be deſtitute of a Pulſe, returnes, but an intermitting at the higheſt returns after intermiſſion of five Pulſes.

Reciprocall deficient.

A ſingular inequallity.

A ſingular inequality is either in one part of an artery, or under one finger, or more, or all; inequality under one finger is, when in dilatation and contraction a certaine diverſity in celerity is obſerved, ſo that one part of one motion is ſwifter, another part is found ſlower, and this inequallity Authors divide into three parts, namely an intermitting Pulſe, an uneven Pulſe, and a haſty Pulſe, or ſtriking double.

Intermitting in one Pulſe.

Intermitting in one Pulſe is when the dilatation of the artery before it can come to its terme and externall reſt, is interrupted in the middle of its motion, and is refreſhed in its reſt, yet ſo that it cannot remaine in reſt but performes motion, and comes to its accuſtomed terme and Externall reſt.

Of

Of this kind ſome Authors make many differences, amongſt which the cheife is an uneven Pulſe, when in the Dioſtile as it were in the middle of its reſt tis interrupted, yet ſo that after reſt the faculty ariſeth higher and perfects motion, whence in an uneven Pulſe in one dilatation there is as were a double ſtroke, and indeed the latter ſwifter then the former. *Capriſons.*

An even haſty Pulſe is when the motion is continuall and interrupted by no reſt, but the part of the diſtending one is ſlower, another ſwifter, as if the motion of diſtention begins ſlowly and afterwards ends ſwiftly, or the contrary. *Uneven.* *ſtirred up.*

Dicrotus or a double ſtriking Pulſe is when the Artery begins to be moved, but before it perfects its motion it goes back and a ſmall contraction being made it riſeth againe to perfect its motion, and ſtrikes the ſecond time, ſo that a double Pulſation ſeemes to be made, which nevertheleſſe conſiſts of one diſtention or dilatation. *Dicrotus.*

In equality in one Pulſe, but under more parts of the Artery happens, when in one dilatation the Pulſe ſtrikes two, three, or foure fingers, but thoſe unequally, ſo that in one finger the Pulſe is otherwiſe perceived then in another, and that in a twofold manner, for either the motion is interrupted, ſo that ſome fingers perceive motion, others not, or it is a continued motion, when the Artery is otherwiſe moved under other fingers; and indeed thoſe which are made unequall in magnitude in one Pulſe are called Myourus, namely when the Pulſe under the fore finger is greater, leſſe under the ſecond, leſſe then that under the third, but if the Pulſe under the middle fingers be greater, under both extreame fingers leſſe, they are called prominent Pulſes or Myouroy, changing about unto every part. *Myourus on Pulſe.*

Out of theſe ſimple differences of inequality other compound do ariſe, for either a Syſtematicall inequality is complicat with a ſimple, or a Syſtematicall with a Syſtematicall, or a ſingular with a ſingular; out of which compound differences the cheife are firſt, a rugged or uneven, ſecond full of ſurges, third when it beats as if a worme did creep under ones finger, foure that feeles as if it were a Piſmire, five a ſerrate Pulſe, ſix a hectick, ſeaven a trembling. *Prominent.*

In an uneven Pulſe whereof we have ſpoken before inequality is twofold in ſwiftneſſe and violence, for one part of the motion is ſwifter the other, more vehement then the former. *Capriſons.*

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A ſurging pulſe. In a Pulſe full of waves there are two inequalities, in magnitude and frequency, namely when the Artery is moved, the motion not interrupted, but unequall, ſo that magnitude may appeare firſt under the fore finger, after under the ſecond, then under the third, hence under the fourth; according to the manner of the waves.

Virmicall. The Pulſes like the moving of a Worme or Piſmire, differ from a ſurging Pulſe only in magnitude, for there is the ſame inequality in that Vermicular as in the waving, but the Artery is leſſe and ſlower lifted up, and it renders the Artery as it were into the forme of a creeping worme.

Formicant. This Vermicular Pulſe being leſſe and ſlower, but very frequent is a Formicant motion, ſo called from the creeping of a Piſmire, which indeed makes quick ſteps, but goes leſſe way in longer time.

A ſerrate. A Serrat Pulſe is when one part of the Artery is more lifted up and ſtrikes the fingers more, the other is leſſe lifted up, and ſtrikes the fingers leſſe.

A hectick A Hectick Pulſe is ſo called from the ſimilitude of a Hectick Feaver, it alwayes perſiſts in the ſame in equality what ever the inequality be.

A trembling. Laſtly a trembling or fainting Pulſe hath inequality in many Pulſes, in magnitude, frequency, and vehemency, in the ſame manner, as you may obſerve in the panting of the heart,

CHAP V.

Of the order and Harmony amonſt Pulſes.

An ordinate pulſe. THe ſecond difference of relative Pulſes is conſtituted in reſpect of order, and it agrees at leaſt to unequall Pulſes, for equall Pulſes are alwayes ordinate, but that is an ordinate Pulſe, which although it be unequall, yet it keeps ſome order in ſtriking, but an Inordinate is that, which is unequall and keeps no order in ſtriking; as if it ſhould happen that an Artery ſhould make foure equall Pulſes, and the fift differs from equality; and againe an Artery makes foure equall Pulſes, but the fift differs againe from equality, it is called an Ordinate Pulſe, but if the firſt and ſecond be equall, but the third leſſe, the fourth fifth and ſixth againe equall, the ſeaventh unequall, it is an Inordinate Pulſe.

Inordinate.

Inordinate

Inordinate Pulſes againe either are abſolutely ſo or not, abſolute inordinate are, if whilſt more circuits are conſidered, thoſe that follow no way anſwer to the firſt, not abſolute Inordinate are, if the latter circuits, although amongſt themſelves they are not alike, anſwer to the firſt.

Rythmus in pulſes.

The laſt differences of relative Pulſes is conſtituted in reſpect of proportion or harmony, now concord is nothing elſe but a proportion of the time of dilatation to the time of contraction. Harmony is either equall or unequall; equall according to the opinion of Ancient Phyſitiansis when the time of contraction is equall to the time of diſtention; unequall is when the time of Diaſtole is greater or leſſe then the time of Siſtole, and a Pulſe according to the opinion of the Ancients is harmonious, which obſerves a proper meeter, to the age, temperament, and ſex: Incongruous is that which differs from the proper Harmony of age, temperament and ſex; but ſince a dilatation can ſcarcely be fully known, *Galen* doth not conſtitute a Harmony by comparing of the time of contraction with the time of dilatation, but rather by comparing of the quality of motion, as of ſwiftneſſe and ſlowneſſe, ſo that to him a meeter or Harmony is nothing elſe but proportion of dilations amongſt themſelves, and a congruous Pulſe is that, wherein the Siſtole and Diaſtole are equally ſwift; but an irregular is that, wherein the celerity of dilatation and contraction is unequall, the inequality of which irregularities or diſcords may againe be divided into nine differences, according to the variety of dilatation and contraction in celerity and tardity.

Good order.

no order.

CHAP VI.

Of certaine things neceſſarily requiſite to diſtinguiſh Pulſes by.

Thoſe things that are requiſite in a Phyſitian that he may know pulſes.

But that a Pulſe may be rightly perceived certaine things are required in the Phyſitian, certaine in the ſick; in the Phyſitian firſt there is required that he have an exquiſite ſence of feeling, and a ſoft hand, eſpecially in the Pulſe of the outmoſt joynt of the fingers, not very hot, nor too cold, but temperate; ſecondly that preſently after his commig in he may not touch the Artery, leaſt perhaps the ſick being troubled by the comming of the Phyſitian, the Pulſe be changed, but let him wait a little while, untill he underſtands

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that the ſick is quiet, thirdly let him touch the Artery of the wriſt of either Arme.

For the fingers rightly are to be applyed to the Artery, namely the firſt foure or three fingers, are to be put to the Artery that the more differences of Pulſes may be apprehended; moreover ſince there is a threefold application of the hand to the Artery, compreſſion, when the fingers do as it were preſſe the Artery, ſoftly when the hand is gently applyed to the Artery, the medium when in an indifferent manner or with ſome ſmall preſſure it is put to the Artery; preſſing is moſt convenient for the knowledge of contraction, if it may be, and for vehement pulſes, but in languiſhing pulſes it takes away the greateſt part of the Pulſe: by handling fearfully and ſoftly, the vehement Pulſes are not enough perceived; thirdly the medium is betwixt theſe two, and neither lightneſſe of feeling is obſerved in vehement, nor compreſſion in languiſhing.

In the ſick In the ſick is required firſt what time the Phyſitian touch the Pulſe, that he be free from all paſſions and preturbations of the mind, leſt thoſe mutations, which happen through the paſſion of the mind to the Pulſes ſhould hinder the Phyſitian. Alſo neither is the Pulſe to be tryed preſently after motion of the body; laſtly the hand of the ſick ought to be placed right and free from all voluntary motion, and the ſick may not bend his fingers much or diſtend them, but keep them in their middle and naturall forme, and the ſick alſo may not lift up his hand with his ſtrength, leaſt he tremble and cauſeth the Pulſe to vary.

CHAP. VII

How to know the differences of ſimple Pulſes.

The knowledge of a great and ſmall Pulſe. FOraſmuch as what belongs to the knowledge of Pulſes, if we obſerve the Artery to be dilated and extended more then naturally it ought, and by reaſon of its great extending doth as it were reſiſt the fingers or make them pit in, we account it a great Pulſe, but if they reſiſt but a little we account it but a ſmall Pulſe.

Of a ſwift and ſlow. If it be conſidered that the Artery is moved by violence from terme to terme, nimbler and ſwifter then in a temperate or ſound man, that is called a ſwift pulſe, but if the ſpace

is

is compleated by the Artery by a ſlower ſtroake, tis called a ſlow Pulſe.

If the intervall between each ſtroake be longer then in a temperate or ſound man, that is a thin Pulſe, if ſhorter, a frequent Pulſe. *Of a frequent thin.*

If the Pulſe ſtrive againſt, and as it were oppoſes it ſelfe to the application of the hand that preſſes it, tis a vehement Pulſe, and if not, tis a weake Pulſe. *Of a vehement and weak.*

A hard Pulſe, if the Artery be gently touched, doth not reſiſt the finger, as a vehement one; but if it be preſſed harder, it doth not ſo ſtrongly reſiſt as a vehement Pulſe, hardneſſe alſo is never joyned with magnitude, nor vehemency with ſmallneſſe. *Of a hard and ſoft.*

CHAP. VIII.

How to know the Reſpective differences of Pulſes.

WHen we know the ſimple differences of Pulſes, by that means we may know the compound, therefore the Phyſitian ſhould firſt of all diligently exerciſe himſelfe about the knowledge of ſimple differences: it is very difficult and almoſt impoſſible to find out the inequality of Pulſes in one Pulſation and under one finger, but yet if it may be known, it is known onely in the greateſt and moſt vehement Pulſes, which reſiſt compreſſion; afterwards ſlacking, and ſometimes the middle betwixt both is to be uſed, ſometimes one, ſometimes two, now three, then foure fingers are to be applyed, ſo that if happily that inequality be not perceived under one or more fingers, yet it may be found under ſome or other.

But if the inequality of one ſtroke be to be tryed under ſeverall fingers, you ought to apply foure fingers to the Arteries,

To know the order and preturbation of order, tis neceſſary dayly to apply the hand; but if in a long Series of Pulſes there be ſome diverſity obſerved but keeping order it, is called an orderly Pulſe; but if no order be obſerved amongſt divers Pulſes, it is an Inordinate Pulſe. *Order how it may be known.*

The knowledge of Harmony, ſince the whole depends upon the knowledge of contraction and dilatation, and the comparing of theſe motions amongſt themſelves: *Rhythmus.*

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but to know the Syſtole in all pulſes, if it be not impoſſible, yet it is very difficult; hence it appeares that the knowledge of meeter is not eaſie; and for the knowledge thereof nothing is more neceſſary then thoſe things which are required of, or the knowledge of ſwift pulſes.

CHAP. IX.

Of the cauſes of Pulſes in generall.

Cauſes of pulſes of generation.

THe cauſes of pulſes are divided by Phyſitians, into cauſes of generation, or immediate and proximate; and cauſes of mutation or remote; or into primary or ſecundary; thoſe they call primary which make the pulſe, and which being put there is a pulſe, and being taken away there is none; thoſe which do not make a pulſe but alter and change it are three, the faculty, or uſe or end; theſe are many, whereof ſome belong tonaturall things, as temperaments, ſex, age, habite of body; others to things not naturall, as aire, meate and drinke, exerciſe, reſt, ſleeping, weaking, excretions, retentions, paſſions of the minde; others to preter-naturall namely, diſeaſes, cauſes of diſeaſes, and ſymptomes.

Of commutation.

Proper and inſeperable pulſes.

The cauſes of pulſes containing, each of them have two differences, for the faculty is either ſtrong or weake, the uſe is increaſed or diminiſhed, the inſtruments are ſoft or hard, hence ſome pulſes do perpetually ariſe of one cauſe onely, which *Gallen* calls the neceſſary conſequent, others call proper, and unſeparable; and ſuch like pulſes only follow the faculty and inſtruments, but not the uſe, and of neceſſitie a ſtrong pulſe neceſſary followes a ſtrong faculty, a weake pulſe, a weak faculty; hard arteries, make a hard pulſe, ſoft arteries make a ſoft pulſe, ſome although they are made more from one cauſe containing then another, yet they do not ariſe from that only, but tis neceſſary that others concur alſo, which they call familiar; the familiar pulſes of a ſtrong facultie, are great, ſwift, thin, weake ſmall, ſlow, frequent; the uſe increaſed, great, ſwift, frequent; diminiſhed, little, ſlow, thin; a ſoft artery, great, ſwift, thin; hard artery, little, ſlow, thick.

Familiar.

Compound cauſes make compound differences, and ſometimes

times two, ſometimes three cauſes, are complicate; firſt, a ſtrong faculty, and the uſe increaſed; the inſtruments obtaining a naturall conſtitution make pulſes, great, ſwift, frequent, and moreover vehement, a ſtrong faculty and the uſe leſſened brings forth pulſes, moderate in magnitude, ſlower, thinneſs, yet vehement; from an infirme faculty and the uſe moderately increaſed comes a pulſe moderate in magnitude and celerity, frequent, languiſhing; but if the force be very weake, the pulſe is little, ſlow, very frequent, weake; from a faculty weakned and uſe diminiſhed ariſeth ſmall pulſes, ſlow, thick, fainty; and if there be very great debility, the very leaſt intermittent and deſirent pulſes ariſe. *The faculty with the uſe changed; what pulſes it makes.*

Secondly, if the uſe and inſtrument be joyned together, the uſe increaſed with a ſoft inſtrument, makes great pulſes, ſwift, moderate in frequency; or if there ſhall be great exceſs, frequent, and ſoft; the uſe increaſed, and inſtruments hard, bring forth leſſer pulſes, ſwifter, more frequent; if hardneſs abound; but if uſe, greater; if indifferent, there is exceſs of them both; if moderate in magnitude, they are ſwift, frequent; the uſe diminiſhed with a ſoft inſtrument, cauſeth moderate pulſes, in magnitude, ſlow, thin, ſoft; the uſe diminiſhed with a hard inſtrument renders the pulſes leſs, ſlow, hard: and the inſtrument exceeding in hardneſs inclines the pulſe to ſmalneſs, rather then to ſlowneſs, contrariwiſe it happens when refrigeration exceeds. *The uſe changed and inſtrument.*

Thirdly, if the faculty and inſtrument be complicate, and the faculty be ſtrong, the inſtrument ſoft, the pulſes are manifeſtly made greater, ſomewhat duller, thinner, and ſofter; a ſtrong faculty, and hatd inſtruments bring forth ſmall pulſes, frequent, and for the moſt part ſwifter, namely if hardneſs abound, but in an equall receſs of them both, the pulſes are moderate in all, yet harder; a weake faculty with ſoft inſtruments makes for the moſt part pulſes in magnitude, and ſwiftneſs moderate and ſoft, but in an immoderate receſs, they ſhall be little, ſlow, frequent. And if the faculty be very infirme, the pulſes be come ſmall, dull, and frequent; Laſtly, if the faculty be infirme with the inſtrument hard, pulſes that are little, ſlow, thicke, and hard do ariſe. *Faculty and inſtrument.*

But

Faculties, inſtruments and uſe.

But ſometimes all theſe three are complicate, and indeed, firſt the faculty ſtrong, the uſe increaſed, the inſtruments ſoft make great Pulſes; ſwift, moderate, in frequency, vehement, ſoft.

Secondly, if theſe ſhould be complicate, a ſtrong faculty, the uſe increaſed, and the inſtruments hard; and that hardneſs be little, but the uſe very much increaſed, the pulſes are made greater then is fit, ſwifter, and more frequent; but if the hardneſs be not great nor the uſe much increaſed, the pulſes are moderate in magnitude, and become more ſwift and frequent.

Thirdly, if the faculty be more ſtrong, the uſe diminiſhed and the inſtrument ſoft, the pulſes are moderate in magnitude, ſlower, thinner, vehement and ſoft, and if the uſe be much diminiſhed, are plainly leſs, ſlow and thin.

Fourthly, If the faculty be ſtrong, the uſe diminiſhed, and inſtruments hard, the pulſes are leſſer, In celerity and frequency moderate, or alſo if the uſe be great, and that there be a receſs of the inſtrument from mediocrity, the pulſes are ſlower and thinner, but the hardneſs of the inſtrument abounding, there is a great receſs of the uſe from Nature, and the pulſes are ſmall, ſlow, and more frequent.

Fifthly, If the faculty be weake, the uſe increaſed, and inſtruments ſoft, the pulſes are become moderate in magnitude and celerity, yet more frequent, but if the power be exceedingly weakned, it makes a ſmall pulſe, ſlow and moſt frequent.

Sixthly, If the faculty be weake, the uſe increaſed, and the inſtruments hard, the pulſes are made little, ſlow, and frequent.

Seventhly, If the faculty be weake, the uſe diminiſhed, and the inſtrument ſoft, the pulſes are leſſer, moderate in frequency, or rather thin.

Laſtly, if the faculty be weake, the uſe diminiſhed, and the inſtruments hard, pulſes are made ſmall, ſlow, frequent, but yet not alwayes of the ſame ſmallneſs, ſlowneſs and frequency, but according to the exceſs of the cauſes are, leſſer, ſlower, or more frequent.

But here it is to be noted, firſt, that the force and power of cauſes are more to be valued then nuthe mber, ſince one more potent cauſe can do more in changing pulſes then many weaker; ſecondly, the hardneſs of the Artery alwayes

do

doth reſiſt the magnitude of the pulſe, but not the celerity and frequency; thirdly, there is no more efficacious cauſe of ſmall pnlſes then weakneſs of ſtrength and vertue.

CHAP. X.

Of the cauſes of the ſimple differences of Pulſes.

Concomitant cauſes of pulſes.

ALthough it may be eaſily collected from theſe things what the cauſes are of every pulſe, yet becauſe certaine familiar cauſes concurre, which may afford ſome benefit to the generation of pulſes, namely groſneſs of body, leanneſs, an empty place about the artery, weight of the body lying next above the artery, and propriety of formation of parts, let us joyne thoſe to the reſt, and let us here adde ſome to theſe.

The cauſes of a great pulſe, of a little.

The cauſes of a great pulſe containing, are ſtrong force, the uſe increaſed, the artery ſoft; a little pulſe is made eſpecially by the weakneſs of power, as alſo diminution of uſe and hardneſs of the artery.

Of a high.

The cauſes of a high pulſe are, ſtrong force, the uſe increaſed, and when an indifferent groſneſs of body happens, and the place is ſtraight and narrow about the artery; a

Of a low.

low pulſe proceeds from a languiſhing faculty, to which happens groſeneſs of body, as being the concomitant cauſe; ſomtimes alſo, the arterie is buried deeper by the naturall framing of the body, whence the pulſe is lower.

Of a broad.

A broad Pulſe is made from a power not altogether ſo weake, Accidents as being complicate cauſes are joyned therewith, the place wide, and the bodyes next over it

Of a thin.

are heavy; the cauſe of a thin pulſe is a weake faculty and a hard artery, the concomirant cauſes are leanneſs of body, and thinneſs and drineſs of the skin.

Of a ſwift.

The cauſe of a ſwift pulſe is the uſe increaſed, the vertue indifferently ſtrong, and the inſtrument ſoft; the cauſe of a

Of a ſlow.

ſlow pulſe is weake power, or the uſe diminiſhed, or the joyning of both theſe together.

Of a frequent. Thin.

The cauſe of a frequent pulſe is the uſe increaſed with debility of vertue, or hardneſs of the arterie; of a thin pulſe, ſtrength of vertue with uſe diminiſhed, is the cauſe.

Of

Of a vehement, weak. Of a vehement pulſe, ſtrength of vertue is the cauſe, of a weake pulſe languiſhing ſtrength, proceeding from what cauſe ſoever.

Soft, hard. A ſoft pulſe proceeds from the ſoftneſſe of the Artery, a hard from the hardneſſe of the ſame, from what cauſe ſoever it come.

CHAP. XI.

Of the cauſes of the reſpective differences of Pulſes.

The cauſes of inequality of pulſes. NOw followes what belongs to the reſpective differences of pulſes, and firſt for inequality, the cauſe thereof is a weake faculty, and an Artery either obtruded, or preſſed or too hard, or too ſoft.

Of a ſingular inequality and of an intermitting pulſe. The reaſon of an intermitting pulſe is becauſe the uſe requires dilatation, and the faculty is ready and prepared that it may ſatisfie the uſe, but either tis loaden with plenty of humours, or it is hindred by obſtructions or compreſſure of inſtruments; the ſame cauſes of inequality in motion, of ſwiftneſſe and ſlowneſſe are rendred, but they are lighter.

Of a Dicrotus. The cauſe of Dicrotus or double ſtriking pulſe is an unequall diſtemper of the heart and Arteries, or the faculty varied by reaſon of an unequall diſtemper which ſtriving by a contrary cauſe in the middle of its Journy, is compelled as it were to begin a contrary motion.

Unequall pulſes under many fingers do proceed either from weakneſſe of the faculty, or plenty of humours, or ſoftneſſe of Arteries.

Of Myouroy. Declining pulſes which are called Myouroi, proceed from weakneſſe of the faculty, whoſe action by how much the more remore it is from the heart, by ſo much it is the weaker, or from the placing of the artery, part whereof is more remote from the heart, and is placed more in the outſide.

A Siſtematicall inequality. The cauſe of a congregation of many in equalities together are weakneſſe of the faculty whither is oppreſſed, or diſtracted, or irritated, and the fault of the inſtrument, when the artery is either compreſſed or obſtructed, or filled; pulſes are made unequallyunequall, from the faculty not weake by its ſelfe

ſelfe, but rather burthened, and oppreſſed, and moreover from the ill diſpoſition of the artery, and tis either preſſed by ſome body that lyeth on it, or ſome humour, or tumour, but unequal equally are made by an infirme faculty; and indeed reciprocall Myouroi do proceed from a faculty not ſo weake as thoſe which are deficient. *Myouroi Reciproci. Of a deficient.*

Intermitting and intercurrent pulſes proceed from the ſame weakneſs of the faculty, and the inſtruments compreſſed and obſtructed, yet the faculty, labours more in an intermitting, then an intercurrent, and in it doth almoſt lye ſtill. *Of the intermittent intercurrent.*

Concerning the cauſes of unequall compound pulſes, the cauſe of an uneven pulſes is when the faculty, otherwiſe ſtrong enough, but now is oppreſſed by too great plenty of humours, or is hindered by obſtruction. *Caprizantes.*

The cauſes of ſurging pulſes are weakneſſe of the faculty or plenty of humours, or exceeding ſoftneſſe of inſtruments, and the faculty is ſo burthened, and oppreſſed with its load that it ſtaggers and becomes unconſtant. *Like waves.*

From the ſame cauſes proceeds a vermicular pulſe, only that in a vermicular the faculty is not oppreſſed, but is weak of its ſelfe but in a formicant, tis very faint, and the uſe ſtriving, and ſoftneſſe of the inſtrument being joyned therewith. *Vermicular, formicant.*

The cauſes of a ſerrine or ſerrate pulſe is a ſtrong faculty and the uſe increaſed, together with hardneſſe of the arterie; and this pulſe is familiar in inflamations of the internall membrances. *Serrate.*

A trembling pulſe is made, whilſt either the pulſe is not perceived by reaſon of the trembling of the part, or it goeth out trembling, or when the heart trembles, and communicates that affect to the artery. *Trembling.*

The cauſe of a hectick pulſe is ſomewhat that is fixed and ſtable, and ſticks to the ſolid parts, alſo weakneſſe of ſtrength. *Hectick.*

The harmony is not changed, unleſſe the magnitude and celerity of the dilatation and contraction, be altered, but theſe are not changed except the uſe be changed, ſo all the cauſes of Harmony depend upon the uſe, for if the Diaſtole be ſwifter then the ſyſtole, there is a great heate preſent then, and a great neceſſity of refrigeration or expulſion of fuliginous excrements, but if the ſyſtole be ſwifter and greater then the Diaſtole, there is more neceſſity of protruſion of fuliginous vapours then of cooling. *Rhythmus.*

CHAP.

Chap. XIII

Of the cauſes of varying of Pulſes.

Of the Temperants of a Pulſe.

And in like manner divers differences of Pulſes proceed from cauſes containing, which are ſecundary cauſes, and firſt naturall things, thoſe which are hot by nature have a hotter Pulſe, and that comes from the uſe increaſed; thoſe which are cold, the contrary; the Pulſes of ſuch as are dry and leane are greater and thinner by much, and ſomewhat more vehement, but in groſſer bodyes when the Artery is covered with much fleſh, and cannot be freely diſtended, the Pulſe is made ſomewhat ſmaller and more frequent.

Sex.

Men have a greater Pulſe for the moſt part then women, a little duller, and thinner; women on the contrary have leſſe Pulſes, ſwifter and more frequent, but if a woman be hotter then a man, ſhe will have a greater and more vehement Pulſe.

Of age.

The Pulſes of boyes are great, very ſwift, frequent, in vehemency moderate; of youth they are very great, and vehement, in celerity and frequency moderate; Pulſes of old men are the leaſt, ſloweſt, thineſt, and weakeſt.

Time of the yeare.

As for the times of the yeare, in the Spring Pulſes are greater, more vehement in celerity and frequency, moderate; in the Summer they are fainter, ſmall, ſwift, frequent; in Autumne weake, in magnitude unequall in celerity and frequency; in Winter, ſmall and moderate, ſlow, thin, and weake.

Meat and drink how to change the pulſe.

Meate and drink immoderatly taken cauſe great, ſwift, frequent, too vehement, unequall, and Inordinate Pulſes; moderate leſſer and weaker, and in the beginnings ſwifter and more frequent, afterwards ſlow and thin, the uſe of wine eſpecially makes great Pulſes, ſwift, frequent, and vehement, and murations which proceed from wines ſuddenly comes, and ſuddenly goes.

Sleep.

Naturall reſt in the beginning make the pulſes leſſer, weaker, ſlower, and thinner, afterwards greater, and more vehement, and the ſlowneſſe and thinneſſe, by little and little is increaſed; moreover if the ſleep be too long, they returne againe to pravity and debility, and retaine their ſloath and thinneſſe; when a man is ſtirred, up or awakned, the

pulſe

Pulſes begin to be greater, more vehement, ſwifter, more frequent; equally indeed if a man be awakned by degrees, but unequally and troubled if he be ſuddenly awakned, yet a little afterwards the pulſe againe becomes moderate: long watchings cauſe little and weake pulſes, yet ſwift, and frequent, at length the faculty being weakned, they become dull and thin.

Exerciſe. Exerciſe and motion moderate, cauſe great pulſes, vehement, ſwift, frequent, but overmuch exerciſe cauſe little, faint, ſwift, frequent, when the uſe may be increaſed, and the faculty debilitated, at length they are little, ſlow and thin.

Baths. Moderate uſe of baths make great pulſes, ſwift, frequent, and vehement, but if they exceed meaſure, little, faint, ſwifter, and more frequent.

Paſſions of the mind. As for the paſſions of the mind, anger cauſeth great pulſes, ſwift, frequent, vehement; joy makes great pulſes, thin, and ſlow, moderately vehement, but if it be overmuch it renders them unequall and inordinate; In ſadneſſe they are little, languiſhing, ſlow, thin; feare ſoone makes the ſwift, pulſe vehement, Inordinate, unequall, but they are of as long continuance as thoſe are in ſadneſſe.

Evacuations. Immoderate evacuations, becauſe they debilitate the faculty bring forth pulſes like to thoſe cauſed by a weake faculty.

Preternaturall things how they alter the pulſe. But as for thoſe things which happen contrary to nature, although they are various, yet they change the pulſe, becauſe either they change the uſe, or affect the inſtruments, or faculty; in the firſt place when the faculty is affected, many changes are made of the pulſes, for whether the faculty be diſſolved, and weakned by thoſe things which diſſolve the Spirits and ſollid parts, ſuch as are foule diſeaſes, great diſtempers, vehement and diurnall greifs, faſtings, too great Evacuations, or whether they are burthened, or oppreſſed by plenty of humours, or by diſeaſes of inſtruments, inflamations, or other tumours, the pulſes are made leſſe in the firſt place, and ſwift, frequent, feeble, afterwards the leaſt, moſt ſlow, moſt frequent, moſt faint, and at length the faculty being almoſt proſtrated, intermittent, deficient, declining, vermiculant, formicant, all which running through the various kind of affects contrary to nature, and principally out of the doctrine of feavers are made more manifeſt.

CHAP.

Chap. XIII.

What the ſimple differences of Pulſes ſignifie and preſage.

Great pulſes what they ſignify.

Although from the cauſes of pulſes, it eaſily appeares what every pulſe ſignifies, and portends: yet that we may add ſomething of each in particular, a great pulſe although principally its familiar uſe be in increaſing, a ſtrong faculty, and a ſoft inſtrument; in thoſe which are ſick it ſignifies a hot diſeaſe, and a great pulſe, unleſſe it be hindered, followes all feavers, and it cannot be much dilated with the Artery, unleſſe the power be ſtrong, or at leaſt not weake; a great pulſe in all feavers is good ſigne.

A ſmall pulſe argues either debility of the faculty, or remiſſneſſe of the uſe, or hardneſſe of the inſtruments; and indeed if a ſmall pulſe ſhall be alſo faint tis a token that its weakneſs proceeds from a weake faculty; if ſmall and hard, from the Artery; if neither debility, nor hardneſſe be perceived in the pulſe; it is an argument that it comes from the diminution of the uſe: whence little pulſes with a weake faculty foretell death; the reſt of pulſes that are ſmall for the moſt part preſage long and difficult diſeaſes.

A ſwift.

A ſwift pulſe ſignifies that the uſe is increaſed and the vigour ſtronge, or certainly not very weake, whence in thoſe that are ſound, a ſwife pulſe ſignifies heate, ſtirred up by motion, exerciſes, baths and ſuch like cauſes, which if it be alſo great, the ſtrength is not yet debilitated, but in thoſe which are ſick, a ſwift pulſe ſignifies a hot diſeaſe, and is proper to thoſe which are feaveriſh, and if magnitude be joyned therewith it ſhewes that the uſe is increaſed, with ſtrength of nature, but if frequency be adjoyned without magnitude, it ſhews that the powers are weakned; if hardneſſe of the inſtrument, the uſe being increaſed, hinders dilatation, that hardneſſe is to be perceived by the touch.

Slow.

A ſlow pulſe ſhews, the contrary, to wit, little heate and the uſe diminiſhed, and then it is onely thin, and the vigour not firme enough, and withall it is feeble.

Frequent.

A frequent pulſe ſignifies the uſe to be increaſed or the faculty

A frequent pulſe ſignifies the uſe to be increaſed, or the faculty weakned, or the inſtrument hard; if it proceed only from the uſe increaſed, it is not faint, nor hard, and magnitude, frequently goes before, and then extraordinary great heat is diſcovered in thoſe that are ſick; if it proceed from debility, or hardneſs of the artery, that is diſcerned by the pulſe. *Frequent.*

Thin pulſes are made, either through a ſtrong faculty, and a ſoft inſtrument, or from the uſe diminiſhed; in ſound bodies it ſignifies a cold conſtitution, but in ſick a cold diſeaſe, and coldneſs of the heart, and that which is contained therein, and therefore 'tis accounted an ill ſigne. *Thin.*

A ſtrong and vehement pulſe, ſhews a ſtrong faculty, and if its vehemency exceed the bounds of nature, it ſignifies alſo great irritation. *Vehement.*

A faint pulſe on the contrary, ſignifies powers to be dejected, and that either by diſſipation of ſpirits and reſolution, and then it is alſo ſmal, and if uſe hinder not, ſlow, or by oppreſſion, occaſioned by plenty of humours, and then the pulſe alſo is inordinate, and unequal. *Faint.*

A ſoft pulſe ſhews ſoftneſs of the arterie, and moreover in a ſound body, ſignifies immoderate drinking, or dyet over moiſtning, or a bath, or idleneſs, but in a ſick a moiſt habit of the body. *Soft.*

On the contrary hard pulſes, ſhew the hardneſs of the arterie, and indeed either by extending in convulſions, Tumours, or by repletion of veſſels, with humours and wind, or by drying as in burning Feavers, Hecticks, conſuming Feavers, Quartans, and other drying cauſes. *Hard.*

CHAP. IV.

What the other differences of Pulſes ſignifie & preſage

NOw for the other differences of pulſes; and firſt, of that of equality, and inequality, equality although it ſhew a fixed diſpoſition of matter, yet it ſignifies firmneſs of nature, and therefore affords the better hope, but all inequalities are worſe, and either ſignifie obſtructions of veſſels or compreſſions, or aboundance of humours, hindring the force, and indeed a ſingle inequality, is more dangerous then ſyſtematick, or mixed: whence intermitting *Equality, and inequality,*

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pulses in one pulse, are more dangerous, then intermitting in many, if both of them proceed from debility of the faculty.

Unalike stirred up Myouri Dicroti. Uneven pulses, therefore being stirred up, and Myouri, and such, as striking double, are very evil, yet in an uneven pulse, that is quickned is less evil, then an intermitting; because although it signifie the faculty declining, yet it shews not it to be extreamly weak.

Systematical inequality. A Sistematick inequality, or complication of inequalities unequally made is less dangerous then an equality equally made, because that for the most part is caused by, default of the instrument, but this happens by the imbecility of the faculty.

Intermitting. Intermitting pulses with imbecility, since they proceed from the debility of the faculty, are altogether dangerous, and indeed the longer they are quiet, and the more stroaks they intermit, by so much they are the more dangerous, yet old men and boyes are in lesse danger in this pulse, then young men in whom the faculty is weak, and offended by a smal occasion, but where the faculty is strong, not without a great cause.

Deficient. A deficient Pulse is yet more dangerous, because it shews great imbecility.

Intercurrent. An intercurrent pulse is the most secure of all unequal pulses, which indeed signifies the strength to be loaden, yet hitherto strong and whole, and promiseth victory.

Reciprocal, deficient. Deficient reciprocal pulses shew great imbecillity of the faculty, yet with striving against the preter-natural causes.

Myurus vermicular formicant. A descending or a declining pulse, & a vermicular, shew the faculty to be much weakned, but the formicant pulse is a token that the faculty is yet more dejected, and if it be perceived in Feavers, and quotidian diseases, it is a certain token of death.

Surging. A surging pulse signifies that the faculty is burthened, and weakned, and tis an ill signe if it be changed into a vermicular, yet sometimes it signifies, that the strength is great, and the arteries moistned with the humour, and moreover with decretory sweat

Serrate A serrate pulse is ill token, and signifies an internal great, and dangerous inflamation.

Order of pulse what it shews. But as for Order since it signifies a fixed, a perpetual cause, the perturbation of order being troubled; if the pulse

pulſe be otherwiſe profitable, order ſignifies firmneſs of power, but inordinate ſhew that the faculty is oppreſſed by fuliginous excrements, but if the order of the pulſe be together unprofitable with the inequality, it ſignifies the higheſt weakneſs, and is a very ill ſigne.

Laſtly, change of harmony ſignifies variation of the uſe. *Rhythmes*

CHAP. XV.

What Pulſes preſage health, or death.

ALthough it eaſily appears from hence what pulſes ſignifie ſafety, or death, yet that we may handle them ſingly; great pulſes, ſwift, vehement, double ſtriking, ſurging, ſignifie that the faculty is ſtrong, and indeed amongſt thoſe the vehement is in the firſt place, afterwards the great; hence the ſwift, and ſurging. Laſtly the double ſtriking. *What pulſes ſhew a ſtrong faculty.*

But ſmal pulſes, languiſhing, intermitting, declining, vermicular, formicant, and all pulſes which deſcend from mediocrity; to the extreame (in defect) except the moſt vehement; ſignifie that the ſtrength is failing, and weak: and theſe pulſes of themſelves do ſhew that the faculty is weak, if they are equal, but if they proceed from the faculty burthened they are unequal; hence the vermicular, formicant, intermitting, and declining, are deficient evils, by how much the pulſe is fainter and leſſer, by ſo much it argues the greater debility of ſtrength. *Languiſhing.*

Hence it plainly appears that the pulſes which promiſe health, are thoſe which little decline from the pulſes of ſound men, and are equal, ordinate, great, vehement; but amongſt the fainting ones, little, unqual & inordinate, thoſe which are leaſt, theſe (ſo that malignity be abſent) are leaſt dangerous. *Health,*

On the contrary feeble pulſes, little, ſlow, and ſuch like, indicating the faculty weak, portend danger or death; if together other ill ſignes alſo do appear; alſo all thoſe pulſes are evil, which come to extremity, except the moſt vehement, and amongſt thoſe, the leaſt, moſt faint, moſt ſlow, and moſt thin, are the worſt of all, but of the unequal, thoſe are leſs dangerous, wherein are many great, and vehement *Death,*

ſtroakes, the dangerous are the declining, intermitting, intercurrent, vermicular, and formicant as is ſaid before.

Manner of event. Laſtly, pulſes conduce to the knowledg of the manner of the event, for pulſes which are weaker; duller, and thinner to the Judgement, ſignifie, that the diſeaſe will not give off, but rather by ſolution wear away by little and little; but unequal pulſes, vehement, great, ſwift, and frequent informe the Judgement, that the diſeaſe will ſoon be at an end, and in a critical day (or day when there is a conflict of nature, and a diſeaſe, and a change expected) the pulſes are inordinate, and unequal, and if they become ſtrong from weak, and become great from little, it ſhews the next Criſis, or judgement, and they preſage good; if in unequal pulſes there are more great then little, ſwift, then ſlow, moderate, then frequent, vehement, then faint.

CHAP. XVI.

Of signes to be observed from the Tongue.

The tongue a ſigne of diſeaſes. BVt beſides the urines, and pulſes, the Phyſitian alſo ſhal conſider ſweats, excrements of the paunch, ſpittle, the Tongue, other things, but ſince we have ſpoken before of the former, and hereafter I ſhall ſpeak again, here we will only add ſomething of the tongue, which ſhew certain ſignes, eſpecially in Feavers, and as often as any change happens of its own accord, either of colour or taſte in the tongue, it is certain that ſo often there is ſome change made in the body.

Cauſes of the changeing the tongue, But why the tongue ſhould change its natural conſtitution, there are two principal cauſes, humors, exhaling out of the veins and arteries of the tongue, and principally affecting the coat of the tongue; moreover, vapours and humors aſcending from the inferior parts, to which notwithſtanding ſometimes humours flowing from the head are added.

The colour of the tongue changed. The colour of the tongue is changed, and is become white with the ſpittle wherewith it is moiſtned, and it is dried by heat, which often comes to paſs in Feavers, a white colour is often changed into a yellow, mud colour, or black, whilſt other humors are communicated to the tongue, and that external ſkin is changed by the fuliginous feaveriſh vapours. Whence the colour of the tongue may ſhew both

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the nature, and the time of the Feaver, for as *Hiprocrates* ſaith, in the beginning the tongue is white or yellow (in his Third Book of diſeaſes) in progreſs of time it grows black. and if it grow black in the beginning of a diſeaſe, the diſeaſe wil the ſooner be over; but if in the latter end, 'twil endure the longer, nay oftentimes the tunicle of the tongue, is ſo polluted with fuliginous vapours aſcending, that ſometimes it rots away; but when the Feaver declines the colour of the tongue returns to its natural condition; and the humour which is ſpread about the Tongue, is taken away, and that which was corrupted is ſeparated, and that change firſt appears in the top of the tongue: hence that other part towards the chops alſo by little and little becomes pure. Laſtly, the root, and if any one daily do diligently obſerve the tongue of the ſick, the declination of theſe may be known no leſs from thence then by the urine.

The taſte of the Tongue being changed, ſignifies abundance of humours; from choler the taſte is bitter; from ſweet flegme ſweete; from a ſalt, ſalt; from an acid humor, ſour or ſharp. *Savour.*

The tongue is made rough and dry by defect of the humidity, which was conſumed by the feaveriſh heat, yet in roughneſs there is a greater defect of humidity then in drineſs only.

THE THIRD BOOK.

THE SECOND PART.

Of the Diagnostick Signes.

CHAP. I.

Of the Signes of Cauſes in generall.

Antecedent Signes.

BUt now that we may come to the Kinds, and that we may explaine the Anamneſtick, Diagnoſtick, and Prognoſtick ſignes: concerning the Anamneſtick ſignes we only admoniſh you of this; that the cauſes which have gone before are known either by the effects which are left, or they are known by ſome profitable, or hurtful thing, which they occaſioned.

Diagnoſtick ſignes of a diſeaſe at hand.

As for the Diagnoſticks, they are either of a diſeaſe neer at hand, or preſent: Of the ſignes of diſeaſes neer at hand this is a general rule, that every mutation in actions, accidents, and excrements, after what manner ſoever hapning contrary to cuſtome, and without any externall cauſe, threatens a diſeaſe; for when all theſe things are right according to the natural conſtitution, they are ſignes of health; as ſoon as any thing in them begins to change from its natural ſtate, it ſignifies a falling from health into a diſeaſe, and the ſame ſignes, if they are gathered together, and increaſed, indicate a diſeaſe to be now preſent.

Of a preſent.

But ſince it doth not ſatisfie a man to know that a diſeaſe is imminent, or that it is preſent, but it is neceſſary to know what the diſeaſe is, the ſignes are to be propounded ſeverally, both of Morbifique cauſes, and places affected of diſeaſes, as alſo of ſymptomes: and that we may begin from the ſignes of cauſes, which lead us unto the knowledg of diſea-

diſeaſes; concerning the neceſſary ſignes of cauſes, and by which any thing may be known certainly; ſome are proper, others common, but collected together by a race or current, and are limited within their proper ſubject. The proper ſignes are ſavour, colour, and motion of humors, as to taſt, blood is ſweet, flegme, watriſh and unſavory, choler, bitter, ſalt flegme, cauſeth a ſalt taſte, flegme and melancholy an acid, a ſharp aduſt melancholy cauſeth a brackiſh taſte. *Proper ſignes of humours from the taſte.*

The blood is red, as alſo choler is red; flegme that is white hath a white colour, pale choler, a pale; yellow a yellow; Leek colour a greene, an Æruginous, is like Verdegreaſe; melancholy hath a black hew, troubled; black choler black, ſplendid, and when one ſavour, or colour agrees with two humors, we may know the humour from the taſte and collour joyned together, ſo that when acid flegme and melancholy are joyned, 'tis acid by the white colour, acid flegme is known, by the black melancholy. *From the colour.*

Moreover the humors have their determinate motions ſeveral daies; the flegme is moved the day between each, choler; Melancholy is moved the fourth day, if ſuch a motion be wanting the blood offends, choler alſo for the moſt part is moved about noon-day, melancholy in the evening, flegme in the night, the ſwiftneſſe alſo, and flowneſs of motion, indicate the humours of a diſeaſe, for a ſwift diſeaſe depends on a thin humor, hot and cholerick; a ſlow, on a dull and thick. *From the motion*

But becauſe thoſe ſignes lie hid in the innermoſt parts of the body, ſo that the humours cannot be known, a current of common ſignes then ought to ſuffice: the cauſes and affects, or the antecedents and conſequences ſupply us with ſuch ſignes; antecedents are ſupplied by two fountains, namely external, and evident cauſes, or things not natural, and the diſpoſition of the body; but the conſequences are all ſymptomes, and whatſoever help, or hurt. *Of the common ſignes. Current.*

Non-natural things diſpoſe the body and bowels to the generation of this or that humour, according as they either heat the body, or cool it, or make other changes in it, of which is ſpoken before, *Lib:* 1, *Part* 2. *Chap:* 2. *Antecedents*

Moreover, the diſpoſitions of the body have great power in generating humors, without which thoſe evident cauſes can do little in producing them. Now theſe diſpoſitions may be reduced to four heads. Firſt, there is an hereditary

diſpoſition of the body. 2ly. age: 3ly. Conſtitution of the body. 4ly. Intermiſſion of ſome accuſtomed evacuations fit to generate this or that humour.

Conſequence. The conſequences are ſymptomes, namely actions hurt, excretions, and retentions, and the qualities of the body changed; alſo diſeaſes ariſing from humours. Laſtly, all things helping, and hurting.

CHAP. II.

Of the Signes of Cauſes, and of Humours in particular.

Signes of Plethory. AS for what belongs to the ſignes of every humour in particular gone before, ſignifies that blood doth abound, and a plethory as to the veſſels is preſent, as is expreſſed before in the *Lib*: 2. *Part* 2. *chap*: 3. The habit of the body is fleſhly and firm, overſpread with an habituous vapour, the veins are fuller, and eſpecially after exerciſe and heat ſwel; the muſcles are extended, the ſtrength of Nature is increaſed, with a certain proportion of blood, and if the blood fil the veins ſo ful that they cannot be cooled, or fanned enough, it grows thick, and ſeeks to weigh down the inferior parts, hence the muſcles of the leggs being filled with blood are moved with paine, and wearieſomneſs ariſeth. Reſpiration is more difficult after labour, in their behaviour they are merry and pleaſant, and their diſcourſe and memory duller, their ſleep is profound, and more durable and pleaſing, with flattering dreâms, and of red things, and blood; the pulſe is great and ſtrong, all natural actions are excellently performed; the urine is more plentiful, and moderate in ſubſtance, and colour, and the contents therein are plentiful, the colour of the whole body, and eſpecially of the face is red, and roſie, the veins of the eies are red, the ſkin being touched is hot, yet that heat is gentle, they eaſily tolerate evacuations of blood, by what means ſoever made, ſparing diet takes away the wearieſomneſs, and quencheth thirſt, but they are offended by hot and moiſt things, and all things which increaſe heat; idleneſs and food, increaſing blood hurts them, but a plethorick conſtitution is known as to its ſtrength, by gravity of body, an unequal pulſe, ſignes of crudity, and eſtentimes by ſignes of putrifaction; begin

i

Swee

Sweet flegme abounding is known from the cauſes which conduce to the generation of flegme, if they have preceded, of which above *Lib: 2. part 2. ch: 4.* Moreover, thoſe which abound with flegme are dul, ſlow, lazy, and unapt for motion, more ſtupid in their ſenſes, duller of apprehenſion, propenſe to ſleep, and ſleep more ſoundly, they dream of waters, and raine, ſnow, haile, ice, and of drowning, their manners are unbeſeeming, they are not eaſily angry, the pulſe is little, dul, thin, and ſoft; they are not troubled with thirſt, their deſire is weaker, they are affected with cold diſeaſes, moiſt, and durable; they ſend forth many flegmatick excrements, and abound with ſpittle, their urine is white, pale, ſometimes thin, ſometimes thick and troubled; their dejected ordure is crude, & pituitous; the whole body is thick, white, ſoft, and more cold to the touch; heating and drying things, cutting and atenuating, and evacuating flegme advantage them, they eaſily indure faſting. On the other ſide all cooling, and moiſtning things, and thickning, and thoſe which retaine and increaſe Flegme, offend them; if the Flegme be ſour, all thoſe ſignes are the more vehement, but ſalt Flegme is known from the preceding cauſes, of which is ſpoken before, thirſt is preſent, a ſalt taſte, thoſe things which are caſt out are crude, but withall biting. Moderate ſalt things delight them; too much drying and heating things hurt them. *Flegme.*

Of Choller.

Choler is known to abound if the cauſes, and diſpoſitions of the body have gone before, which conduce to the generation of Choler, propoſed before, *lib: 2. part 2. chap: 9.* as if a man be not drowſie, but watchful; if he dreame of fire, thunder, and lightning, and contentions, and is ful of activity in motion, and raſh or precipitate in conſultation, is eaſily angry, the pulſe vehement, ſwift, frequent, hard; if his concoction be depraved, and turned into a nitrous crudity, if the appetite of meat be leſs then the appetite of drink, hot and dry diſeaſes afflict him, and thoſe which have a ſwift motion, and ſymptomes ariſing from choler; if the urine be yellow, and ſplendid; the excrements coloured with cholour, the habit of the body is dry and leane, and carries with it lively heat, the colour of the body is yellow; cold and moiſt things, and ſuch as purge choller, as alſo acid things delight them; hot and dry things, as alſo faſting hurts them.

Melan-

Melancholy. Melancholy is known to abound from the cauſes and diſpoſitions going before, propounded aboue *lib: 2. part 2. chap: 6.* For what belongs to the conſequences, thoſe which abound with a melancholy humour are ſilent, full of thoughts, ſtable, and pertinacious, and ſlow to anger, who nevertheleſs are not eaſily pacified; their ſleep is turbulent, perplext with horrid and terrible dreams, they are ſad and fearful without any manifeſt cauſe, they have a little pulſe, dul, thin, and indifferent hard, their colour is yellow, dun or duſkie, almoſt black, they deſire meat and Venery moderately, they are void of thirſt, and abound with ſpittle, they make much Urine, and if none of the melancholy be evacuated therewith, it is thin and white, or if ſome of it flow with it, it is thick and black, and they ſweat plentifully in their ſleep, the Hemorhoids either flow, or are ſuppreſſed, much wind is in the body, and they are apt to ſour belchings, the habit of the body is lean, ſharp, and hard, the colour yellow, the ſpleen ſometimes ſwels, and grows hard within them; tubercles appear in the veins, and they are affected with other melancholy diſeaſes.

Black Choler. Black choler is a ſigne of yellow choler and melancholy mixed together, and the indications of melancholy appear, but joyned with manifeſt ſignes of heat, whence madneſs, a canker, a Leaproſie, and ſuch like diſeaſes ariſe.

Of the ſerous humor Aboundance of ſerous Humours are collected, not only from the antecedent cauſes, whereof we have ſpoken before, but alſo from a ſomewhat moiſt and pale body, and the Urine is crude and aqueous.

Winde. Moreover, winds diſcover themſelves by thoſe ſignes which are reckned above in the *lib: 2, part 2, chap: 7*, moreover fluctuations, & rumblings & tumblings in the guts, and Hypochondrias are perceived, and ſwitching pains without gravity, & wandring, & ſuch as ſuddenly ariſe, & ſuddenly vaniſh; alſo a humming and buzzing in the ears, pantings of ſome parts of the body, belching, breaking wind backward, or in the paunch are diſcovered, and the Urines are frothy.

Poyſons. Malignant and peſtilent humors, how they may be known is ſpoken amongſt fevers, but the ſignes that poiſon is drank are, if any biting happen in the ſtomack, or guts, to any ſound man, after eating and drinking, and if the belly or ſtomack be moved to expel, and their colour within ſix hours turn yellow, and ſpottie; if the extream parts of the body grow cold, and ſwounding, palpitation of the heart, and ſwel-

ſwelling happens, but if one be hurt by the biting of any living creature, or with a prick, or ſting, or froth, and the offended part ſhould mortifie, become putred, ſhould be inflamed and ſwel, and the paine be great, and thoſe ſymptomes before mentioned appear, it is a token that the living creature was venemous.

CHAP. III.

Of the Signes of Diſeaſes.

Cauſes, what diſeaſes they ſhew.

SOme ſignes of diſeaſes indicate the kind of diſeaſes; others the magnitude, others the manner, and they are taken from thoſe three fountains, the cauſes, thoſe things which neceſſarily inhere, and the effects of the cauſes, and what force each hath is ſpoken of in *lib:* 2. *part* 2, and therefore if any cauſes are preſent, or hath gone before, it is a ſigne of a diſeaſe which that cauſe is apt to produce, but amongſt the cauſes, the diſpoſitions, or inclinations of the body are to be weighed, which are apt to produce this, or that kinde of diſeaſe; for every body either fals into a diſeaſe like its own conſtitution, ſooner then contrary to it; and that diſpoſition depends on the age, ſex, courſe of life, and manner of dyet.

Diſpoſition of the body.

Neither are thoſe things to be paſt over, which help and hinder, for if hot things are advantagious, cold things are miſcheivous, and a cold diſeaſe is underſtood; the contrary comes to paſs if the diſeaſe be hot: the ſame reaſon is of other tempers alſo.

Eſſentially inhering.

Out of thoſe things eſſentially inhering, or in the proper eſſence, diſeaſes are eaſily known in the external parts, and are obvious to the ſenſes, but diſeaſes of the internal parts, although they may be known by thoſe things which eſſentially inhere, yet not immediatly; but others coming between; ſo a tumour of the bowels is known by the ſkin mediating, which is lifted up, by the ſubjacent parts, and it ſelf is become ſwolne.

Effects and ſymptomes.

As for what belongs to the effects and ſymptomes, an action that is hurt, if it be not by ſome external error, it ſignifies that a diſeaſe is preſent in that part whence the action is hindred, and indeed an action aboliſhed, and diminiſhed, ſignifies a cold diſtemper, that a greater, this a leſſer;

leſſer; but depraved actions ſignifie for the moſt part a hot diſtemper, and ſince an alteration cannot be made ſuddenly, nor doth the diſtemper ſuddenly ceaſe when the alteration is introduced, if the action be ſuddenly taken away, and ſuddenly reſtored, it doth not indicate a diſeaſe of intemperature, but an organnick: but if the actions are preſently taken away, and remain abſent long, either obſtructions occaſioned by thick matter, or a cold intemperature is ſignified; the excrements too much coloured, ſignifies a hot diſeaſe, as alſo doth dry ordure, but clammy, thick and white dreggs ſhew a cold diſtemper, qualities alſo changed indicate diſeaſes; ſoftneſs ſignifies a moiſt diſtemper, a pale colour of the body ſignifies a cold diſtemper; but a red colour a hot.

Excretions and retentions.

Qualities changed.

Signes of a great diſeaſe.

As for the magnitude of a diſeaſe, if a great cauſe, and that which hath great force of acting hath gone before in what kind of diſeaſe ſoever, without doubt 'twil generate a great diſeaſe, the proper nature of a diſeaſe wil eaſily betray it ſelf, for by how much the more the pathognomick ſignes (or the ſignes that diſcover a diſeaſe) ſhal be greater, or leſſer, by ſo much it ſhews a greater or leſſer diſeaſe; hither to belongs alſo the worthineſs of the part affected, for by how much the part affected is more noble, or can draw more noble parts into conſent, by ſo much the diſeaſe is counted the greater. Moreover the ſymptomes by how much the more and greater they ſhal be, to which this happens, that if the diſeaſe do not give way to exquiſite, and great remedies, by ſo much the greater the diſeaſe ſhal be, it is deſervedly accounted great.

Of a Malignant,

A malignant diſeaſe is likewiſe known by malignant venemous cauſes preceding. Moreover, 'tis the nature of certain diſeaſes, that in the ſame manner as they are known, they indicate malignity, ſuch are the *Morbus Gallicus*, Leaproſie, and ſuch like. Thirdly, malignity diſcovers it ſelf by the effects, for when no dangerous, or vehement ſymptome is preſent which might trouble, the ſick nevertheleſs is unquiet and weak, and the diſeaſe after ſmal remiſneſs is ſwiftly, and vehemently exaſperated by ſweats, and other excrements, and the ſick perceives no manner of eaſe, eſpecially if frigidity of the extream parts, or watchings ſhould happen, if in the beginning of ſleep, ſleep ſeeme troubleſome; if the ſick without a cauſe be afraid, waxeth exceeding hot, drops blood, and the other ill ſignes be preſent, which are ſpoken of amongſt malignant feavers, it argues a malignant diſeaſe.

Acute

Acute diſeaſes are known from hence, that they are ſud- *Of Acute*
denly moved, and immediatly after the beginning afford *diſeaſes.*
grievous ſymptomes.

CHAP. IIII.

How to know the parts affected.

THe fountains of the ſignes whereby the parts affected *Signes of*
are known, *Galen* in his firſt Book of the places affe- *places affect-*
cted, Chap: the 5*th:* accounts five, the actions hurt, exere- *ed.*
rions, ſcituation, proper accidents, and propriety of paine; which notwithſtnding are comprehended under thoſe foundations before propoſed.

Amongſt the cauſes the firſt are thoſe things which are ta- *Cauſes.*
ken in, whereof ſome have power of hurting this, others of offending that part; moreover to thoſe things which are carried about us, belong arts, and courſe of life, from whence it happens, that ſometimes this, ſometimes that part is more hurt, as ſleeping, and watchings, which principally offend the braine; anger which principally hurts the heart; as alſo other paſſions of the mind.

Thirdly, thoſe things which are retained, they more offend that part wherein they are detained. 4*ly*. Thoſe things which happen and befal us externally, they alſo ſhew the part affected: if any one uſe mercuriall vunctions, it is probable that the nervous parts are hurt, that evil which commonly overſpreads ſignifies that part to be hurt, which is manifeſt, doth labour in other ſick perſons. By things eſſentially inhearing here are underſtood both the proprieties of the parts, and the diſeaſes themſelves inhearing, for altho ugh diſeaſes are not of the eſſence of a part as it is a part; yet as it is an effect contrary to nature: diſeaſes themſelves ſeem to be in a part eſſentially; inherent diſeaſes therefore indicate parts affected, a tumour appearing any where ſignifies either that part is affected, or the part which is placed above it; and the ſcituation and figure of the Tumour, and the motions hurt will ſhew it in its kinde; a falling of the guts into the codds ſigni-

ſignifies a rupture of the *peritoneum*, or rim of the belly; gibboſity ſignifies hurt of the ſpine, or marrow; the propriety of parts ſhews places affected as they are proper to thoſe parts, ſo if we ſee ſtones come forth with Urine, without doubt we conjecture the veines or bladder to be affected.

Effects, actions hurt. As for the effect, firſt an action hurt ſhews that member by which it is offended, unleſs it be hurt by ſome external error; ſo ratiocination being hurt, imagination, memory, they ſignifie the brain to be affected; as likewiſe by ſleep, watchfulneſs, exerciſe of the whole body; The viſive faculty is hurt by an affect of the eye; the hearing, of the ear; the ſmelling of the noſe; the taſte ſpoiled is a token of a diſeaſe of the tongue; if the urine be ſuppreſſed, the cauſe is to be ſought in the reines, uriters, bladder, or urinary paſſages, if yellow choller be not purged from the blood, blood, it is a token that the bladder of the gall is diſtempered.

Paine, Hitherto belongs paines, which ſhews that ſome ſenſible part is affected, yet a differing paine may be a ſigne of divers parts; a pricking paine is proper to inflamations of membranes; a ſtriking paine, is cauſed by parts ſenſible which are inflamed, containing arteries; a burthenſome paine agrees to the whole ſubſtance of the bowels, lungs, liver, ſpleen, reines; inward, deep and profound paines, as it were breaking the part, ſignifies the membrances of the bones to be affected; a broad paine, & ſpreading it ſelf every way about, is a token that the membrances are affected; ſtreightneſs ſhews ſomewhat belonging to the extending of the nerves.

The vital actions being hurt ſhews that the heart labours. Laſtly, natural actions hurt in what part ſoever, ſhew a ſigne of that part which is affected, but more manifeſtly in publick parts, more obſcurely in private parts.

Excretions Secondly, in excrements which alſo afford ſignes, more things are to be conſidered, namely the kinds, qualities, manner of caſting them out, quantity, order; the kinds of excrements are two-fold, for either ſomething is caſt out of the ſubſtance of ſome part, & ſignifies that part to be affected, as if a little ſkin or flake, or little peece of fleſh ſhould be caſt out of the mouth, it ſhews the lungs, the wind-pipe, the

the Epiglotis, the gullet or ventricle, to be corroded; and if it be caſt out by a cough, it is a ſigne that it comes from the breſt, but if it be caſt out by vomit, it is a ſigne it comes from the ſtomack; or that it is not the ſubſtance it ſelf, but that which it contained in it, and is familiar to it, that is ſo ejected, ſo meat, drink, or chile caſt out by reaſon of a wound, ſhews that the ſtomack is proforated, or that the guts are too thin, and if the ſtomack be hurt, the ſick wil belch much; if the guts, the wind goes out by the ſeat; urine flowing out through an Ulcer or wound, ſhews that the bladder, uriters, or reins are hurt; but which of theſe parts are affected, the ſcituation of the wound diſcovers. The dreggs of the belly ejected through a wound, or the ſmel of the dung perceived in the wound, ſhews that the guts, eſpecially the thick, are hurt. So alſo of other parts.

But ſeeing that the ſame things may often come forth from many parts; the quality of the excrement, and manner of its coming out, ſhews which is the part affected: if the blood be thinner, hotter, more florid, and comes out leaping, it ſhews that the arterie is cut; but if it be thicker, and comes out without leaping, or dauncing, it ſhews that the veins are hurt; blood that comes from the paunch, ſhewing like that wherein meat hath been waſhed, ſhews that the liver is affected; if any come forth only by ſpitting it ſhews that the mouth, or parts next to it are affected, unleſs perhaps it flow from the head into the mouth; if by ſpittle, the chaps or larynx are affected; if by cough the wind-pipe, or lungs, ſo that it doth not raiſe a cough by defluxion from the head; if by vomit, the throat and ſtomack, ſo that it come not into the ſtomack from the liver, or ſpleene, or other parts adjacent.

The quantity alſo of excrements afford ſignes; if much blood is caſt out, it is a Token of an affect of the lungs; if little, of the wind pipe.

That blood which flows from the reins is more; from the bladder leſs.

Moreover, order in excrements is a token of the place affected; if firſt blood, and afterwards dreggs are caſt out, it ſignifies that the fundament, or ſome gut is affected within; if firſt dreggs come forth, afterwards blood, it ſhews the guts are thin, or the pares above them are affected; ſo if quitture which is brought forth in the Urine come before, it ſhews

ther

there is an ulcer in the gut colon, if it follow it shews that the superior parts are ulcerated.

Qualities changed. Thirdly, qualities changed also affords signes of places affected, red colour of the cheeks signifies inflamation of the lungs, the colour of the body; but principally of the face, pale or yellow shews that the bladder of the gall is not right, the flesh and skin being yellow, indicate the bones that are under them to be corrupted, a filthy smel exhaling from the nostrils, shews that the parts within the nostrils are affected; if from the mouth, it shews that the teeth, chops, lungs, or stomack are affected; if from a wound of the paunch, it signifies that the guts are wounded; hardness of the right Hypocondrie is a signe that the liver is affected, of the left that the spleen is affected.

Lastly, certain diseases pertain to effects following, other diseases of the place affected; which are therefore called symptomatick, or familiar, and are discoverers of the primary disease.

Signes of parts affected by consent. But least that we should erre in knowing the place affected, by the actions hurt, and should take the part which is hurt by consent, for the primary affects; First the anatomy and functions of mans body, and the use and consent of all the parts ought to be known whence a part receives its nerves, arteries, and veins, and from what parts it can send any thing to them, and receive any thing through them, therefore if in a member sense, or motion be hindred, and the part suffer no ill, we must observe what nerves are inserted therein, what muscles move it, and whence those muscles take the nerves, and tis to be enquired, whether those parts have suffered any evil; so a nerve being hurt, tis easily communicated to the braine, the evils of the arteries to the heart, the hurts of the veins to the liver; and again, the braine being affected, sence and motion is hurt; the heart, the vital actions are hurt, nutrition is weakned through default of the liver,

Moreover it is to be enquired whether a part be primarily hurt, or by consent of other parts; that is known first from he precedent causes. Namely if a part which is affected be hurt by no evident cause, but a part with which it hath consent, hath suffered some evil, tis probable that that part is affected by consent. Secondly, if any hurt coheres with the hurt of another member, that by increasing of the one the other increased, and by the decrease thereof it be diminished

diminiſhed, and that caſing, it eaſeth; it is a token that ſuch an affect is ſtird up by conſent: but from that part where the diſeaſe firſt declined, it ſhews that to be the part affected by conſent; but by eſſence that wherein the diſeaſe remained longeſt; thirdly an affect by conſent doth not preſently infect, but for the moſt part by intervals; fourthly if two parts are together affected, and by applying things that are helpfull to the one, or hurtfull, the other be helpt or hurt; tis an argument that tis an affect by conſent.

Signe that the head is affected.

But although any one from theſe Fountaines of ſignes may come to the knowledge of all parts affected, yet that for example ſake we may add ſome in particular, firſt Animall actions hurt, afford ſignes of diſeaſes of the head and braine, whither they are diminiſhed or depraved, yet this is to be noted of the externall ſenſes, and motion hurt; ſince that the braine is not the immediate Organ of thoſe actions, but only ſupplyes animall Spirits, tis to be inquired whether the cauſe of theſe actions hindred be in the brain, or in the proper Organ; the excrements alſo of the braine ſent forth through the Emunctories indicate the braine to be affected.

Of the heart.

The ſignes of diſeaſes of the heart, for the moſt part are taken from vitall actions, and the qualities changed of the body: Actions hurt are reſpiration which the preternaturall heat of the heart changeth, palpitation of the heart, the pulſes much changed; for according as the heart is, ſo is the heate and colour in the whole body.

Of the liver.

The ſignes of the liver affected, are firſt when its action is hurt, which is Sanguification, a token whereof the urine and dregs of the paunch afford; moreover when the habit of the body is changed, and their is an ill colour of the the whole body, and penury of blood is in the veins; ſometimes alſo by default of the ſpleen, or by reaſon of excrements regurgitating from elſewhere into the veins, the colour of the whole body is changed; thirdly diſtribution of blood is hindred, which is known by the leanneſſe of the body and flux of the belly; fourthly a perception of gravity in the right Hypocondrie, as alſo a tumour enconipaſſing the liver.

Of the stomach.

When the ſtomach is ill diſpoſed tis known by its actions

actions hindred, ſuch are the appetite hurt, the concoction vitiated, which is perceived, becauſe thoſe that are ſick either are ſenſible of paine after meate, or the ſtomach is blown up with wind, or are troubled with belching, loathing, vomiting; alſo if the dejection be ſlower or ſwifter, without any fault of the liver, then is fit, the ſtomach is to be ſuſpected.

Of the breſt The firſt ſigne that the breſt is affected, is difficulty of breathing; the ſecond, a cough; the third, paine; laſtly thoſe things which come out by coughing, as blood, quitture.

Of the windpipe. Laſtly, the ſignes of the affects of the Windpipe are the ſame, but principally they are taken from the change of the voice, ſomtimes alſo a cough is joyned, more may be read of theſe things in the practicall part.

CHAP V.

How to know Symptomes.

Signes of Symptomes. Although Symptomes for the moſt part are obvious to the ſenſes, yet ſomtimes they lye hid, and had need have ſignes, which are taken from cauſes, and effects: nutrition, if it be not rightly performed, the body is extenuated and growes leane: if augmentation be not rightly perfected, the body is leſſe nouriſhed; if the generative faculty be hurt, either none, or weake Children are generated; attraction and retention being hurt, are known from their effects, eſpecially digeſtion is known by the excrements of its concoction; ſo thatwhich is in the ſtomach, by the dregs of the belly; that which is in the liver and veines, by the urine; thoſe excrements which are in the breſt, by the ſpittle; laſtly the expulſive faculty is known to be hurt, if thoſe things are retained which ought to be expelled.

Of the naturall faculty lying hid.

Of the vitall. The vitall faculty is known to be hurt by the changed pulſe of the heart and Arteries.

Of the animall. As for the animall faculty, the Phyſitian knows the depravation of the principall faculties from the words and deeds which are different from comlineſſe and congruity. In the ſame manner alſo other animall actions may be known to be hurt from their effects.

THE

THE THIRD BOOK,

PART THE THIRD:

Of the Prognoſtick SIGNS.

CHAP. I.

Of the ſeverall kinds of Prognoſtick Signes.

YEt there remains the Prognoſtick Signs by which we may know thoſe things which are to come, which may happen to the ſick: For the Phyſitian ought eſpecially to know before hand three things concerning the Patient. *Of what things are to be foreknown in the ſick.*

First, what the event or the end of the diſeaſe will be.

Secondly, at, or about what time the diſeaſe will have an end.

Thirdly, how, or by what means. Of each of theſe before we ſpeak in particular, we muſt ſpeak in generall of the Prognoſtick Signs: and we will premiſe ſome things of knowing the times of diſeaſes; Namely, ſome ſigns are of crudity and concoction, others of life and death, others critical, or judicatory. *Of Prognoſtick ſigns.*

The ſigns of concoction and crudity, are Urines, Excrements of the Paunch, ſpittings, and ſpaulings, and catharrous matter; The ſigns of life and death are thoſe which are ſent forth with Urine and Excrements of the Paunch; alſo ſwears, eaſie and difficult reſpiration, eaſie or difficult induring of the diſeaſe, the pulſe, the face, and comly lying down, like unto what they were wont, and the contrary to theſe: Moreover, critical ſigns are ſuch as ſhew ſudden mutation and perturbation, and ſome of theſe are both ſigns *Of concoction of crudity, of life and death. Critical.*

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and cauſes as Vomit, Excrements of the Paunch, much Urine, blood flowing from the Noſe, the Parotides, or ſwelling of the Gumms, or about the Chops, ſetling of humours in one place, and then in another, which are called diſſolving by Hippocrates, becauſe they put away the diſeaſe; ſome are only ſignes of a Delirium, watching, ſtupidity, paine of the head, difficulty of perception, out of quiet, difficulty of breathing, and darkneſs ariſing, and appearing before the eyes, a noiſe of the eares, ſhinings before the eyes, unvoluntary teares, a troubleſome night, without any reaſon, agitation of the lower lip, great ſtifneſs, the face and eyes looking red, a retraction of the Hypocondries, a loathing, but there is not the ſame force and reaſon of all theſe ſignes; the ſignes of concoction are never ill at what time ſoever they appeare, nay the ſooner they appear the better: but judicatory Signes are not accounted good, unleſs in the height or ſtate of a Diſeaſe; ſo neither are thoſe good which are wont to indicate thoſe in the beginning of a Diſeaſe.

Signes of concoction, ſome are proper to one ſort of diſeaſes, as ſpittle to the diſeaſes of the breaſt, others are common to many kind of diſeaſes, ſuch as Hyppocrates, 1. *Aphor.* 12. reckons, the Urine, excrements of the Paunch, ſweats. The excrements of the belly are ſignes of that concoction which is perfected in the belly, but the Urine of the concoction which is made in the Liver and arterious vein.

For when the Urines afford proper ſignes of the parts through which they paſs, as of the Reines, Arteries, Bladder, Yard, we muſt have a care leaſt we are deceived in univerſall and acute diſeaſes, by thoſe particular and proper ſignes of thoſe parts; and what is ſpoken of Urines may alſo be ſaid of excrements of the Paunch.

CHAP. II.

Of thoſe kinds of Signes by which the times of Diſeaſes may be known.

Signs of the times of diſeaſes.

IT is exceeding profitable to know the times of diſeaſes, but eſpecially the ſtate, but the ſignes of times are taken firſt from the form, and Idea, ſecondly from the time of the year, and other ſuch like things: Thirdly from the comings (or fits)

fits) and circuits, increaſing and decreaſing. Fourthly, from the Symptomes of diſeaſes, or from the Eſſence, and Idea, the cauſes, and thoſe things that precede the diſeaſe, and by the Symptomes, and thoſe things that accompany a Diſeaſe.

From the Idea of a diſeaſe.

As to the form of a Diſeaſe, by how much the motion of a Diſeaſe is ſwifter, by ſo much it is nigher to its height, and is a token that the Diſeaſe will be ſhorter, but by how much the ſlower the Diſeaſe is moved, by ſo much the more remote it is from the ſtate.

Time of the year. *Region.* *Temperant of bodies.* *In reſpect of dyet.*

Secondly, that Diſeaſe which happens in the Summer is neerer to its height, that which happens in the Winter is more remote: In hot Regions, Diſeaſes are more acute and ſhort, but in cold, longer; thoſe that are hotter by nature, are ſubject to hotter Diſeaſes, and ſo ſhorter; thoſe that are colder, to more cold, and conſequently more laſting; hotter, and dryer Victuals, generate hot humours, and thereby ſhorter Diſeaſes; colder, and moiſter dyet generates pituitous humours, and ſo more laſting Diſeaſes; great ſtrength of nature in a Diſeaſe that is not mortall, ſhewes that the Diſeaſe is ſhort, but weakneſſe ſhewes it will continue longer; but ſtrength in a diſeaſe that is mortall, ſhewes that it will continue longer, but weakneſs ſignifies that it will be ſhorter.

Strength of nature.

From the courſe of fits.

Thirdly, in the fits the houre is to be conſidered in which the Paroxyſme returnes, the time of duration, and the vehemency of Symptomes, for if the fits returne ſooner, and the latter be longer then the former, and more vehement, it is a token the diſeaſe is increaſed: on the contrary, if the latter fits return ſlower, and endure a ſhorter time, and are not ſo violent, it is a ſigne the diſeaſe abates; but ſometimes Paroxyſmes, enveigh equally and all of them return at the ſame houre, which moſt commonly is a ſign of a long diſeaſe, but ſometimes they come not equally, but at ſeverall houres, which ſhewes that the diſeaſe will be ſhorter, and is neerer to the ſtate.

Moreover, if the fits come ſooner, and that equally, the ſigns of concoction not appearing, it is the beginning, but if they anticipate more hours then before, it is in the increaſe; when they obſerve equality again a good while, it is the ſtate; when laſtly the omitting or abating of the fits happens to be various, it is the declination: If the order of

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the fits, ſo that ſometimes they come too ſoon, ſometimes too late, and ſometimes equally, and at certain times. When the fits do equally invade without the ſignes of concoction, tis the beginning, but when they anticipate not, tis the augmentation; when they obſerve equality, it is the eſtate: And laſtly when the coming late happens again, tis the declination; but if the order of fits be various, ſo that ſometimes the Paroxyſmes invade equally, ſometimes anticipate, and ſometimes come later; when the fits equally invade without ſignes of concoction, the beginning is; when they come too ſoon no more, the ſtate is; but when they come too late, the declination is.

In longitude. As for the longitude and magnitude of fits, if the time of intermiſſion or declination be ſhort, and they are neither plainly intollerable, nor altogether free from Symptomes, it is a ſigne of the increaſe. On the other ſide, if the abating or the intermiſſion be long, eaſie to be indured, and free from all Symptomes abſent, declination is ſhewn.

But the moſt certain ſignes of the times of diſeaſes, are digeſtion and crudity, for whenſoever a ſign of concoction appears ſuddenly, it ſhews the diſeaſe will be ſhort and terminate in health, but a ſigne of crudity ſhews the diſeaſe will continue long, or even prove deadly; and if grievous Symptomes grow upon the ſick, ſo that they come with ſignes of concoction, they need to trouble no man, but if they happen without ſignes of concoction and with crudity, they portend danger.

CHAP. III

Of the ſignes of times of Diſeaſes in particular.

AND that we may ſpeak ſomething peculiarly of knowing of the times of Diſeaſes, the beginning of a diſeaſe is as long as the diſeaſe is crude; An evident and manifeſt concoction is a moſt certain ſigne that the beginning is finiſhed: And in the beginning the Symptomes are hitherto more mild, but in the augmentation all of them increaſe, and in the ſtate, when the greateſt contention is betwixt the matter and the diſeaſe, all of them are moſt vehement: but this comes to paſſe ſometimes ſoon, ſometimes late; for in very acute diſeaſes immediatly they have extream pains, 1. *Apho.* 7. but in Chronick the times are extended longer.

Signes of the beginning of a diſeaſe, of augmentation, of the height.

CHAP.

CHAP IV.

Of the ſignes by which we may foretell the event of a diſeaſe.

The event of a diſeaſe foure-fold.

AND theſe things are ſpoken of Prognoſticks in generall, now we are to ſpeak of thoſe three, which uſe to be preſaged, namely the event of a diſeaſe, the time of the end, and the manner: but the event of a diſeaſe is fourfold, for ſome diſeaſes kill the diſeaſed, others plainly leave them off, ſo that the ſick returne to their perfect health; others neither kill the ſick, nor leave them off, but accompany them even to deaths doore; others are changed into other diſeaſes, and ſomtimes into worſe, ſomtimes into milder.

When it may be known.

The event of a diſeaſe is known by comparing the ſtrength of nature with the diſeaſe, and by the longitude of a diſeaſe, or the ſtate with the time to come; for if the ſick paſſe over the ſtate, there is no need, that he ſhould any more feare the danger of death by that diſeaſe; becauſe after the ſtate no man dyeth in the declination by the power of that diſeaſe.

Signes of ſtrength and debility of nature.

The ſignes of ſtrength and weakneſſe of nature are ſought principally from cauſes, and effects: the proximate cauſe of the ſtrength of nature is a natural conſtitution of the parts. And this, by how much the neerer it is to the naturall temperature, conſtitution and naturalll unity, by ſo much it ſignifies the firmer ſtrength; by how much the more remote, by ſo much the weaker. For ſtrength of nature principally depends upon a naturall temperament, whereunto belongs age alſo and ſex; for in men and youths the ſtrength is firmer; in women, old men and boyes, weaker. Remote cauſes are all thoſe things, which by whoſe intervening the ſtrength of a naturall conſtitution is increaſed, or preſerved, or diminiſhed; ſuch are thoſe things, that are taken in, which are carried about, which happen externally, and that are evacuated, and retained; for if all theſe things have been moderate heretofore, and are moderate, it ſhewes ſtrength of nature; if immoderate, imbecility. Amongſt the effects are firſt, actions, which, by how much the more they are obſerved according to nature, by ſo much the more they ſignifie health: on the contrary, by how much the more or more noble they are, or by how much the more they are hurt, by ſo much the more they

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they ſhew the ſtrength to be weakned: Secondly, Excrements ſignifie nature to be powerfull, when in their ſubſtance, quantity, and quality they are moſt like to naturall, but they ſignifie the contrary, if they are contrary. Laſtly, qualities changed, by how much the neerer they ſhall be to the qualities of ſound men, by ſo much they ſhew the greater ſtrength in the diſeaſed; by how much they differ from them, by ſo much the more imbecillity.

Signs of a ſtrong diſeaſe.

The ſtrength of a Diſeaſe is known from things eſſentiall, inhering cauſes, and effects, or conſequent Symptomes.

As for what belongs to a conſtitution contrary to nature, the difference which follows the form of a Diſeaſe, or the cauſes, or the ſubject, afford ſignes of the event; if the Diſeaſe be great it indicates danger and death, if little health, and by how much the fewer and more gentle thoſe Symptomes are that ſhew what the diſeaſe is, by ſo much the leſſe the ſtrength of the diſeaſe is ſhewn; but by how much the more or greater they are, by ſo much the more vehement is the Diſeaſe: but principally malignity ought to be ſuſpected alwaies; a diſeaſe alſo, by how much the more it reſides in a noble part, or may draw in a noble part by conſent, by ſo much the more dangerous; but that which is in an ignoble part is out of danger.

The cauſes are ſuch, as either bring forth a diſeaſe, or diſpoſitions which have gone before it, or ſuch as are helpers and ſupporters of a Diſeaſe.

The efficients are either Internall or Externall, internall are either ſolid bodies, or fluid; Diſeaſes therefore which proceed from ſolid matter, as from ſtones, gravell, eſpecially ſuch as is great, for the moſt part are incurable; Diſeaſes which ariſe from humours are dangerous, if they offend in the whole ſubſtance, and are malignant, if they are very putred, if plentifull, endued with miſchievous qualities, and inhere in a noble part, and are crude; thoſe which are contrary indicate the Diſeaſe to be leſs dangerous: Diſeaſes which ariſe from blood for the moſt part are wholſome, from yellow and pale choller not very dangerous, from leek coloured choller, and the colour of the Yolk of an Egge, for the moſt part deadly.

Theſe

The Æruginous for the moſt part all are mortall, as thoſe from black. A Diſeaſe alſo from an humour perverſly thin, is more dangerous then if it be mingled with ſome other more mild.

Diſeaſes alſo which proceed from many vitious humours mixed together, are more dangerous then thoſe that ariſe from a ſingle humour, regard nevertheleſſe being had to the nature of the peccant humour.

Diſeaſes alſo are more dangerous which proceed from a humour cauſing a tumour, then from a quiet, ſo that it doth not adhere quietly to a noble part. As for the externall and evident cauſes, this is to be noted of them in generall, if they trouble the body long and violently, and are withall malignant, and continue long in the body, they ſignifie a dangerous Diſeaſe; thoſe which are contrary tend more to health, and are leſſe dangerous. Of the diſpoſitions of bodies, *Hippocrates* 2. *Apho.* 34. writes thus.

Thoſe are leſſe dangerouſly ſick, whoſe diſeaſe is ſuitable to nature, or age, or cuſtome, or time of the year, then they whoſe diſeaſes are agreeable to none of theſe.

Effects and Symptomes.

Moreover, if Adjuvants, whether they are externall or internall, or from nature, or from art, help, they ſignifie a healthy Diſeaſe, and not a dangerous; but hurtfull things, if they hurt not, ſhew that nature is well: On the contrary, if thoſe things which ought to help, do not help, they ſhew that the Diſeaſe is dangerous and deadly.

Thirdly, for what belongs to effects and Symptomes, by how much the Symptomes are lighter, by ſo much the Diſeaſe is more gentle, by how much they are greater, by ſo much the Diſeaſe is more violent.

Dignity of ſignes.

The plurality of Signes are not only to be handled here, but the gravity and dignity of good and evill ſignes are to be conſidered and compared amongſt themſelves, and with the ſtrength of the Sick; for the dignity of ſignes is principally to be valued in reſpect of life, and alwaies thoſe are counted moſt worthy which indicate the force or imbecility of the vitall faculty.

CHAP.

CHAP. V.

How to preſage of life and death from the error and faults of actions.

AFter that we have ſpoken thoſe things in generall of knowing the event, we will ſpeak ſomething in particular of what may be foretold by Symptomes, whereof this is the ſumme: Thoſe things which are moſt like or agreeable to nature are healthy, thoſe which are moſt unlike, or different, are deadly,

The third Book, and part of the fourth.

Animall actions hurt what they preſage.

And firſt for actions hurt, and what belongs to the animall faculty, in what diſeaſe whatſoever, to have the right uſe of ones reaſon, and to be well in reſpect of thoſe things which are taken in, is a good ſigne, but the contrary is an ill ſigne, *Hypocrates* 2. *Aphor.* 33. and to do any thing contrary to cuſtome, and to will ſomething formerly not accuſtomed, or the contrary, that is, either to ſpeak little or much, or madly, or abſurdly, or obſceenely, to move the hands untowardly, to read wanton things, to uncover the body, and denudate the privy parts, not to be ſenſible of pain, untowarly,

Delirium.

and next to being frantick, 2. *Coac. Sect.* 1. *Aphor.* 10. But principally to continue well in underſtanding, is good in thoſe diſeaſes wherein the brain is affected, or is drawn into conſent: But although to be well in mind, in diſeaſes of other parts, be a good ſigne, yet it is not ſufficient to ſignifie health, for many dye that are perfect in their underſtandings.

Although no ravening be ſafe, yet that which is with laughter, and good ſignes, and is light, and not continuall, is more ſafe, but that which is with violence, continuall and vehement, is more dangerous, but that which is with boldneſs and raſhneſs, is the worſt of all; yet other things which are joyned therewith are to be conſidered; firſt, the Pulſe, reſpiration, and appetite, which if they remain ſafe, it is a good ſigne, as alſo if ſleep follow; but on the contrary, if ill ſignes are joyned with ravening or madneſs, they threaten death, for deadly ſignes denote certaine deſtruction.

Ignorance

Ignorance with shaking fit is evill, tis hurtfull also with oblivion, 1. *Prorrh. Com.* 2. *Apho.* 30. yet that oblivion which comes with a *Delirium* is less dangerous, so that the *Delirium* wherwith it appears be not dangerous. *The memory hurt.*

Sleeping and waking if they are customary, and from a naturall course, tis good, but sleep and watchings if they are eccessive evill, 2, *Apho.* 3. but yet if watching happen before a Crisis, the matter being concocted, it denotes no hurt; a Coma or Disease that causes long sleep, in the beginning of a Disease, signifies the Disease to be dangerous, as also that which happens in the height of a Disease, and by so much the more dangerous is the Coma, by how much the more grievous Symptomes are joyned with it. *Sleeping and waking.*

As for the mischiefs of the externall Senses, if the sight, the time of judicature being instant, be hurt with the signes of concoction, it indicates no evill, but that sight which is hurt without the signes of concoction, and after an ill Crisis, wants no danger, *Cat.* 4. *Aphorisme* 49. *Hurting of the externall senses. Of sight.*

The hinderance of hearing also, if it happen during a good Crisis, is not evill, but if without a Crisis, it is evill; and in acute Diseases for the most part it denotes the braine to be affected: And in the first place, that is mortall which is made by reason of decaying of the strength and extinguishing the faculty; those evils also which proceed from evill evacuations, 3 *Prorrh.* 37. The sound also and continuall humming of the eares, if it happen with signes of crudity, and in a day that is not judicatory, and the strength languished, it signifies a mortall or deadly Phrensie; when it happens otherwise in the vigour of a disease, and decretory daies, it indicates the Hemerodes of the Nose.

The smell and taste being offended, is a certain signe rather of the peccant humour, then of the event of a disease, but yet if the sick, the faculty being extinct, should be deprived of taste, it is a deadly signe. *Of hearing*

The sudden want of the sence of feeling, which happens in diseases, is an ill signe, since it is a token, either of the dilating of the viticus humors so far as to the brain, or of the extinguishing of the native heat. *Of Touching.*

If

Paine. If inflaming paines which preſently appeare in the beginning, and are not too vehement, nor continuall, and are taken away in a ſhort time, or are abated, eſpecially, after a plentifull evacuation, occaſioned by nature, or art, and no dangerous ſigne be joyned, tis good; but thoſe which continue long, preſage an impoſtumation, but thoſe which happen, the diſeaſe increaſeing, are not evill, becauſe they denounce a Criſis. It is good alſo if when a concoction appears, the paines invade the remote parts from the bowels, and that principally on the criticall day, but all thoſe diſeaſes are evill which afflict the principall parts, eſpecially if they are joyned with a continued feaver, and other ill Symptomes; but diſeaſes of the noble parts are good, if they happen after concoction, and doe not vaniſh in a ſhort time, and the ſick are other wayes the better by that means; but if they happen in the beginning, the matter being hither to crude, and the diſeaſe not abated thereby, or if ſhortly they vaniſh without any manifeſt cauſe, or beginning from a more ignoble part, and aſcend to a more noble tis an ill token: alſo it is evill not to be ſenſible of paine in any part.

Laſſneſſe. The ſame reaſon for the moſt part is from wearieſomneſſe, for that laſſitude which is promoted by the humours, flowing from the noble parts to the externall, with ſignes of concoction, is a good ſigne, and eſpecially if it vaniſh after ſome evacuation, but if it happen without the ſignes of concoction, and with other perverſe Symptomes, and is not abated by evacuation, it pretends evill.

Motion. As to the Symptomes of motion; if bodies are moved aright and eaſily, tis good, but not aright, or with difficulty, tis ill 2. *prog. text.* 6. 7.

Lying downe. Hitherto we may refert the decubiture, for it is good for the ſick to lye on either ſide with his hands, neck, and legs, a little bent, his body ſtreight, not bending towards his feet 1. *prog. text.* 13. for it is evill to lye ſupine, with the hands, and feet ſtretched and dejected, but it is worſt of all to ſlide downe the body to the feet, to obſerve no order of lying in one's bed, nor to be quiet in one place, raving and ſtriving to fly out of the bed, to uncover his hands, feete, and nakednеſſe, *ib. textu.* 14. and *ſeq.* but if a

criticall anxiety or trouble, tis not ſo hurtfull, all the reſt are evill 2. *prog.* 27.

That convulſion is moſt dangerous wherein it appeares that the motion is moſt depraved, and the contraction more vehement, and laſting, and which occupyeth more parts, and neerer to the braine, which renders reſpiration difficult, interrupted, and ſighing, or from a flux of blood, or which happens from much purging, which happens in acute feavers, which ſucceeds a Phrenſie, as alſo in the iliack, paſſion; and watchings, but the convulſion which happens to Children is leſſe dangerous, *Galen* 1. *Epid. comm.* 4. 24. and that which is cauſed by too much motion of matter to the head or ſtock of nerves, or that which is occaſioned through the mordication of the ventrilcle by the ſharpneſſe of the humour, or a medicine, or by ſtraining in vomiting, and doth not laſt long. *Convulſion.*

A Hiccock is like to a convulſion which if it come without a feaver or any diſeaſe; and be occaſioned by meate or drinke it portends nothing of eminent danger, but after too much purging, and with inflamations and feavers, hiccocks are allwayes dangerous, eſpecially if they happen to old men; unleſſe a Criſis of vomiting afterwards be preſent, eſpecially if other dangers and deadly ſignes joyned therewith. *Hiccock*

Trembling is evill if it happen in the beginning of diſeaſes without an evident cauſe, and indicates the diſeaſes to be dangerous, eſpecially if it ſhall be longer and more grevious, and other weighty Symptomes are joyned therewith, as thoſe which happen in an Apoplexy and Lethargie, but that trembling which happens afterwards, and is occaſioned by the critick expulſion of humours, from the interior to the externall parts, is a token of no evill, nor is that trembling evill which ſucceeds a palſie, ſince it is a token that nature overcomes the diſeaſe. *Trembling.*

A ſhaking fit which incontinued feavers happens in that houre wherein the paine uſeth to gripe, when the ſignes of concoction go before, tis a token of a future Criſis, and therfore accounted good, if ſome good evacuation follow; otherwiſe if it happen in the beginning of a diſeaſe, or with an ill and difficult criſis tis adjudged evill. *A paroxiſme.*

Cold

Cold fit. Cold fits which happen at certain times in intermitting feavers, ſignifies no evill; nor are they ill ſignes in continued feavers, which happen after ſignes of concoction, and are tokens of criticall evacuations; and after which the body growes hot again, and ſome criticall evacuation followeth. But thoſe which are occaſioned whilſt the matter is crude, by reaſon whereof the body cannot grow hot with evill, evacuations or when no evacuation followeth, and which happens with ill ſignes, are all evill.

Torpor. Sloath of apprehenſion, ſpecially of the body cauſed by cold, is perpetually evill, and without a feaver or Apoplexy, it pretends manifeſt danger in feavers, by reaſon of the extinguiſhing of the native heat.

Hurting the voice. Moreover the ſignes of defaults of ſpeech are to be obſerved; a ſhrill voice threatens danger, ſince it denotes exceeding drineſſe of the inſtruments of the voice; dumbneſſe, although it be never good, nor without danger, yet it is not alwayes deadly, namely when the judicatory evacuation follows, and when it doth not continue long; the reſt that are dumbe, are all for the moſt part mortall; and ſo much the worſe, how many the more perilous ſignes are ioyned.

The ſtrength of the vitall faculty. Secondly, the ſtrength and weakneſſe of the vitall faculty, which are of greateſt force in foreſhewing ſafty, or death, we obſerved principally from the pulſe and reſpiration. Of the pulſe tis ſpoken already, onely we repeate this, that the moſt languiſhing, moſt dull, and moſt thin, are the worſt of all, after theſe the leaſt and ſofteſt, and hardeſt, next the moſt frequent, but not ſwift, nor great, only amongſt extreames the moſt vehement is the beſt, yet we muſt diligently obſerve alwayes, whither the change of the pulſe ariſe from the diſeaſe, or come from externall cauſes.

Hereunto belongs the Palpitation of the heart, ſwounding and falling downe, as it were dead, which indicate dejection of the vitall faculty, and great danger, if they happen through ſome diſeaſe of the heart it ſelfe.

Reſpiration. Reſpiration, of it be naturall, ſignifies neither the breſt, nor heart, nor midriffe to be any way affected with paine, nor any adjacent parts *Galen* 1. *prog. Apho.* 25. and moreover it hath great force in ſignifying tokens of health, when one is ſick in a feaver, eſpecially if other good ſignes are preſent *Hip. ib.* on the contrary preternaturall reſpiration, although it be not allwayes mortall, yet tis alwayes evill, but worſt of all if it be joyned with other ill ſignes; great and ſwift breathings

thing ſignifie great ſtore of fuliginous vapours, yet the organs apt, and the faculty hitherto ſtrong, a great and ſlow pulſe happens only to thoſe that are diſturbed in mind; a great and frequent pulſe ſhew pain or inflamation of the part ſerving for breathing; little and ſwift reſpiration ſhews plenty of fuliginous excrements, but with paine, or inflamation of ſome of the organs appointed for breathing; a little, and ſlow pulſe ſhews not many vapours, with paine or inflamation of ſome inſtrument of reſpiration, and with other ill ſignes portends not a little danger; little and obſcure reſpiration is perpetually evill, and ſignifies diſſolution of ſtrength; but little and thin is the worſt of all, becauſe it indicates the greateſt debility of the faculty, and if a cold breath proceed from the mouth and noſtrills, it is very deſtructive; but the worſt of all, and the neareſt to death, is when it extends & is obſcure, and ſublime, wherein the breſt is much dilated, and ſometimes the Shoulders, and griſly part of the noſtrills, but that which is inſpired is very thick, and moſt frequent; but the worſt reſpiration of all, is that which is made with ordure.

Symptomes of the naturall faculty what they preſage.

Moreover for what belongs to the Symptomes of the naturall faculty, their perfection is known by their operations, of which it ſhall be ſpoken hereafter, but that we may ſpeak here ſomething of the deſire of meate and drink; to have a good appetite to meat, and that proceding from a naturall cauſe, and as *Hippo. 2. Apho. 33.* writes, in every diſeaſe to take eaſily whatſoever is offered, is a good ſigne; on the contrary an ill appetite of meate is bad *7. Apho 6.* not to thirſt alſo in hot and burning feavers, wherein the tongue is filthy and black, perpetually ſignifies miſcheif, and a delirium, or diſſolution of the deſiring faculty, or of them both; but as it is an ill ſigne not to thirſt, ſo tis a good ſigne to thirſt in hot diſeaſes, alſo to thirſt immoderatly and over much, is not good,

Chap. VII.

Of the ſignes of life and death which are taken from excretions and retentions.

Prognoſtick from urine.

Amongſt excrements, urines principaly uſe to be obſerved but although it is ſpoken of already, what they ſhew, above, part the firſt *Sec. 2. cap. 21.* yet here we may breifly comprehend thoſe things which portend to death or life, namely, that urine is beſt which is moſt like that of a ſound perſon,

perſon from this the reſt differ in ſubſtance, colour, quantity, and contents. As to the ſubſtance, the goodneſſe of the ſubſtance with a good colour, promiſeth health; thin urines with a good colour promiſe health, yet they ſhew a diſeaſe which requires longer time for concoction. Thin and red urins ſignify a crude diſeaſe 2. *prog.* 30. but thick, which are made ſo after the beginning of a diſeaſe are alſo good, if they were thin before, much urine if it be made on a criticall day is good, which ſomtimes is profitably made with ſharpneſſe, and paine.

Troubled urine, not ſetling in the bottome, becauſe the ſtrength of the diſeaſed perſiſts, argues for the moſt part the diſeaſe to continue long; if imbecility of the ſick be preſent, it denotes their death, but thoſe which grow cleare are better. As for the colours of waters, a pale red, a light ſafron colour, and a kind of cleer clay colour are good, neither is a reddiſh colour with a reddiſh and light ſediment to be found fault with, but on the other ſide bright ſhinning urines, and white are evill; and eſpecially if they appeare ſuch, in Phrenſies, 4. *Aphо.* 72. principally, if they are ſo in the beginning of a diſeaſe, and continue ſo long; thin, and red, ſignify the diſeaſe is crude, and moreover tis dangerous if they continue ſo long; black urine in acute diſeaſes, unleſſe they are emitted on a criticall day, allwayes denote great danger; after black, the oyly are the worſt, yellow, and green alſo are nought, and ſgreen urines if they appeare ſo ſuddenly in men that are in other reſpects ſound, with biting of the heart, tis a ſigne they have drank poiſon, and they are in danger of death, but in feavers they are mortall ſignes; eſpecially if they appeare in the beginning of the diſeaſe.

As for the quanity *Hippo.* 3. *Epid. com.* 3. *tom* 4. condemnes thin urins made in great quantity; as alſo much urine, thick, not reſiding and no way helping; and all urines are made in great quantity in the beginning, are diſliked; ſmall quantities of urines in acute feavers are alſo nought.

As to the contents, thoſe urins are evill which have no ſediment, and nothing that ſwimmeth in the urinall in the middeſt of the urine, nor a little loud; unleſſe the ſick hath faſted long, or watched, or laboured: or becauſe the body is exceeding full of choler; thick waters alſo without a ſediment are dangerous, and a ſediment repreſenting, the forme of thick brain, is evill, but worſt of all, if it reſide in a manner like ſcales of

fiſh

Fish, but if it be thin and white tis vitious; but that which is furfuraceous or like Bran is worst of all, *Hippo. 2. prog.* 28. a nubecula, or little cloud, which is carried in the Urine, if it be white tis good, if black tis nonght; tis evill also for the sick to make water and not know of it.

Secondly, the dejections of the belly afford us signes two manner of waies; first, as they shew the concoction of the stomack and guts, also as they manifest the humours flowing from other parts to the guts; As for the first kind, that ejection is best if it be gentle and constant, and sent forth at that time when it is wont to be in the best health, if quantity be according to what hath been eaten, 2. *Apho.* 13. The latter is good if it be criticall, and with signes of concoction in the state of a disease, and happen on a criticall day, and ease the sick, 1. *Apho* 2. On the other side ill dejections, and those which portend destruction, derogate from the good in substance, colour, smell, time wherein they appear, nor are they voided with ease. *Of dejection of the belly.*

As to their substance and quantity, dry excrement and rolled up in clods are signes of fiery heat, and if besides they shall be black, they declare a burning disease to be in the middle of the body, and for that reason are evill: On the contrary liquid excretion is not evill, if it have other good notes; but the watry ordure is worse, and proceeds from greater crudity; and moreover in cholerick diseases, with ill Urines tis deadly, but in more milde it signifies the disease will continue long. A glutinous, white, light, fat, and fœtid ordure, and little, are condemned, 2. *Prog.* 21, 22. Cleare dejections also in acute diseases are condemned, 2. *Prorrh.* 15. and froathy, and cholerick ejections in acute cholerick diseases are accounted evill, *ibid. Apho.* 18.

As to the colour, excrements which differ from the naturall colour, are white, red, bloody, watry, green, yellow, black, full of mixt colours, unless they are emitted critically they portend danger: Yet in all these ejections in judging of them, regard is to be had of the meat, and to take heed you observe whether that quality hath its rise from dyet that hath been taken; for they become white either by the obstructing of the passages through which choler descends to the guts, or through the motion of the choler to some superiour and more noble part,

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Red are alſo of themſelves dangerous, yet if they are extruded after the victory of nature, they rather ſhew hope of preſent health, then portend any thing of evill.

Black Excrements ſince they proceed either from blood or melancholy humours, or from black choler, that blackneſſe which comes from concrete blood, or a melancholy humour, is not alwaies evill: but pure black choler can never be ſent out of the body without deſtruction of the ſick.

Green and æruginous ordure which proceeds from æruginous choler tending to black, is an argument of a pernicious diſeaſe, if it be caſt out from any principall part, and the bowels be affected with an Eryſipelous; if the Excrements are yellow, they ſignifie vehement cold in the internall parts, and as it were a certain mortification: Ejections alſo of divers colours are evill, 2. *Prog.* 22.

Fætid Excrements are evill alſo, and the worſt of all, and few are preſerved whoſe excrements in acute feavers are fœtid, yellow, fat, black, and blew, or lead colour.

Of vomitings. Thoſe vomitings are good which truly purge the cauſes of diſeaſes, or which are made critically, and when concocted matter appears on the criticall daies, and are ſuitable to the nature of the diſeaſe, and take away or abate the ſame; but on the contrary, all thoſe are evill which happen in the beginning, when the matter is not yet concocted, and which take not away the morbifique matter, and the diſeaſe; and they are ſo much the worſe if other pernitious ſignes be preſent, ſuch as are fincere Vomits, leek coloured, lead coloured, black, ſtinking, and fœtid, from the guts, Ileon, and very little.

Of ſweats. Sweats are good which happen after decoction is made, and on a criticall day, and coldneſſe, and ſtifneſſe, proceeding & flowes out hot and plentifully from the whole body, and leſſen and abate the diſeaſe: on the other ſide, thoſe are evill which happen whileſt the matter is crude, which are too much, or too little, and thoſe which are cold, or flow not from the whole body, and neither diminiſh nor take away the diſeaſe.

From the Hemerodes of the noſe. The Hemorodes of the noſe are good which happen in the ſtate of a diſeaſe, with ſignes of concoction, nor is that alwaies to be condemned which happens in the augmentation, and alſo in the beginning, ſeeing the blood wants no other preparation, neither do the other humours. Good Hemerodes ought to be large, but yet not over much, but to be made with eaſe,

eaſe, and the ſymptomes of the Feaver to be abated, and to happen in a criticall day, and in thoſe diſeaſes, wherin bleeding is proper to their nature and condition; and moreover the blood ought to flow from a part oppoſite to the part affected: on the contrary, thoſe are ill Hemerodes which happen in the beginning, unleſſe other good ſignes are preſent, and if they appear with dangerous ſignes, and thoſe which are too large, or too little.

Dropping of blood from the Noſe is evill, if it be cauſed by perverneſſe of matter, multitude, imbecility of force, or all theſe, eſpecially in the beginning, or on the fourth day, if the blood be black, ſincere, and without mixture: But it be a token of a future Criſis, tis no ill ſigne, which happens when the ſignes of concoction have been before, and the diſeaſe is not dangerous.

From ſpittle. Spittle is of great uſe in ſhewing of diſeaſes of the breaſt, and that is good which is concocted, white and equall, and is ſpit out conveniently, and eaſily in a ſhort ſpace of time, without great pain, and a great cough: on the contrary, tis evill if it be crude, yellow; worſe, if it be green, worſt of all if black, eſpecially if it be without mixture, if it appears more dull, and is ſpit out with great difficulty, tis alſo evill; when the ſpittle is bloody, for it proceedeth from eroſion, or from breaking of Veſſels.

Ulcers. Laſtly, decretory Impoſthumations are good, if they happen with ſignes of concoction, and other good ſignes, and break on a judicatory day; they are good by nature which are removed from the bowels and more noble parts, which perſevere, are ſuppurated, and help the ſick: On the contrary, thoſe are evill which break forth without ſignes of concoction, the matter as yet being crude, and on a day that is not criticall, if they are too great, or too little, or happen to be in the fingers, or toes, if they are lead colour, or too red, inclining to black, and thoſe which decreaſe and vaniſh, without any reaſon, and without any precedent evacuation, thoſe which are not well ſuppurated, which are corrupted, and they bring either that part where they are, or the whole body into danger.

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CHAP. II.

Of the signes of health and of death which are taken from the mutations of the qualities of the body.

What may be fore-told by the habit of the body.

MOreover to the mutation of the qualities of the body, and firſt concerning the whole body, tis a good ſigne if it be rendred not much unlike to a ſound body in habit and colour.

Tis no good ſigne for the moſt part in a great Diſeaſe, when nothing is changed, 2. *Apho.* 28. Tis alſo an ill ſigne when bodies are extenuated in the declination of a Diſeaſe, and although they take food are not thereby refreſhed. For in acute Diſeaſes, tis an ill ſigne when the body is puft up and ſwelled, unleſſe criticall humours are then remitted.

From the colour.

The colour of the body when changed contrary to nature, and eſpecially in the yellow Jaundice, is a good ſigne. In Feavers if it come to paſſe by natures driving the cholerick humours critically to the out ſide of the body, and the skin; but that which is contrary is to be adjudged evill.

From the face.

Thoſe ſignes which are in the face are of great force, but that face is beſt which is like to theirs which are in health, but if it be contrary tis vitious, *Hip.* 1. *Prog.* 5. but a face may be unlike to their faces that are well many waies, and by how much the more it receedeth from the face of ſound people, by ſo much the greater evill it denotes.

Hippo. *face.*

All which ſignes *Hippocrates* in his deſcription of a face, which differs from a face of a ſound perſon produceth, which therefore is called an *Hippocraticall* face, 2. *Prog.* 6, & 7. ſharp Noſe, hollow Eyes, the Temples ſtreightned, or narrow, the Eares cold and contracted, and their fibres inverted, the skin alſo about the Forehead hard, fixed, and dry, and the colour of the whole countenance green, or black, which change of the countenance is very deadly, eſpecially in the beginning of a diſeaſe, unleſſe it ſo happen to be from ſome evident cauſe, and mends night and day

day, but that face which is of a purple colour, mixt with blew, unleſſe the Hemerodes of the Noſe, or an Impoſthumation behind the Eares be to follow after, is an ill ſigne, and denotes a very hot diſeaſe of the brain.

By the eyes

As the eyes are affected, ſo the body, and principally the head, *6. Edip. Comm. 4. tom. 28.* for if the eyes are like to theirs that are well, have a naturall colour, are full, ſplendid, and indure the light without trouble, if they open their eye-lids well, and ſhut them without teares, and without excrements, they are good ſignes.

But there are divers mutations in the eyes, and as *Hippo. 1. Prog.* 10. writes, if the eyes avoid the light, or ſhed tears againſt the will of the ſick, or are perverted, or one ſhall be leſſe then the other, and the white become reddiſh, or of the colour of lead, or black Veines, or phlegme appears about the ſight, or look divinely upward, or are hollow, or the colour of the whole countenance varies, all theſe are to be accounted evill and deſtructive, but worſt of all if the ſick ſee not, hear not, and if this happen in a weak body, death is nigh at hand.

By the Noſtrill.

A ſharp Noſe, and a Noſe that is turned, or wreathed, after what manner ſoever, is an ill ſigne; if the Noſe itch contrary to cuſtome, unleſſe it indicate a flux of blood imminent, it ſhewes that a Delirium will follow.

By the eares.

The Eares if they are of a wan colour, black contracted and cold, tis a ſigne of death.

By the teeth

The grinding of the teeth is an ill ſigne, tis an ill ſigne alſo when any glutinous humours ſticks to the teeth.

By the Tongue.

When the Tongue is like theirs who are in health, tis a very good ſigne, but tis very evill if it be green, black and exceeding dry, cleaved, or chopped, rough, and as it were burnt: But principally dry, hard, and black Tongues indicate danger, if they appeare with other ill ſigns, & moſt of all if when the Tongue is rough and dry, the ſick be not thirſty.

By the Chops.

The Chops ulcerated with a Feaver is hard to be cured, *3. Prog* 15. and if in acute diſeaſes of the Chops, if paines, and abjectneſſe, and ſtoppings, without a tumour happen, they are pernitious, *1. Prorrh.* 11. and if the Feaver being detained, he ſuddenly turn his neck awry, and can ſcarce ſwallow, no tumour being preſent, tis mortiferous, *4. Aphо.* 35.

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By the Hypocondries Tis a good signe if the Hypocondries are without paine, if they are soft and equall, on either part if they are not extenuated; yet somtimes when the Hypocondries are stretched it shewes a crisis to come, but then also other criticall signes are present; on the contrary tis an ill signe, if the Hypocondries are troubled with inflamation, or paine, or are stretched, or unequally affected, on the right, or left part; also when extenuated, and beating, unlesse a Crisis be present.

By the extremities of the body. Lastly as to the extremities of the body, if in intermitting feavers, the extreame parts grow cold, and the internall burne, and they thirst, tis mortall 7. *Apho.* 1. but tis very good if all the body be equally hot, and soft; it is evill also, and for the most part deadly if all the body be heavy, and especially if the nailes and fingers are black and blue, or black, if the genitalls, and stones are drawn up together, also filthy smells indicate great putrifaction and danger.

Chap. VIII.

Of knowing the time, longitude, brevity and event of a disease.

Which diseases are ended in the first quartarnary. THe length, brevity, time, and event, of a disease are known principally by the signes of concoction and crudity, and the vehemency of a disease, by the celerity, and tardity; for if in the first day in an acute feaver, the signes of concoction are present in the urine, and no danger be perceived, it argues the disease will end about the first quartarnary, third, fourth, or fifth day, if the disease be contrary to this, and presently after the beginning have the worst Symptomes, the fifth day, or before, he will dye.

Which are extended to the second. But if signes of concoction appeare the first and second dayes, and the disease be neither benigne nor vehement, the disease may be extended, to the second quarternary, but as long as such feavers can continue the first day, it can scarce be known, but afterwards each quartarnary are to be considered, and the signes of concoction in them are to be wieghed & compared with the vehemency of the disease, towit, if in the fourth day signes of concoction appear in the urine, tis a signe that the matter is apt to be concocted, and that the disease will terminate on the seventh day; on the contrary, if in such a feaver, on the fourth day there appeare no signes of concoction but ill signes are also increased, tis an argument that

the

the ſick growes worſe, and may dye about the ſeventh day; unleſſe ſome error be committed, or ſome other cauſe of change be preſent.

But if the ſignes of crudity, remaine till the fourth or ſeventh day, the diſeaſe ſhall indure beyond the third quartarnary, but if on the fourteenth day, it ſhall have an end, the eleventh, which is the index of the fourteenth will ſhew it, for if then ſignes of concoction appeare, either before the fourteenth day judgment may be given, or on the ſeventeenth day; but if on the eleventh day there appeare not as yet ſufficient ſignes of concoction, there is no hopes that the diſeaſe will be judicatory on the fourteenth, and therefore the ſignes of concoction are to be ſought in the following quartarnaries, for if the ſignes of concoction appear about the twentieth day, there is hopes on the firſt quartinary, after the twentieth day, that the diſeaſe may be judged of, but if no mutation hitherto appeares it may be extended to the fourth week, and thoſe diſeaſes which retaine all the ſignes of crudity to the foure and twentieth day, cannot be decreed, before the fortieth day, and thoſe which are extended beyond the fourtieth are not ended with a Criſis, but with ſlow concoctions. *which to the third.*

Sometimes not only the day but alſo the houre of the end of a diſeaſe may be foretold, namely if we conſider particular fits, for if we think any one will dye on any day, tis probable he will dye in the worſt time of his fit, or in a particular declination, when the ſtrength, in the height of a diſeaſe is dejected, by the cruelty and vehemency of Symptomes. *The houre of the event of a diſeaſe how to be known.*

Chap. IX.

How many mutations there are of diſeaſes, and the manners, and what a criſis is.

THe third thing which ought to before known by Phyſitians is the manner of event, and end of diſeaſes: they are terminated ſix ſeverall wayes, as well to health, as to death, for either the diſeaſe is ſuddenly fully diſſolved, and the ſick recovers immedialy his firme health, or there is a ſudden change to better, and the ſick is transferred from a worſe ſtate into a better, after which, at length alſo he recovers to be well, or there is a converſion of the diſeaſe by *Changes of diſeaſes how many.*

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little and little to health, or contrary the sick suddenly dies, or the disease is suddenly become more dangerous, which change at length ends him.

That mutation which is made by degrees, tending to death, is called a Marasme, or Wasting; that mutation of a disease which is made by little and little, and tends to health, is called a loosing, but that sudden and hasty change which is made in Feavers, especially acute and tend to health, or death, is called a Crisis; but that change cannot be made unless vitious humours which oppresse nature are moved, which indeed cannot happen without great perturbations of the body, and vehement symptomes; a Catalogue whereof *Galen* recites in his 1. of criticall daies, Cap. 1.

Crisis.

Chap. X.

Of the causes, differences, manner, and time of Judgment.

The cause of a crisis.

Conturbation.

Since that in Judgments many things happen, conturbation, evacuation, and sudden mutation, tending to safety or death, that conturbation which is a heap of those judicatory symptomes, which proceed from agitation and molestation of humours which the body affords, and this comes to passe either from an externall cause, as influence of Stars, or an internall, irritating and provoking as well nature as the matter.

Evacuation.

The cause of evacuation is the expulsive faculty, which either is stird up by the plenty or the quality of matter, yet critically expels that which doth molest.

Differences of Crisis.

There are four differences of Crises, according as nature is sometimes stronger, sometimes weaker, and sometimes oppressed more by vitious matter, sometimes lesse, for either the sick forthwith recover their former health, or suddenly dye, or undergo some change, tending to safety or death, yet immediatly they neither recover, nor dye: From whence afterwards other differences will arise, for some Crises are good, some evill; those are good which tend to the recovery of the sick, those are evill which discover the death of the sick.

Good.

Evill.

Perfect.

Imperfect.

Again some are perfect and very good, which free the sick perfectly and wholly from the disease, and leave none of the morbifique matter, but the imperfect leave some of the morbifique matter behind.

Again,

Again, some are faithfull and secure, which so take away the disease, that there is no feare of a relapse; unfaithfull is that which leaves a doubt of falling into it again. *Secure.* *Not secure.*

Moreover tis called a safe Crisis which happens without danger of Symptomes; but a dangerous which is joyned with perilous Symptomes. *A safe.* *Dangerous.*

Some Crises are with good signes, and have their indications from the daies going before them, and are called good signes; but that which happens without signes, and is, as it were, unseperated, is said to be an ill signe. *Eusemos.* *Asemos.*

But all these differences depend on three things, the strength of nature, the nature of a disease, and the condition of the matter which ought to be expelled; and that a good and perfect Crisis be made, tis requisite that nature be strong, and Heaven favourable, the disease not dangerous, and the matter benigne and facill; in all other Crises one, or more of these are wanting. *The differences of Crisis whereon they depend*

All Crises are made two waies, either by excretion, or emitting; or else by removing the matter: By excretion a Crisis is made when peccant humours are expelled by vomit, Seidgs, swear, plenty of Urine, Hemerodes of the Nose, flowing of the months, and Hemerodes: A Crisis is made by translation, when the matter is not expelled out of the body, but is removed into another place, and that either into internall parts, or externall, the former Crisis is the better, because the matter for the most part is throughly cast out from the center of the body; by so much also a Crisis is the better, that is made by translation, by how much the matter is transferred to a more ignoble and remote place; so much the worse, by how much the place is more noble and nigher to the seat of the former disease: An Imposthumation also, or Ulcer ought to be out of the region of the part affected, and to have the other notes of a good Imposthumation; an abscesse also ought not to vanish suddenly, but to remain untill either it be turned into quitture, or till it be dissipated by degrees. *Crisis, how many waies made.* *By excretion, by translation.*

But the best Crisis never happens unlesse it be towards the end of the height, when the concoction is perfected, for that which happens in the augmentation before the state, is imperfect, and is so much the worse, by how much tis longer distant from the end of the state; sometimes also evacuation which is made in the beginning of diseases, and is symptomaticall, is not to be accounted evill, especially if those humours *A good crisis, when it happens.*

mours are evacuated, from whence the diſeaſe had its originall, and the ſtrength of nature can endure it.

CHAP. XI.

Of Criticall daies.

Criticall daies. WHereas the Criſes are made more frequently and better on certain determinate daies then other daies, thoſe daies therefore are called criticall; but other daies wherein a Criſis ſeldome happens, or ſuch a one as is not good does happen, are called not criticall.

Criticall daies are of three kinds, ſome are thoſe which are ſimply, and according to preheminency called criticall, wherein Judgments are made better and more frequently, all which are bounded within the circuit of a ſeptinary number, and are theſe, the 7.14.20.27.34.40. for daies are not taken whole, but ſhorter.

Moreover, there are ſome which are called indicant and contemplable, from whence the Criſis to come is ſhewn, and they are the middles, or quarternaries of every ſeventh morning, as 4.11.17.24.

Intervening. Others are ſuch as come between, which the Greeks call *Parempiptontes*, others call them provocatory, wherein from ſome accident contrary to nature, or by the violence of a fit, or by reaſon of ſome externall cauſe, nature is provoked to haſten to untimely expulſion, ſuch are the 3.5.9.13.19. and according to ſome 15.18.

Vacant. Vacant or not criticall daies are thoſe wherein no criſis happens, or very ſeldome, and unperfect, and evill, ſuch are the 6.8.10.12.16.18. to which ſome add 22,23.25.29,30.32, 33.35.38.39. which daies are alſo called medicinall, becauſe the Phyſitian on thoſe daies may ſafely adminiſter purging Medicines.

After the 40. day diſeaſes languiſh, and by a ſlow concoction, and by Impoſthumations, rather then Criſis are terminated; after theſe ſome diſeaſes are judged by months, others by years, and eſpecially in climactericall years, when changes are made even of diſeaſes which have been contracted from their Mothers Womb.

From this doctrine nevertheleſſe of Hippocrates, and Galen, which *Galen* reduceth, as it were, in brief, in the 1. of decretory diſeaſes, cap. 5. the ancients now long ſince have departed; *Aſclepiades*, *Archigenes*, *Celſus*, and others, which accounted the third criticall year not the twentieth, but

the

the one and twentieth, the fourth, not the twenty ſeventh, but the twenty eighth.

The Aſtrologers alſo do not ſimply obſerve daies and numbers, but referring all the reaſon of criticall daies to the motion of the Moon, note thoſe daies wherein the Moon comes to every quadrangle, or fourth corner, and comes to the diameter in reſpect of place wherein ſhe was found when the diſeaſe began, as now in the cauſes of criticall daies ſhall be ſhewn. *The opinion of Aſtrologers.*

CHAP. XII.

Of the cauſes of Criticall daies.

THat we may omit the opinions of others, of the cauſes of criticall daies, no offence to any other judgments, we appoint criticall daies to depend on the Moon, and the condition and diſpoſition of peccant humours, and the expulſive faculty, for what mutations ſoever the Moon in her conjunctions, oppoſitions, and quadrangles makes in theſe inferior bodies is very well known, and therefore that power which is attributed to quaternaries, and ſeptinaries do all depend on the motion of the Moon, yet nevertheleſſe that this, or that Criſis may be made betwixt thoſe, the motion of the Moon alone is not ſufficient, ſince not alwaies the ſeventh or fourteenth day is not alwaies criticall, and ſomtimes a good and an ill Criſis is made on the ſame day, and therfore the condition and diſpoſition of peccant humours are to be joyned: and laſtly, the expulſive faculty is to be added, which being ſtimulated by the motion of the Moon and diſpoſition of humours, is the next and immediate cauſe of a Criſis. *The cauſe of criticall daies.*

Firſt ſeeing the order of criticall daies cannot proceed only from the faculty of the body, nor from morbifique matter, but a cœleſtiall cauſe is to be joyned therwith, and the Moon in every quarternary, and ſeptinary, and according as it takes up one and another place of the Zodiack in its motions, and by reaſon of the light from the Sun varying, ſhews to us various lights or repreſentations, it may make great alterations in ſublunary things, tis not therfore without a cauſe determined, that great mutations ariſe in diſeaſes in thoſe places which have regard to the place wherin the Moon was in the beginning of the diſeaſe, with a quadrate or oppoſite ray; and when ſhe is come ſo far as that ſhe hath a new ſhape, and manifeſt mutation of light; for the motion of the Moon and her progreſſe to the quadrate, and oppoſite ſignes, and the changings *The Moon.*

changings of the ſhape of the Moon are to be joyned whatſoever they are; yet the criſes are ſtronger when the Septinaries exactly fall into the quadrates of the Moone.

A periodicall month in criticall dayes to be obſerved.

But in the computing of the criticall dayes, the month of wandring or travelling is to be obſerved as being naturall and according to which many changes are made in this inferior orbe, which for the moſt part is made in twenty ſeven dayes and eight hours, which if they are divided into foure weekes, the firſt will be ended, in ſix dayes and twenty hours, the ſecond in thirteen dayes, and ſixteen hours, the third in twenty dayes and twelve hours.

Therefore on what day ſoever any one fall ſick at the firſt onſet of the diſeaſe, a conjunction as it were is made of the Moone and the diſeaſe, hence when the Moone hath meaſured three ſignes, or paſt over ninty degrees, and comes to the firſt quadrate, the firſt criticall day is made; when ſhe hath paſt through ſix ſignes, or an 180. degrees ſhe comes to the oppoſite ſigne, and the ſecond criticall day begins; when from the oppoſite ſigne ſhe paſſeth to the ſecond quadrate, the third criſis begins, if the diſeaſe be prolonged till then, laſtly when ſhe returns again to the place where ſhe was at the beginning of the diſeaſe the fourth criſis begins, and ſhe ſhews as ſhe did at firſt.

Prognoſticall diſeaſes.

The ſame reaſon is of indicatory dayes, for when the Moone hath paſſed over two ſignes or 60. degrees from the ſigne wherein ſhe was when any one began to fall ſick, and is ſaid to come to a ſextile, the firſt indicatory is begun; when ſhe hath paſt over foure ſignes, or a 120 degrees, and becomes triangular, the ſecond indicatory is made; and when from the oppoſite ſigne againe ſhe comes to be triangular, then is the third indicatory; laſtly when ſhe hath gone from the ſecond quadrate to the ſecond ſextile, the fourth indicatory is.

Which motion of the Moone is to be obſerved in critiball dayes.

But here the dayes are nor to be numbered according to the diurnall indifferent motion of the Moone, which is thirteen degrees, ten minutes, 35 *ſec.* but according to the true motion of the Moone, for the Moone is ſometimes ſwift, ſometimes ſlow in motion, nor doth ſhe paſſe through alike number of degrees each day, whence it comes to paſſe that ſhe arrives ſometimes ſooner, ſometimes later, to the quadrate and oppoſite ſigne, and hence without all doubt it comes to paſſe, that moſt admirable Phyſitians vary in defining of criticall dayes, and Hippocrates as alſo *Galen* account the twentieth, and ſeven and twentieth: *Archigenes*, as alſo *Diacles* count the

the one and twentieth and eight and twentieth for criticall dayes; neither are allwayes diſtinct aſpects to be obſerved, but often times, plarick are ſufficient.

Secondly beſides the motion of the Moon, the diſpoſition and motion of humours are to be conſidered and which is the cauſe that the criſis happens ſometimes ſooner, ſometimes later. *The diſpoſition and motion of humours.*

Laſtly the nature of the body is to be adjoyned, which being aſſiſted by the motion of the Moone, and ſtirred up by the humours, begins a combate with the morbifique matter, and expels the ſame, and makes a criſis. *The nature of a body.*

CHAP XIII.

Of the ſignes of criſis in generall.

BUt criſes are made as it is alſo ſaid before, only in acute, and violent diſeaſes, ariſing from hot, thin, and acrid matter which may tire out nature; but if ſometimes in durable or chronick diſeaſes alſo, criticall evacuations as it were, are made, it is neceſſary, that ther be certain periods of time before the diſeaſe become vehement and become of the ſame nature with acutes: Moreover that the criſis may be made, tis requiſite that there be ſtrength of nature, according as ought to be: thirdly, to the foreknowledge of a criſis certain perturbations in the body conduce, which uſe to ariſe before a criſis, and ſignes which *Galen* in the third of criſis *Cap.* ſecond at large deſcribes, and, he breifly comprehends in the ſame book Cap. the tenth when he writes, that when a criſis is to come there is ſome new alteration, either about reſpiration, or concerning the mind, or the ſight, or hearing, or about ſome of thoſe which we call breifly, by one name, criticall accidents or ſignes. *In what diſeaſes criſis are made.* *Signes of criſis.*

CHAP.

Chap. XIIII.

Of the ſignes of differences in Criſis.

The beſt ſigne of criſis.

A Good criſis is thus known. Firſt becauſe critick ſignes have precedes. Second, becauſe the ſignes of concoction have gon before eſpecially in urins and other excrements. Third, becauſe it is ſhewn on the judicatory day. Fourth, becauſe it happens on the judicatory day. Fifth, becauſe convenient excretion is made according to the nature of the diſeaſe. Sixth, becauſe the ſick after the Criſis is almoſt freed from the feaver, the Symptomes abate, and the face is of a better colour.

Of the declining from the beſt.

But theſe Criſes that differ from the beſt are known thus; becauſe the ſignes of exquiſite concoction have not gone before, nor have they happened in the ſtate, nor a little before, but in the augmentation, they are not made on a criticall day, the evacuation doth not plainly anſwer to the nature of the diſeaſe, the ſick doth not well endure that evacuation, the Pulſes are not better, the ſick is not eaſed of his diſeaſe, and in the night which followeth the criſis he is not more lightſome, yet amongſt the other evacuations which are wont to happen before an abſolute concoction, the beſt of them is the Hemerhodes.

Evill.

An evill criſis is known by the ſignes which are contrary to the beſt criſis, namely becauſe ſuch a criſis firſt doth not expect the time of concoction; ſecondly in the judicatory day it was jndicated by il ſignes, or it ſuddenly grew upon him without preceding ſignes; thirdly it is not made on a decretorie day, but for the moſt part on the ſixth or eigth day; fourthly the evacuation doth not anſwer to the nature of the diſeaſe and the excretion of it ſelfe is evill, fifthly the ſick is not eaſed, the pulſe is become worſe, the ſtrength decayes, and the ſick doth totally fall into a worſe condition.

Chap. XV.

The ſignes of a criſis to come by excretion and Impoſthumation.

Signes of a criſis to come by excretion.

But whether a criſis be to be made by emiſſion of morbifique matter, or by tranſpoſition of it into another place, or by impoſthumation, the kindes of diſeaſes, and the motion, time

time of the yeare, nature and age of the ſick do ſhew; for if the diſeaſe be very acute ariſeing from thin and actid matter, and the criſis be to come after, the firſt periods, if nature be ſtrong, the pulſe high, the paſſages open, and nature accuſtomed to ſweate or ſome other evacuation, if it be Summer time, tis a ſigne that there will be a criſis by excrements.

By an ulcer or impoſthumation.

But on the contrary if the diſeaſe be not ſo acute and the matter be thick, nature weaker, eſpecially if the urines come forth thin and crude for a long ſpace, if their be debility of the externall parts, and propenſity of nature to thruſt out humours, to theſe places; if the time of the year be cold, tis a token that there will be a criſis occaſioned by impoſthumation.

Signes of good or evill excretions.

And indeed excretions are good when they are evacuated as they ought, and ſuch as ought, and in ſuch manner as they ought, and when, and as much as is expedient; namely when the humour which offendeth is evacuated, and concocted in due quantity, in a criticall day, in a right manner, together, and through places ſending them out together; evill evacuations are contrary.

Impoſthumations good or evill.

Good impoſthumations are thoſe which are made when the matter is concocted, have laudable ſubſtance, namely a figure ſwelling externally, and ſharpned, do equally ripen, and are not hard round about, and are of a good colour, red, yellow, or white, indifferent bigneſſe, when they continue and go not away untill they are ſuppurated, and are ſoon ripened; on the contrary, ill impoſthumations ſwell not enough without, and are not pointed, they ſuppurate not all alike, they are hard about, and cloven into two, their colour inclining to red, yellow, or black, they are greater then is convenient, and they vaniſh before they are ſuppurated, or are ripened very ſlowly.

CHAP XVI.

Through what places there will be excretion and where there will be impoſtumation.

THrough what place there will be excretion the inclination of the humour teacheth, and about thoſe parts to which the humour to be expelled is moved, or through which it is moved, a certain change is perceived.

When

Signes of Hemerodes of the nose. When a Crisis is to come by the Hemerodes of the Nose, the Hypocondries are wont first to be extended without pain, then when the blood finds the way to the superior parts, it causeth difficulty of respiration, but not long continuing; afterwards followes the paine of the head and neck, and the pulse becomes more vehement, and at times the Arteries are discerned to beat and pant, and the face and eyes become redder, and the eyes shed involuntary teares, and shinings, or glistrings are observed in them, or dimnesse ariseth, the imagination is also hurt, and a Delirium happens, and certain red apparitions seem to be before the eyes; and moreover the Hemerodes being now nigh, the sick begin to scratch their Nose with their fingers: and these signes are the more certain, if the age of the sick, and nature, and the time of the year, and the present constitution of the aire consent.

Of a critick sweat. If by reason of sweat which happens very often, a Crisis be to come, there happens suppression of Urine for the most part, and a cold fit hinders it: but the signes of Hemerods are absent, as also the signes of Vomits, and monthly courses, and when the sweat comes forth the pulse is soft, waving and flowing, the exterior parts grow hot, and red, the skin is soft, and a certain hot vapour breaks out through the skin.

Vomit. That there will be a Crisis by vomit, the motion of the humours to the stomack shew, from whence ariseth biting of the stomack with paine of the head, a giddinesse and dark cloudy shadowes or mists before the eyes, agitation of the lower lip, much and thin spittle flowing out of the mouth, loathing and disdaining, a cold chill fit, or trembling, and frigidity of the Hypocondries, a hard and unequal pulse, and difficulty of breathing.

Excretion of the Belly. If a Crisis be to follow by reason of excrements from the Paunch, there is no proper and exact rule to know it, but only thus, because signes of a Crisis are present, but signes of a Vomit, or flux of blood, or sweat, or of courses are wanting; therefore we may conjecture there will be a Crisis of the belly, and especially if belching wind, rumbling, or breaking wind in the belly be present; also paine of the loynes, heavinesse of the knees use to happen, and the Vrine is sometimes suppressed, or made more sparingly.

By Urine. That there will be a Crisis in the same manner, is knowne by the absence of signes, which use to shew the manners of other Crises, and the sick are not much tossed up and down, nor are they much out of quiet, but there is present a certaine

taine gravity of the Hypocondries, and a perception of windineſſe about the bladder, and afterwards the Urines begin to be increaſed, the dregs of the belly to be retained, and the ſick when he makes water is ſenſible of certain paine.

By courſes. Tis a ſigne that there will be a Criſis by the courſes if ſignes of other evacuations be abſent, but when the time when the tearmes are wont to flow, is preſent; and moreover the heat and gravity of the loynes concur, when there is paine and ſtretching out of the Hypocondries, and other Symptomes, which familiarly happen when the courſes are preſent.

By Hemerodes. By the Hemerodes that there will be a Criſis is collected, If this flux be not otherwiſe familiar to the ſick, and the ſignes of other criticall evacuations be abſent, and the ſick perceive ſome heat about the marrow of the back, or paine or extending of the loynes, or ſome paine in the belly.

By more parts. If criticall excretions are to come through more places, the ſignes of more excretions wil give you notice thereof.

In what place an Impoſtume will happen. Laſtly, if it be conjectured that nature will remove the morbifique matter into another place, that place where the Impoſtumation will be, is known by the inclination of the matter to thoſe parts whether inferior or ſuperior, although the matter be thin, it ſhall rather be moved to the ſuperior then the inferior parts, and if nature be ſtrong, it rather drives the matter towards the inferior, then the ſuperior parts.

Chap XVII.

Of the time of the Criſis.

Signes of the time of Criſis. Laſtly, it is to be known at what time the Criſis will be, but that fore-knowledge depends upon the fore-knowledge of the State, of which we have ſpoken before, but the chief ſignes are thoſe of concoction and crudity. If therefore on the firſt day a manifeſt ſigne of concoction appear, and all the reſt portend nothing of evill, the Criſis of the diſeaſe is to be hoped for on the fourth day; but if on the firſt day there doth not appeare a manifeſt ſigne of concoction, other daies are to be conſulted on; and if a ſigne appeare, in any of the decretory daies, or the next quarternary the Criſis is to be expected.

Moreover thoſe things are to be joyned with the ſignes of

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concoction; which the Ideas, magnitude, motion, and manner of a diſeaſe affordeth; for of acute diſeaſes, ſome at the moſt are judged in foure daies, ſome are extended to the ſeventh, ſome to the fourteenth, others longer: The alteration of a diſeaſe alſo ſhewes the Criſis, ſince it ſhewes whether the Criſis will be on an even day, or an odd: Alſo the times of diſeaſes are to be conſidered, for in noiſome diſeaſes the criſis appeareth not perfectly before the ſtate, only an imperfect criſis in the augmentation; but deſtructive are made either in the beginning, eſpecially if the diſeaſe be vehement and the ſtrength weak: To theſe ſignes alſo is to be adjoined the conſideration of the time of the yeare, region, age, temparature of the ſick, and ſuch like, of which *Galen* ſpeaketh in the third of *Criſis, cap.* 4.

Signe that of a preſent Criſis. But that a Criſis is now preſent, the criticall ſignes ſpoken of and enumerated before, do ſhew, namely, the night wherein the Criſis is to come, which precedes the fit, uſeth to be more grievous, 3. *Aphor.* 13. but various perturbations precede in the body, according as nature is to expell matter through this or that part: Of which before cap. 13. and *Galen* 3. of *Criſes, c.* 2.

But oftentimes not only the day but houre of Criſes may be fore-told, for if we know the day of the Criſis which is to come, we ought to conſider in what houre of the day the fit uſeth to come, and what time of the Paroxyſme the ſick is moſt grieved, and that is principally to be obſerved.

Inſtead of a concluſion alſo, it is to be obſerved what certain, perfect, and beſt criſes may be known, and the reſt to know no otherwiſe then by the moſt probable conjectures, wherefore unleſſe we can preſage ſomewhat certainly before hand, it is more ſafe to hold our peace, then raſhly pronouncing to be deceived.

Signes of ſtable and unſtable change of diſeaſes. Laſtly, concerning the Criſis, the ſtability and inſtability of the event is to be weighed, but ſtability of the event and certain health is to be hoped for, if nature be ſtrong, and no Symptome remaine over and above; if all the rules of a good Criſis be preſent, if the humours are thin and hot, which are eaſily evacuated, but if nature be weak, and ſome Symptomes abound, as loathing, and ſuch like: all the good rules of a Criſis are not preſent, and the humour be colder and thicker, tis lawfull to preſage unconſtant health, and ſuch may fall into relapſe.

THE

THE FOURTH BOOK,

PART the I.

Of things neceſſary for the preſervation of Health.

CHAP. I.

What things appertaine to the Doctrine of the preſervation of Health, and how many kinds there are of neceſſary cauſes for the preſervation and defence thereof.

HItherto we have explained three parts of Phyſick, which, as it were, prepare the way to thoſe things which are proper to Medicine: Now the next is, that we explaine thoſe principall parts of Phyſick, the Hygeeinall and Therapeuticall, or the preſervative and reſtorative; yet firſt of all we will place before hand certaine common Axioms and Maximes to be obſerved in the method of them both.

1. Nature doth nothing raſhly.

2. Too much of any thing is an enemy to Nature, 2. *Apho.* 51. *Common Maximes.*

3. Nature is the Phyſitian of Diſeaſes, but the Phyſitian the Servant of Nature, and ought to imitate her, ſhe acting aright:

4. Cuſtome is a ſecond Nature, and thoſe things which

are accuſtomed along time, although they are worſe, they are wont to be leſſe troubleſome, then thoſe things which are not accuſtomed, or which men are not uſed unto.

The Doctrine of the defence of health. Now concerning the Doctrine of the preſervation of Health, it may conveniently be comprehended in two parts; the firſt is the knowledge of thoſe things which are, as it were, the materialls of health, or the knowledge which is required of wholſome cauſes, and of things called Non-naturall. Secondly, a method neceſſary for preſervation of health, which teacheth how, or in what manner thoſe non-naturall things are to be uſed to preſerve health.

Firſt, for the cauſes which are neceſſary for the maintaining of health, they are comprehended under the notion of things called non-naturall, and are conveniently reduced into foure ranks, into thoſe things which are taken, thoſe things which are carried, thoſe which befall the body without, and thoſe things which are emitted and retained: Firſt therefore we are to ſpeak here of Aire, Meat and Drink, Paſſions of the mind, motion, and exerciſe of body, and reſt, ſleep, and watchings, Venery, Bathes, Excretions, and retentions.

Chap. II.

Of Aire.

Aire. The Aire affects our bodies two waies; either as it incompaſſeth us extrinſically, and inſinuates it ſelf through the pores of the skin, or as it is attracted by inſpiration, both waies it alters our bodies, and impreſſeth its force on them,

The beſt Aire. but that Aire is the beſt which is temperate, as to the primary qualities, and is pure, and infected with no pollutions, but is ſerene, moved or ſtird with the winds, breathing ſweatly with pleaſant gales, and which is ſometimes moiſtned with wholſome ſhowres: On the contrary, that Aire is vitious which is infected with exhalations and vitious vapours, breaking forth on every ſide, or is incompaſſed with Mariſh grounds, where are ſtanding waters, or after what manner ſoever it be impure, and ſuch as cannot be purified by the blowing of winds; that which is troubled, or too hot, too cold, too dry, or too moiſt.

Corrupt. *Situation of places.* *change the conſtitution of aire.* But the conſtitution of the Aire may be pollured through divers cauſes; firſt, the conſtitution of the Aire depends on the

the ſcituation and nature of places; for ſome Regions are hotter then others, others colder, for by how much the more any Regions receives the direct beames of the Sun, and by how much the longer the Sun remains above their Horizon, by ſo much the Country is the more hot; for the contrary reaſons tis ſo much the colder.

The earth and nature of the place.

Yet this cauſe only doth not ſuffice, neither is the ſame conſtitution of aire in all the inhabitants under the ſame paralell; ſecondly, the mould and proper nature of the earth conduceth to the conſtitution of the temperature of the aire, wherein is to be obſerved what the nature of the ground is, fat, dirty, filthy, gravelly, ſtony, ſandy, whither the place be high or low, what ſcituation there is of mountains, and vallies, what winds it often admits, and from what climates, whether the the ſea, or any lakes be neere it, whether it brings forth mettalls from whence malignant aire may be exhaled.

Scituation of Mountaines.

The mountains alſo change the conſtitution of aire, according as the blowings of certain windes drive away, and admit it, and if the mountains drive away the North-wind, but admit the South, it comes to paſſe that the places are hotter and moiſter, but on the contrary if by ſcituation of the Mountains, the blowing of the South be hindred, and the North admitted the place is colder and dryer.

Winds.

The winds bring forth great mutations, alſo the Orientall winds are more temperate, as alſo the Occidentall, but theſe are moiſter, the Notherne are cold and dry, and have power to bind and dry our bodyes, the Southerne are hot and moiſt, therefore as the Region or ſcituation is more or leſſe diſpoſed to this or that wind, ſo it obtains this or that conſtitution of Aire: Regions, and Countryes expoſed to the Orientall Sun, are more wholeſome then thoſe which are expoſed to the Septentrionall, and hot winds; as alſo then thoſe which are expoſed to the Weſt.

The vicinity of the Sea and of lakes.

The vicinity of the Sea alſo and lakes conduce much to the peculiar nature of Aire, unleſſe interjected Mountains prohibit, for from moiſt places of this nature many exhalations are drawn up, which mingles themſelves with Aire and moiſten it, and indeed the humidity will be increaſed if the Sea or a lake be ſcituated on the South, but if towards North, the frigidity increaſe; if a lake of the Sea be Orientall, and the riſing Sun not far off, it drawes aboundance of moiſt exhalations to thoſe places, but if the Sun be more remote, the

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Vapours with the beams of the Sun wax hot and bring dryneſſe to that place, but leſſe moiſture comes from lakes, and waters ſcituated to the Weſt.

Metallick Mines. Metallick pits for the moſt part ſends forth filthy malignant Vapours, and communicates them to the neighbouring places; Dens do the ſame and Caves, exhaling venemous Aire; Woods that are too thick, take away the light of the Sun and Moone, and hinder the motion and agitation of the Aire.

Times of the year. Thirdly the ſeaſons of the yeare change the Aire which indeed Aſtronomers conſtitute equall according to the motion of the Sun, and Zodiack being divided into foure parts, but Phyſitians principally regard theſe times, according to the temper of the Aire, and call that the Spring when the conſtitution of the Aire is more temperate, when we neither grow ſtiffe with cold, nor ſweat with heat; but the Summer when the ſame is hot and dry; Winter when it is cold and moiſt, neither do they appoint theſe ſeaſons to be equall in all Regions.

The Spring. Hence the Spring as being the moſt temperate, or as Hippocrates calls it, hot and moiſt, that is, when calidity moderatly overcomes frigidity, and humidity moderatly exceeds dryneſſe, it is the moſt wholeſome time of the yeare, and although diſeaſes are generated in the Spring time, yet the Spring of its ſelfe doth not produce them, but the vitious humours which are gathered together in the Winter time are driven out by the heat of the Spring.

Summer. The Summer, becauſe tis hot and dry makes bodies hotter and dryer, ratifies, diſſolves, and renders them weaker, it attenuates humours, and kindles them, from whence cholerick and ſharpe humours are collected.

Autumne. Autumne, becauſe that in the ſame, Morning and Evening, the cold prevailes, about mid day heate, its conſtitution is mixed with cold and heat, and by reaſon of this inequality of Aire, it is very obnoxious to diſeaſes, and the blood at this time of the year is diminiſhed, and mellancholly abounds, bodyes are thickned, and pores ſhut.

Winter. In Winter as being cold and moiſt, phlegme is cheifly increaſed, and bodyes are rendred obnoxious to diſtillations.

All which nevertheleſſe are ſo to be received if you compare one houre with another, or the times of the yeare obſerve their naturall conſtitution 3. *Apho.* 8. but if the ſeaſons of the year are unſtable, divers diſeaſes according to the

various

various conſtitutions of the year, ariſe, of which in the ſelfe ſame *Apho.* 6. 11. 12. 13.

Out of all which it is manifeſt that thoſe ſcituations of places are more wholeſome wherein the conſtitution of the Aire is temperate, the Spring temperate, the heat of Summer ſufficient to ripen fruits, and graines, Autumne colder, Winter cold, yet not offending our bodies with two much frigidity, where ther is alſo a fruitfull ſoile, men indued with a comely habit of body, well coloured in the face, laudable in their manners, ingenious, and rejoycing in their proſperous health. *The moſt wholeſome ſcituation of places.*

Chap. III.

Of meate.

As for what belongs to meate and drink, wherewith the ſubſtance of our bodyes is renewed and increaſed, it is aliment, which can increaſe the ſubſtance of our body, and it is either properly ſo called, becauſe it nouriſheth our bodyes only, or Medicinall, becauſe it alſo doth alter our bodyes. *Aliment what iis.*

But aliments are taken from two kinds of things, either from plants growing out of the earth, or from living creatures; and thoſe things which are taken from living creatures, are either the parts of animalls, or thoſe things which proceed from them, as eggs, milke, and thoſe which are made from theſe, as butter, cheeſe, hony, and ſuch like. *Food whence to be taken.*

The difference of food is great, for ſome meats are of a good, others of an ill nouriſhment and juice; ſome are eaſily, others with difficulty concocted, ſome are eaſily corrupted in the ſtomach, others not. *Differences of aliments.*

That is the beſt food which is eaſily concocted, nouriſheth much, affords much aliment, is not eaſily corrupted, nor indued with any ill quality, and leaves few excrements, but that food is unwholeſome, out of which an ill juice is generated, and which eaſily putrifies. *The beſt meate.* *Unwholeſome.*

That food is accounted firme which brings forth much nouriſhment, but wants great ſtrength of heare for concoction, but that is infirm which is eaſily concocted; and nouriſheth, but affords but little nouriſhment, and ſuch as is ſoone diſperſed. *Firme.*

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Meates from plants.

Fruits or Graines.

THe moſt ancient, and moſt familiar kind of aliment are plants, and thoſe things which grow out of the earth, amongſt which in the firſt place are all ſorts of Corne and grain, which the Greeks call by the name of *ſitou*, and in the firſt place truly Corne is hot and moiſt, and beyond all the reſt affords much nouriſhment and that firme and moſt wholeſome, out of which although divers kinds of food are made, yet the beſt amongſt them is bread, but that leavened, which agrees to every age, and is conveniently taken with all meats.

Spelt.

A ſort of Barly which they commonly call ſpelt, is the next in nature to Corne, and is the middle as it were betwixt wheate and Barly, and it nouriſheth more then Barly, but is weaker then Wheate, out of this ſpelt is made a kind of frumenty,

Frumeut.

or Barly broath, of which Pliny 18. Booke 11. Chap.

Rye.

Rye, of which bread is made for the moſt part in Germany, and other parts, is hotter then Barly, yet not ſo hot as Wheate, and the bread which is made of it hath more aliment then Barly bread, and that ſtronger, yet it is ſomething more hard of concoction, then Wheaten bread.

Barley.

The bread which is made of Barly is colder, and yeelds not ſo firme nouriſhment, of Barly alſo is made ptiſan, which

Partiſan of Barley.

being taken after what manner ſoever, affords good nouriſhment both to thoſe that are ſick, and thoſe that are well, and is no way or clammy, or viſcide, but eaſily paſſeth through and cleanſeth the paſſages, yet the aliment which it affords is a little thinner,

Rice.

Rice is hot and dry, or rather temperate, it nouriſheth much, eſpecially being boiled with milke it increaſeth ſeed, it doth not eaſily putrify, ſtops the Looſeneſſe, it is hardly concocted, and yeelds nouriſhment ſomewhat thicker, and the frequent uſe of it may eaſily occaſion obſtruc-

Millet.

ions.

Millet and the graine like it, called in Latine Panicum *i. e.* Indian Oates, are almoſt of the ſame nature, and are cold, and dry, and ſtop fluxes of the belly, neither do they afford much nouriſhment, nor very profitable, yet millet is the better: Oates are hot and afford nouriſhment of a better

account

account; Pottages and Broathes are made of them, which may be given to thoſe that are ſick or well, which ſtops Looſeneſſe of the belly.

Saracenicum. The Corne called *Saracenicum*, of which Pottages are wont to be made, yeelds nouriſhment profitable for men that are given to dayly labour, and it is hard of concoction, it begets wind, and offends the eyes.

Beanes. Beanes are cold and dry, and flatulent, hard of concoction and crude, and yeeld excrementicious nouriſhment, yet not viſced, but have ſome cleanſing power, they make the ſenſes dul, and noiſes ſeeme troubleſome.

Peaſe. Peaſe are cold, and dry, and flatulent, eſpecially the greene, yet they yeeld better nouriſhment then Beanes, but not ſo plentifull.

Parſnips. Parſenips are hot, and dry, and have greater force of cleanſing then Beanes, and therfore more uſefull in Phyſick then dyer.

Lentills Laſtly Lentils are the worſt food, cold, and dry, thick, of evill and vitious juice, and hard of concoction, they fill the head with thick Vapours, they hurt the eyes, they ingender thick blood, and are cheifly hurtfull to melancholy perſons.

Pot-herbs. After graines, inſtead of food, Pot-herbes are given, and the leaves of the Herbes, Branches, Roots, and the fruits of them, as alſo of Trees, which nevertheleſſe, yeeld not ſo good and profitable aliment as Corne, but many of them are too Medicinall; yet all of them are better boyled then raw.

Lettice Lettice that is ſowen is eſteemed the beſt of all Pot-herbs, and affords more nouriſhment then other Pot-herbs, yet tis cold, and moiſt, and Medicinall, and moreover, in a hot conſtitution of Aire, tis conveniently given to young men, and thoſe which abound with choler, and thoſe which have hot ſtomaches, it provokes ſleep, allayes the heat of the reines, yet too much uſe thereof diminiſheth the naturall heate.

Cabbage Cabbage is accounted by moſt to be cold, and dry, yet in the juice thereof a certain bitterneſſe and acrimony is perceived, which hath a force to ſtir the paunch, tis hard of concoction, affords little nouriſhment, and that thick and Melencholy; from whence fuliginous Vapours fly into the head, and produce turbulent ſleep, and weaken the ſight, its malignity is corrected if it be boyled with fat meates, the

ſtaulkes

ſtaulks are worſe then the broad leaves, and are to be eaten only by thoſe which are uſed to much labour.

Spinage. Spinnage cools and moiſtens, affords little nouriſhment, yet not ſo evill as Orach, or Blitum, which is a kind of Beet, it generates cold and ſerous humours in the ſtomach, unleſſe it be corrected with pepper and, oyle, or butter, it is not laudable, and it begets wind.

Beets. Beets, Blitum, Orach, and Mallowes can ſcarcely be uſed with profit, or benefit for aliment only, but are more beneficially taken, when there is need to looſen, refrigerate, and moiſten the belly; and Beet indeed is hot, and dry, and takes away obſtructions of the Liver and Spleen, and hath a different ſubſtance, the juice is detergent, wherefore it looſneth the belly, but the ſubſtance ſtops the ſame.

Blitum, Orach, Mallows. Blitum, Orach, and Mallowes looſen the belly only by humectation, they nouriſh little, they yeeld a watry juice, and have of themſelves no pleaſing ſavour unleſſe they are dreſſed, with Butter or Oyle, and other Sawces.

Aſparagus. Aſparagus, to which the young branches or tender ſprigs

Young Hops. of Hops are next like unto, neither heat, nor manifeſtly cool, they are gratefull to the taſt, and cauſe appetite, yet afford little nouriſhment, and therefore do afford not ſo good nouriſhment; they have a detergent faculty, and provoke Urine, they cleanſe the Reines, and open obſtructions of the Liver, and of the other Intralls.

Creſſes. Garden, or Water Creſſes, and Muſtard-ſeed may be uſed

Muſtard-ſeed. inſtead of Sawces, but not as nouriſhment, they are hot and dry, and of a biting taſt, they attenuate crude meats, as alſo crude and thick humours.

Onions. Onions afford little nouriſhment, they are acrid and have a heating, cutting, and extenuating faculty, and inflame the blood, and together with the diſcuſſed thinner parts they leave behind them a thick juice, they irritate Venus, they are all hurtfull to the head, eyes, teeth, and gumms, they cauſe turbulent Dreams.

Garlick. In raw Garlick there is almoſt no nouriſhment, in boyled very little, and that bad, but there is manifeſt heat and drineſſe in it, and a power of extenuating thick and viſcide humours, and of cutting them, and taking away cold, and tis the beſt remedy to convert the pravity of waters, as alſo a-

Leeks. gainſt the Plague, and venemous aire: Leeks have almoſt the ſame power.

Raddiſh. The Roots called Raddiſhes which we uſe being dipped in Salt

Salt affords little nouriſhment, but are rather inſtead of medicinall knacks, they heat beyond the ſecond degree, and have a tart taſt, they cut phlegme, attenuate, provoke Urine, and expell ſand from the Veines.

Wild Radiſh. Wild Raddiſhes have the ſame force, but are more powerfull, which are fit for ſawce, but not of aliment.

Rape. Turnips, Rape-roots round are ſlowly concocted, and fill the belly with wind, eſpecially when they are raw, but boyled they are eaſier digeſted, and afford aliment enough, and therfore not ſo hurtfull, but are hot and moiſt.

Turnips. Long Turnips are almoſt of the ſame nature, but of a better taſt, and yeeld leſſe thick and flatulent juice, and afford ſtrong nouriſhment, they ſtimulate Venus.

Parſley. Parſley is hot and dry, provokes Urine and courſes, opens obſtructions, purges the Reines, and bowels, yet it afford little nouriſhment.

Parſnips. Garden Parſnips yeild little, hot and dry, and not very good nouriſhment, they cauſe luſt, provoke Urine, and bring down courſes.

Red Beets. Red Beets which are pickled with Vinegar, the ſeed of Carawayes, and the roots of wild Raddiſhes are uſed rather inſtead of Sawces, then as food, ſince they nouriſh very little.

Melons. The fruit of Plants are various; Melons are pleaſant to the taſt, and ſend forth an Aromatick ſmell, but they are of a watry moiſt ſubſtance, not without coldneſſe, whereby they quench thirſt, and cauſes Urine, they cleanſe the Reines, but they are eaſily corrupted, and being corrupted, become as it were of a venemous nature, and ſtir up choler, or generate Feavers, whereby many great men are killed, and therfore they ought to be eaten at the firſt courſe, that they may the eaſier deſcend through the Paunch, and after the eating of them, ſome food of good juice is to be taken, and good Wine is to be drank, that the corruption of them may be hindred.

Cucumbers Cucumbers, are alſo cold, but not ſo moiſt, and the juice not ſo hurtfull, nor are they ſo eaſily corrupted in the ſtomach, they are moſt conveniently taken, before they are ripe being pickled in Vinegar, or Brine, and Pepper, and they are leaſt offenſive to thoſe which have hot ſtomachs.

Artechocks Artechocks heat and dry, to the ſecond degree, they are hard of concoction, and afford not very good nouriſhment, they are windy, and ſtimulate *Venus*, unleſſe this be rather to be attributed to the ſeaſoning, or dreſſing of them.

Strawburies

Strawberies. Strawberies, are cold, and moiſt, they are profitable to thoſe that are troubled with choler in the ſtomach, they coole the liver, they reſtraine the heate of the blood and cholerick humours, they allay thirſt, and therefore are beneficiall in hot conſtitutions of bodyes, they have thin juice, purge the reines, cauſe urine, but are eaſily corrupted in the ſtomach, and therefore ought to be eate, the firſt.

Peares. Now followes the fruits of Trees, and frutices, firſt of peares there are divers kinds, nor are they all of the ſame faculty, the auſtere, and ſharpe are aſtringent, and cooling, and hurtfull to the ſtomach, and Guts; ſweete are more temperate, yet almoſt all are of a cold, and moiſt nature, only ſome are hot and moiſt. and moreover, more apt to corruption, they are not unpleaſing to the ſtomach, in the firſt place being taken they ſtop a looſeneſſe, but being taken after other meate, they looſen the belly, and ſhut the mouth of the ſtomach, they are better boyled, then raw.

Apples. There are divers ſorts of Apples which diſcover themſelves by their taſte, the ſower are colder then the ſweete, and of a thinner, and leſſe flatulent ſubſtance; the auſtere and ſharpe are yet colder, and of a thick ſubſtance, and deſcend more ſlowly through the paunch, and ſtay it, yet their violence is corrected by boyling; and ſower, auſtere, and ſharpe Apples are to be uſed rather inſtead of medicines then aliment, they all afford ill juice, but thoſe are moſt hurtfull which are watry, and for the moſt part have no taſte; the beſt are ſweete ones, with an aromatick taſte and ſmell, and ſuch as afford an indifferent quantity of aliment, and that not evill, they ſtrengthen the heart, exhilerate the minde, and are very beneficiall to thoſe which are troubled with Melancholy.

Quinces. Quinces are cold and dry, and have an aſtringent faculty, they are harder of concoction, afford little nouriſhment, and that thick, they ſtrengthen the ſtomach, and ſtop vomiting, and if they are take n after meate, they hinder Vapours ſo that they cannot eaſily aſcend to the head, and they looſen the belly, but being taken before meales, they ſtop a looſeneſſe; being taken raw they hurt the nerves, and often cauſe fits of the cholick.

Peaches

Peaches are cold, and moiſt, and are eaſily corrupted, and afford little nouriſhment, and therefore are to be eaten ſparingly, and warily, and indeed before meales, not after other meates, neither is water, nor any cold drink, to be drunke after them, but wine; being dryed they are leſſe hurtfull, and eſpecially being boyled in Wine, their pravity, if they had any, it is taken away. *Peaches.*

Apricoks which are well known to the Perſians, in goodneſs are beyond Peaches, and more pleaſing to the ſtomach, and are not ſo eaſily corrupted. *Apricocks.*

Medlers are cold and dry, and are not eaten till they are rotten, they afford little nouriſhment and are ſlowly concocted, they ſtop the belly and all fluxes, they ſtay vomitting, and agreee well with a cholerick ſtomach. *Medlers.*

Sowre Sherryes have a chooling faculty, are eaſily concocted, and deſcend through the belly, they coole the ſtomack, and liver, they quench thirſt, and raiſe an appetite, and are not ſo eaſily corrupted, nor are they of ſo hurtfull a juice, but the ſweet ones are far inferior to the ſharpe ones in goodneſſe, by reaſon of the moiſture abounding, and are eaſily corrupted, and generated urred humours, and Wormes, in putred feavers. *Cherryes.*

There are divers kinds of Plumbs, all of them cold, and moiſt, the ſweet ones are not ſo cold by nature, yet they mitigate the acrimony of choler, and therefore agree moſt with colerick perſons, they are eaſily concocted, and paſſe through the belly, thoſe that are freſh, alter moſt powerfully, they mollify the paunch, being taken before meate, but with their moiſture they ſcatter abroad many excrements, and that crude, neither do they generate ſo good juice, yet ſome are ſofter then others, thoſe which abound moſt with a crude and moiſt iuce, they are the worſt, the white, and waxen colour, or yellow, are the worſt, and afford ill juice, but the beſt are Damask Prunes, and thoſe which are neereſt to theſe are green, but the dry are more fit for nouriſhment, and afford better aliment for thoſe which are weaker in ſtomach, Plumbs are not convenient; for they looſen its ſtone. *Plumbs.*

Mulburies moiſten, coole, quench thirſt, mitigare the heate of choler, they nouriſh little, they eaſily paſſe through the belly, but if they are retained, they eaſily are corrupted, and become putred, and acquire an ill nature, wherefore they are to be eaten when the ſtomach is empty only, and not *Mulburies.*

overſpread

overſpred with peccant humours; that they may on a ſudden deſcend and paſſe through the paunch.

Figs. Figs are hot and moiſt, by nature they nouriſh more then other fruits, they eaſily deſcend and go through the belly; they have a penetrating, and abſtergent faculty, yet too much uſe of them begets wind; dry Figs are hotter, and dryer, yet acquire a power of cleanſeing, opening, and attenuating, yet they alſo looſen the belly, drive humours to the externall parts, being often taken and plentifully, they cauſe ſweates, and generate blood, not very good, but ſuch as is apt to putrify.

Grapes. Sweete grapes are hotter, and for that reaſon cauſe thirſt; ſharpe, and auſtere are colder; thoſe that are fit to make Wine, are betwixt theſe extreames; thoſe that are freſh gathered, afford little nouriſhment, and are flatulent, and if they are detained long in the ſtomach they are corrupted and dilate the belly, and ſtir up cholick fits, they cauſe the ſpleen to ſwell, and fill the ſtomach and liver with crude humours, and allwayes the freſh gathered ſerve rather for pleaſure, then for health; the auſtere and ſower Grapes, are colder, and ſtrengthen and bind the belly, the ſweete ones are hotter and afford more nouriſhment; thoſe which have a mixed taſte, obtaine mixt faculties, but the ſweet, which participate ſomething of ſharpneſſe, are commended before the reſt, they are pleaſing to the ſtomach, gratefull to the liver, as alſo they are ſaid, by a certain propriety, to be advantagious to the whole ſubſtance, they are helpfull to the breſts, and ſtrengthen all the naturall members; thoſe which are without ſtones are called Corinthian, they looſen the belly more, but thoſe which have ſeed ſtrengthen the ſtomach.

Almonds. Amongſt Nuts, the beſt are ſweet Almonds, they are temperately hot and moiſt, and yeelds ſtore of nouriſhment, and of good juice and moderate, they attenuate and cleanſe, for which reaſon they are the beſt food, for immaciated bodies, and they repleniſh the intrails, and the whole body with convenient nouriſhment, and ſuch as is not apt to corruption, they purge the breſt, open the paſſages of urin, and cauſe ſleep, but they are not ſo convenient for a cholerick ſtomach, nor to be given in cholerick Feavers.

Walenuts

Walnuts are hot and dry, eſpecially dryed, for your green ones are moiſter, and are not ſo hot, and therefore are eaten ſafer, but the dry generate choler, and offend the Orifice of the ſtomach, and hurt the Gullet and Wind-pipe, and cauſe a cough, and generate pain in the head, commonly the uſe of them is commended after Fiſh, becauſe with their heat and drineſſe they prevent the corruption of Fiſh. *Walnuts.*

Haſle-nuts afford more nouriſhment, then Walnuts, but they are colder, yet they are hot and dry, they are hardly digeſted, and afford a thick juice, more earthly then Walnuts. *Haſlenuts.*

Cheſtnuts are hot and dry, and *Galen* conceives they have no ill juice, as all the reſt of the fruits of Trees, if they are well concocted in the ſtomach, yet they are harder of digeſtion, and are diſtributed more ſlowly, yet they afford more durable nouriſhment, they bind the belly, and if they are eaten in too great plenty, they cauſe wind. *Cheſtnuts.*

Toadſtools and Muskeroms for the moſt part are cold, they yeild a watry and thick nouriſhment; Toadſtools are preferred before Muſhieroms: yet all of theſe are not to be taken without danger, becauſe they do not only generate ill juice, but oftentimes there is poyſon in them. *Muſheroms*

Laſtly, Oyle drawn out of ripe Olives affords nouriſhment temperate, and for the moſt part agreeable to our nature, and can correct the pravity of other aliments, and amend the crudity of Herbes, it alſo mollifies and looſens the belly, it takes away all ſharpneſſe; it helps Ruptures, and ſuch as are burſten, and mitigates pain. *Oyle.*

Meates from living Creatures.

IN the ſecond place many living Creatures ſupplies us with convenient nouriſhment agreeable to our nature, as being neerer and more familiar to our nature, and leſſe exceed in the qualities, and afford better juice. *Aliments of living Creatures.*

Either the parts of living Creatures are taken as food, or thoſe things which are taken from them, yet are not the parts of living Creatures, and amongſt the latter the firſt is Milk, which is of a cold and moiſt, or rather of a temperate and moiſt nature, and yeilds nouriſhment, the beſt by much if it be rightly concocted in the ſtomach, and be good in its ſelf.

There

Parts of milk. There are three parts of milk, the butirous, the ſerous, and the caſeous; the butirous is of an oylely and hot ſubſtance, the ſerous is watry, yet having ſome mixture with ſaltneſſe; but the caſeous is cold and try, and indeed Cowes milk is the fatteſt and thickeſt, and contains more butter then the milk of other Animals, and therefore nouriſheth more, and is moſt agreeable to us, and hath more of the caſeous part then Ewes milk. Gotes milk is in the middeſt betwixt theſe. Sound Animals only generates good milk, but ſick generate vitious: Dry Herbs alſo cauſe the milk to be thick, but green, and ſuch as are full of juice makes better, wherefore the milk at the latter end of the Spring is beſt, for by how much the thinner it be, and more ſerous, by ſo much it is the eaſier concocted, and ſooner paſſeth through the belly, and obſtructs leſſe, but it nouriſheth leaſt; the beſt milk therefore is that which is of a good ſmell, and ſweet to the taſt, of a middle conſiſtence, neither too thick, nor to thin, nor ſerous, nor caſeous overmuch, of a white colour, which yeilds good aliment, and that plentifully and conſtantly enough, eſpecially for lean bodies, as being that which is elaboured by ſo many concoctions, and is become familiar to our nature, that tis eaſily, truly concocted, as in unwholſome bodies tis eaſily corrupted, in a cold ſtomach it eaſily growes ſowre, in a hot, it is turned into an aduſt ſmell, and choler, and cauſeth pain in the head, wherefore it is hurtfull to thoſe that are ſick of putred Feavers, and to ſuch as have paines in the head, as alſo to thoſe which are troubled with diſeaſes of the eyes, or are obnoxious to breed gravell, thoſe that are obſtructed in the Liver, and inflamed in the Hypocondries, 5. *Aphor.* 64. but the worſt corruption thereof is, when it is coagulated, which may be prevented, if any Salt, Sugar, or Honey be added to it: It is moſt conveniently taken on an empty ſtomach, nor are other meats to be eaten preſently after, eſpecially the uſe of Wine after milk is unwholſome.

Beſt milk.

Antter.

As for the parts of milk, Butter is uſed in our Countries inſtead of food, and ſawce, tis hot and moiſt, and almoſt of the ſame nature with Oyle, yet it nouriſheth more, and is a ſawce for many things, tis uſed more advantageouſly then Oyle, tis pleaſant to the taſt, tis eaſily concocted, and nouriſheth much, yet it agreeth not with thoſe that have a moiſt and ſlippery ſtomach, yet tis far better to be taken before other meats, then after; nor is it ſo agreeable to hot natures, tis moſt conveniently eaten with bread.

Sowre

Sowre milk is colder, and agreeth not with colder ſtomachs, but with hotter, eſpecially in the Summer, and in very hot weather. *Sowre Milk.*

Cheeſe is hardly concocted, and yeilds thick nouriſhment, and therefore ſtops the belly, opens the Pores, and affords matter fit for the generation of ſtones; but that which is old affords ill nouriſhment, the new yeilds better: the new and ſalt is as yet cold and moiſt, and of a flatulent nature, the worſt is the oldeſt, that which is of a middle age, which is neither hard nor ſoft, and is moderatly ſweat and fat, is the beſt, but whatſoever it be, tis alwaies to be eaten after other meats, and ſparingly; but ſince there is great differences of Cheeſes, according to the nature of living Creatures, and of places and paſture: That of the Ewe is the beſt, tis eaſier concocted then others, and affords better nouriſhment: Cowes milk is next to this in goodneſſe, the Goates is worſt of all; yet that Cheeſe is better, when the buterous and caſeous parts are not ſeparated, but are made altogether into Cheeſe, but thoſe Cheeſes are worſe which are made of the caſeous part only of the milk. *Cheeſe.*

The ſerous part of the milk nouriſheth leaſt, and is inſtead of Medicine rather then aliment, yet tis moſt fitly uſed for the evacuation of ſerous and aduſt humours; it conſiſteth of two parts, the one ſalt and participating of acrimony, and is altogether hot, which is the leſſer part, the other is watry, and is the greater part, for which it is called cold and moiſt whey *Whey.*

Eggs, but eſpecially of Hens, are food with us; an Egg conſiſts of two parts, the Yolk, and the White, thoſe are moderatly hot, and moiſt, and of the beſt nouriſhment; theſe cold and dry which afford alſo much nouriſhment, and that laſting enough, but hard of concoction: The neweſt Eggs are the beſt, and nouriſh moſt, and ſooneſt, and yeild good aliment; but the ſtaleſt are the worſt, and the corruption of Eggs the worſt: And they do not ſo well agree with thoſe whoſe Liver or ſtomachs are filled with vitious humours, and in Cholerick and hot ſtomachs they are eaſily corrupted, and turned into choler; As for the dreſſing of them, they are beſt when they are ſoft, and to be ſupt, beeing boyled in ſeething water, but thoſe which are roaſted in aſhes are not ſo good; thoſe that are boyled till they are hard, although they afford more ſolid nouriſhment, yet they are worſe, but the worſt of all are thoſe which are fryed in a Frying-pan, eſpecially in Oyle. *Eggs.*

Honey. Honey is of a hot and dry nature, in the ſecond degree yet that which is whiteſt is not ſo hot, and is more commodious for thoſe that are ſound, but all honey is medicinall aliment, convenient for old men and thoſe of cold natures, but becauſe it eaſily turnes into choler, tis not fit for hot natures, nor for the Liver, but tis good for the Lungs, otherwiſe it hath a cleanſing faculty, and reſiſts putrifaction.

Sugar. Sugar, although it be not taken from living Creatures, but is made out of Reeds, hath a great agreement with honey, yet tis leſſe hot and dry then honey, and therefore tis profitably mingled both with hot and cold things, yet in thoſe that are very hot, it eaſily turnes into choler, otherwiſe it hath an abſterſive faculty without ſharpneſſe.

Food from the parts of Animals. Aliments which are taken from the parts of Animals are many, which both according to the kinds of living Creatures, and according to their parts do vary.

Feet. The feet of Animals, of what kind ſoever, are cold and dry, they have little fleſh, and ſcarce any blood, they yeild a cold juice, dull and glutinous, by reaſon whereof the broath of boyled feet is congealed.

Heart. The Heart is of a hard and dry nature, and fibrous, neither is it eaſily concocted, but if it be well concocted it yeilds neither ill juice, nor a little, and that ſtable and firme.

Liver. The Liver it ſelf is hard to be concocted, and yeilds thick nouriſhment, which is ſlowly diſtributed, it is of good juice and firm, but there is great variety in this part, not only according to the kinds and ages of living Creatures, but alſo by reaſon of their food and full nouriſhment; for Animals which are not grown to their full ſtate, and which uſe better and fuller feeding, have alſo a greater Liver, more delicate and fuller of juice.

Spleen. The Spleen affords little nouriſhment, and that melancholy, tis hardly concocted, and ſlowly diſtributed.

Lungs. The ſubſtance of the Lungs is light and thin, and nouriſheth leſſe, yet it is eaſier concocted, nor doth it afford ill nutriment.

Reines. The Reines afford not very good but thick aliment, and the Reines of younger Quadrupeds, or Calves are of better juice, and are eaſier concocted.

Tongue. The Tongue excels the other parts in pleaſantneſſe of taſt and goodneſſe of aliment, it is alſo eaſily concocted.

Brain. The brain yeilds pituitous and thick juice, and is not eaſily concocted, nor diſtributed, and cauſeth loathing.

The

The Stomach and Guts of Animals are of a harder ſubſtance, and of a colder and dryer nature, they are harder of concoction, and not to be concocted except it be by a ſtrong ſtomach, and that they be well boyled, they yeild little blood, and that cold, and not very good. *Stomach.*

Fleſh that is full of Muſcles, which is frequently taken inſtead of food, differs principally according to the kinds of living Creatures. *Muſculous fleſh.*

Swines fleſh nouriſheth very plentifully, and yeilds firme nutriment, and therefore is moſt profitable, for thoſe that are in their flouriſhing age, ſound, ſtrong, and which are exerciſed with much labour, yet becauſe too much humidity abounds in it, it yeilds a thick and ſlow juice, and many excrements, it agrees not with all men, eſpecially with thoſe that are ſick, wherefore many other ſorts of meat are preferred before it. *Swines fleſh.*

Brawn, or the fleſh of tame Bores, ſo that it be of younger Bores, is the beſt, becauſe it hath not ſo much excrementitious moiſture. *Brawn.*

A Lamb before tis a year old hath moiſt fleſh, ſlimy and viſcid, but when tis a yeare old, tis very good nouriſhment, conſiſting of good and plentifull juice, and indifferent laſting, and eaſie of concoction, but in thoſe which are exerciſed with hard working, tis eaſie diſcuſſed, and aliment that is not ſolid is made thereof. *Lamb.*

But becauſe Lambs that are of a longer growth, become Sheep, and the fleſh is then become ungratefull, and not of ſo good juice, their ſtones are cut out, and they are made Weathers, the younger whereof are the beſt meat, and tis eaſily concocted, and generates good blood, and therefore agrees both with thoſe that are well, and thoſe that are ſick. *Weather Mutton.*

But Mutton of Ewes is evill, both by default of the temperature, and by frequenting of copulation, and of bringing forth young, tis hardly concocted, evill, and dull, and viſcid juice is bred thereof. *Ewe Mutton.*

Veale is temperate, tender, and affords good juice, of a pleaſant taſt, yet it yeilds ſomewhat a thicker juice then Lamb or Mutton. *Veale.*

Beef is thick fleſh, hard of concoction, and doth not eaſily paſſe through the Veines, it doth not participate of viſcidity and ſlimineſſe, the frequent uſe thereof cauſeth dry and melancholly humours in the body, eſpecially Cow-beef, or that of an Oxe, which with age and much working hath *Beefe.*

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contracted drineſſe and hardneſſe of fleſh, or is hardned with ſalt and ſmoak.

Gotes-fleſh Goates fleſh affords good nouriſhment, and may eaſily be preferred before the reſt of Sylveſtrous Animalls, in goodneſſe of aliment, facility of concoction, pleaſantneſſe of taſt, and paucity of excrements, yet they are ſomething drier.

Veniſon. Veniſon is hard of concoction; and generates melancholy juice, eſpecially if the Veniſon be grown to ripeneſſe of years, and doth obſtruct the bowels.

Hares-fleſh. Hares fleſh is accounted a great dainty, yet by Phyſitians tis numbred amongſt thoſe aliments which yeild a melancholy juice, and therefore are not ſo good for thoſe who have dry bodies, yet if they are well concocted, they are thought to occaſion a good colour in the face, if they are well boyled, the juice is not evill.

There are many kinds of Birds, amongſt the which nevertheleſſe, nay, amongſt fleſh, the Hens are accounted the *Hens.* chief, for they are temperate, eaſie of concoction, of good juice, and contain few excrements, and thence they procreate good blood, and yeild moſt profitable food for thoſe which are not much exerciſed with labour, yet there is a certain difference amongſt this kind of Fowl, the beſt is the flesh of a Capon; the next, is that of Chickins, yet their flesh is moiſter, Hens are dryer, the flesh of Cocks is harder and dryer, the Hens flesh affords nourishment not firme enough for thoſe who are day-labourers.

Turkie-cocks. A Turky-cock alſo yeilds much and laudable nouriſhment, nor is it inferiour to Capons, neither in taſt, or goodneſſe of juice, it is profitable food for thoſe which are in health

Patridges The flesh of Patridge is temperate, ſomething inclining to drineſſe, tis eaſie of concoction, it affords excellent juice and much nouriſhment, and few excrements, and is very good food for thoſe that are in health, and thoſe that are troubled with the French Pox.

Pheſants. A Pheſant and a Quail, which are the beſt nouriſhment
Quail's. and moſt excellent food for ſuch as are in health.

Pigeons. There is no ſmall variety of Doves, the better ſort are thoſe that are of the Mountains and Woods, yet the flesh of all of them affords a thick Melancholy and excrementious juice, and is not eaſily concocted; and tis hurtfull in putred Feavers.

The

The flesh of tame Geese doth abound more with excre- *Geese.*
ments, then that of wild, yet the flesh of them both is hard of concoction, and yeild no good juice, but vitious, and excrementitious, and such as is easily putrifyed, but if one have a strong stomach, and it be well concocted, it affords plenty of nourishment, but the liver of Geese that are well fatted, are temperate meate, most pleasant, easey of concoction, of good juice, and much nourishment.

A Thrush is easily concocted, yeelds good juice not ex- *A Thrush.*
crementitious, and affords nourishment firme enough.

A Lark also, generates excellent juice, and is easily con- *A Lark.*
cocted, and by a peculiar faculty, it is reported not only to preserve one from the cholick, but also to cure it.

The flesh of Black-birds both for pleasantnesse and faci- *Black-*
lity of concoction, and goodnesse of juice is somewhat inferi- *birds.*
or to that of the Thrush.

A Quaile is hot and moist, hard of concoction, of ill nou- *A Quaile.*
rishment and full of excrements, and affords matter fit for the generation of feavers.

Fishes are colder and moister food, then the flesh of ter- *Fish.*
restiall Animalls, and scarce afford so good juice as Corne, and fruits, and other vegetables, they easily putrify also, and if they are corrupted, they acquire a quality most averse to our natures.

But there is a great variety of fishes, a Salmon in the first *Salmon.*
place, hath tender flesh, gratefull to the palate, tis easily concocted, affords good juice, and is the best amongst fishes; when they are pickled with salt, and hardned with smoake, they are much worse.

Troutes amongst fishes which are bred in fresh waters are *Trout.*
the best, and are next in goodnesse to a Salmon, easy of concoction, full of much good, and thin juice, but the greater of them, have flesh not a little excrementitious, fat, and full of viscidity; those are commended before others, which have red flesh, and many red spots, and that have hard flesh and participate not of viscidity, and fat, those are easier concoct- *Soles.*
ed, descend sooner, and have lesse excrementitious juice.

Amongst Sea fishes, the sole is highly commended, which hath delicate flesh, and is easy of concoction.

Gudgeons properly so called are the best of taste amongst the *Gudgeons.*
smaller

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fiſhes, and very wholeſome aliment, eaſie to be concocted, and ſuch, as remaine not long in the ſtomach, and are profitable, both for pleaſure, and health, and may ſafely be given to thoſe that are ſick, to which other little fiſh are alike, as dace and minners, and ſuch like.

A Pike. A pick, eſpacially of the ſmaller growth, hath hard fleſh, it is concocted eaſily, and eaſily diſtributed; and hath not many excrements, and may alſo be given to thoſe that are ſick.

A Perch. A Perch alſo hath tender fleſh, and ſuch as will eaſily part aſunder, and no fat, and glutinoſity, tis eaſy to be digeſted, the juice is not evill, yet it affords weaker aliment, and ſuch as is eaſily diſcuſſed.

A Breame. A Breame hath ſoft and moiſt fleſh, and yeelds a juice very excrementicious, and is to be eaten as for the moſt part, all other fiſh are, not; tis not to be mixed with divers kinds of meates.

A Barbell. A Barbell, whoſe egs perchance gave an occaſion to ſome to ſuppoſe, that he hears very bad, it cauſeth not onely paines of the belly, but alſo vomiting, and diſturbes the paunch, and ſtirs up choler, from the uſe whereof we ought to abſtaine, but the fleſh thereof is very white, eaſy of concoction, and diſtribution; and affords aliment of good juice.

Eeles. The fleſh of Eeles is ſweete but glutinous with fat, and abounding with much moiſture, it generates ill juice, and the uſe thereof is not ſafely granted to thoſe that are ſick, nor to thoſe that are well, eſpecially if they be taken plentifully.

A Lampry. A Lampry is meate of a gratefull and delicate taſte, if it be rightly prepared, and ſauced, yet it puts not away quite its ſlimyneſſe, and glutinoſity by this meanes, and for that reaſon they are not numbred by Phyſitians, amongſt fiſhes of the beſt ſort.

A Tench. A Tench is neither of a pleaſeing taſte, nor eaſy to be concocted, nor good aliment; but yeelds a filthy ſlimy juice, and ſuch as is eaſily corrupted, neither is it eaſily diſtributed, and it brings forth obſtructions.

A Herring. A Herring hath white fleſh, apt to cleave into ſmall peices, and hath a good taſte, not hard of concoction, it affords good juice not thick, and glutinous, tis pickled with ſalt, and hardned with the ſmoake, but then tis harder of digeſtion, and yeelds not ſo good juice.

Amia. Amia a fiſh which hath no English name, but is like a Thunny, hath ſoft fleſh, yeelds good juice, but not much aliment.

A Sturgeon

A Sturgeon hath hard fat, and glutinous flesh, which yeelds thick juice, yet not hurtfull, and tis not easily concocted, yet the younger are more plesant to the taste, and easier concocted, and yeeld much nourishment. *A Sturgeon.*

A Sole, Plaice, and Turbet, are white fish, yeeld good juice, and plentifull nourishment, and such as is not easily corrupted, but being dryed, they become harder, and are harder of concoction. *A Sole* *Plaice.* *Turbet.*

Cod-fish, (or rather stock fish) although whilst it is fresh tis said to have friable flesh, and tender, of good juice, and easy of concoction, yet being dryed, it becomes so hard, that it is to be knocked with Hammers, and Clubs, and to be pulled into peeces in water before it be boyled, whence it affords thick nourishment, and hard of concoction, and is to be eaten without dammage only by those who have very healthy stomachs, and are given to dayly labour. *Stock-fish.*

Oysters have a soft juice, and therefore irritare the belly to dejection, and stimulate Venus, they nourish lesse, and are hard of concoction, and easily generate obstructions. *Oysters.*

Terrestiall Cockels, or Snailes, are accounted for dainties by many, yet the flesh of them is hard of concoction, and requires a healthy stomach and the addition of many sawces, yet they remaine hard, and generate thick, and black blood, but that part which is said to be given in broath for Hecticks is only in the hinder part of the snaile, which *Aristotle* in the fourth of the History of Animals Cap. the fourth, calls *Micena*, that is poppey, as he pleased to call it, which hath in it a certaine glutinous, and caseous substance, easily dissolved, yeelding to the teeth, tender, the which is not hard of concoction, and nourisheth much. *Snailes.*

Crab fish; which have no tailes, and Lobsters, and crawfish which have tailes, and are frequent in our Countries, seeme to have no great difference in their nature, all of them are hard of concoction, and are not well concocted, unlesse by a strong stomach, yet if they are well concocted they nourish much and beget good juice. *Lobsters.*

Chap. IV.

Of drinke.

Drinke whereby the moist substance is restored which is dayly consumed, and the naturall thirst allayed, the *The benefit of drink.*

fat, and thick moiſture, carried through the narrow paſſages, and the meat in the ſtomach is mingled, concocted, and powred forth, and an inflamation of that fat, which is deſtinated by nature to nourish our bodies, is prohibited; there are

The kinds. divers kinds, Water, Wine, ſtrong Beere, and water mingled with Hony, and certaine liquors made with Apples, Pearcs, and ſuch like.

Waters. There is great variety of Waters, all which are cold, and moiſt, but the beſt is that which is found to be pure and ſincere, by the ſight, taſte, and ſmell, and offers the ſavour of

Differences of Waters. nothing to the taſte, neither odour to the ſmell, which ſoone growes hot, and ſuddenly grows cold, which is light, and wherein flesh, and fruit are ſoon boyled: ſome is Fountaine water other is River, ſome is Raine water, other lake, or Pond water, ſome Marish, other Snow water.

Fountain. The Fountaine is the beſt which hath theſe notes of good water, that which ſpreds towards the Eaſt, and runs towards the riſing of the Sun, and thrickles through ſand, and gravell, that carries no mud with it, that is hotter in Winter, and colder in Summer.

River. River water for the moſt part is Fountaine water, and ariſeth from many Fountains flowing together, and therefore is of a mixt nature, and receives alſo a mixt nature from the earth through which it flowes, and ſomtimes alſo, they are mingled with Snow melted in the Mountaines, and great Showres of water collected together, yet its crudity is corrected by the beames of the Sun, whilſt it runs through many parts of the Earth; before the uſe of it, it ſhould ſtand, and ſetle, in water-tubs, that whatſoever it carries with it that is impure may ſettle in the bottome.

Raine. Rain water which falls in the Summer time with thunder is the thinneſt, and lighteſt, but ſince many Vapours are lift up by the heate, and mingled with the Showres, theſe waters are not very pure, whence they are obnoxious to putrifaction.

Well waters. Well waters, ſince they are not raiſed above the Earth, and are lifted up on high, only by the benefit of Art, they are thick and heavy, whence they continue long in the bowels and offend them.

Lake waters. Lakes and marish waters are the worſt, they eaſily become purred, they are thick, and crude, and often times, malignant, and Peſtilent, from whence the ſtomack is offended by them, the bowels obſtructed, and humours corrupted and

often

often times putred, and malignant feavers and Peſtilentiall do thence ariſe,

Waters of Snow, and Ice, are condemned, for they are thick and hurt the ſtomach, and ſtirr up greivous diſeaſes of the joynts, nerves, and bowels. *Of Snow and Ice.*

But the malignancy of waters are corrected, by boyling, whereby not only the crudity, and frigidity is amended, but alſo, the terrene, and vitious parts are ſeparated, which afterwards when the heate vanisheth, ſettles in the bottome. *Boyling of waters.*

Wine hath a heating, and drying power which even the Spirit which is drawn out of it teacheth, yet becauſe it eaſily nouriſheth, and increaſeth moiſture, and blood, fit to nourish the body, tis ſaid to be moiſt, namely Wine is a medicinall aliment, hot, and dry, ſome in the firſt, ſome in the ſecond, and ſome in the third degree; for this reaſon, the uſe of it is forbidden boyes, and by reaſon of this drying faculty many uſe to mixe water therewith, yet there is not a little difference in heating, and drying, not only according to age, but alſo according to the nature of the Wine it ſelfe, for ſome is very little ſuffering, becauſe in mixture it will indure but little water, but other Wine is called winy Wine, becauſe it may indure more water to be mixt with it. *Wine.*

But Wines differ according to taſte, ſmell, colour, and manner of ſubſiſtance: as for what belongs to the taſte, ſweet Wines properly ſo called, nourish beſt, and are not only moſt gratefull to the palate, but to the bowells, but becauſe they are thicker, they eaſily produce obſtructions in the Liver, and Spleen, inflame the Hipocondries, and are eaſily turned into choler, they are profitable for the Lungs, Chops, and Throate, nor do they ſo hurt the head, nor offend the nerves. *Differences of Wines Savour.*

Auſtere or harſh wines have the weaker heat, tarry longer in the belly, nor doe they eaſily paſſe through the veines, and penetrate through the paſſages of the urine, whence they are good for a looſeneſſe of the belly, but hurtfull in diſeaſes of the breſt and Lungs, for they detaine ſpittle; the beſt wines are the middle ſort which are neither very ſweet, nor ſowre.

A fragrant ſmell is a token of the beſt Wine, becauſe it can increaſe Spirits, reſtore decayed ſtrength, and recreate, and ſuddenly refreſh thoſe that are languiſhing, even by its ſmell, and can exhilcrate the mind, and ſtrengthen the *Smell.*

whole

whole body and all its faculties, and principally tis good for old men, only that it fills the head, and hurts the nerves, but Wines that have no ſmell are baſe, and neither received ſo greedily by the ſtomach, nor are they ſo eaſily concocted, nor do they afford matter, nor ſo fit aliment to engender Spirits, nor do they add ſo much ſtrength to the heart, nor do they ſo much refreſh the body, but thoſe which have a ſtrange ſmell, whenceſoever contracted, are all nought.

Colour. White or pale Wines heate leſſe, then full and yellow Wines, and are weaker, eſpecially if beſides their whiteneſſe they are of a thin ſubſtance, all black wines are of thicker ſubſtance, and for the moſt part ſweete and nouriſh very much, yet they beget thick blood, and not ſo laudable, they cauſe obſtructions, and continue long in the bowels, and fill the head with many Vapours; between the white, and red, there are middle colours, yellow, reddiſh yellow, a pale red, and perfect red; a pale red are neereſt to the white, and if the ſubſtance be thin, are the beſt, ſuch as are Rheniſh Wines, the moſt apt to ſtrengthen the heart, and to renew ſtrength; Greek Wines alſo ſtrengthen the heart, and are beneficiall to to thoſe that are troubled with cholick paines, and with the flatus of the ſtomach; red Wines for the moſt part have not ſo great a force of heating, they generate good blood, and do not load the head, but if they are of a thicker ſubſtance, they are not ſo good for the Liver, and Spleen, by reaſon of the obſtructions, which they occaſion; between the white, and red, is a Wine of a mixt colour, which alſo doth not heat ſo much, nor offend the head.

The manner of ſubſiſtence. As for the manner of ſubſiſtence, tenuity is in the firſt place in that which is watry, hence that which is of a pale red, and yellow; craſſitude is in that which is black, red, ſweet and ſowre, and thin wines eaſily penetrate, and ſoon refreſh the ſtrength, they open paſſages, move ſweates and urine, yet they nouriſh more ſparingly, but the thick nouriſh more, and are longer detained in the parts, and heat and dry them more, and often times bring forth obſtructions.

Differences of wines according to age. Wines alſo differ according to age, new Wine is thick and flatuous, begets the cholick, impeads excretion of urine, yet it looſens the belly, and unleſſe it doth ſo, tis the more hurtfull, new Wine, and that which is as ſweet, as Wine new preſt, is not eaſily diſtributed into the body, but old Wine does work too much upon the nerves, and offend the head.

That

That which is middle aged is more commodious for all uſes, in which thing nevertheleſſe there is a great difference according to the nature of the Wine, for ſome will indure age, others ſooner looſe their ſtrength, and conſume away, and looſe all their Spirits.

Strong drinke.

In places towards the Septrentrionall, wherein there is not ſo great ſtore of Wine, ſtrong Beere, or Ale, is the familiar drinke, and indeed profitable enough, as experience ſhewes.

Its differences.

But the ſtrong drinke is prepared, ſome of Wheate, ſome of Barly, others of them both, in Polonia it is made of Oates, and preſerved with Hops, the manner of preparing is very different every where, the waters alſo differ, wherewith they are boyled, they are kept alſo in ſome places in pitched Veſſels, in others not pitched.

Drinkes made with wheate.

Strong drinke made of Wheate nouriſheth more then that of Barley, and alſo heats and moiſtens more, eſpecially ſeeing the ſtrong drink made of Wheate hath leſſe Hops, then that which is made of Barly, but it generates more viſcous juice, it cauſeth obſtructions, it provokes urine, but it looſens the belly.

With Barly

Barly Beere, becauſe of the Barly, heateth leſſe, but becauſe more Hops for the moſt part are put into it, acquires no ſmall force of heating, it nouriſheth leſſe, and yeelds a thinner juice, but is more diuretick; that which is mixt of Wheate and Barly is of a middle nature.

Mixt.

That drink which is made of Corne, no way dried but by the heate of the Sun, hath more excrementicious humours, and often times brings forth obſtructions.

All new drink is more unwholeſome, eſpecially, if it be troubled, for it obſtructs the paſſages, and breeds the ſtone, but that which is more cleanſed is wholeſomer, but principally, ſtrong drinkes have their faculties, from various waters of ſeverall natures.

Hydromell.

Hony and water mingled, for the moſt part heate and dry more then Wine, eſpecially if Aromatick things are added, but it eaſily turnes into choler, by reaſon of the Hony and therefore is not ſo good a drink for cholerick perſons.

CHAP.

Chap. V.

Of the passions of the mind, and of the exercise and rest of the body.

Tranquility of mind. THE perturbations of the mind, have great power in the preservation of health, for an Euthumie, or well setled mind, and such as is at quiet doth much conduce to the preservation of health.

Joy. Next to that moderate joy is fittest to preserve the health of body, and a naturall constitution, because it recreates the heart, spirits, and the whole body, but if it be overmuch, it dissipates, and diffuseth the Spirits.

Exercise of body. Motion of the body, and exercise, first brings a certain solidity, and hardnesse to the parts, then it increaseth health, thirdly it moves and agitates the spirits from whence the heart is made strong, and can easily resist externall injuries, and is fit to undergoe all actions, happy nourishment is made, and the excrementicious Vapours are discussed; on the contrary, those bodies which live idly, are soft and tender, and unfit to performe labours; under the name of

Kinds of motion. motion, are comprehended labours of every kind, dancing running, playing at ball, gesture, carrying, ryding, swimming, walking, a stirrer up of the people, rubbing and such like, but divers exercises have different force, and some exercise some parts more then others; in running and walking, the legs are most exercised in handling of weapons; and laying them down, the armes; in singing, speaking with a loud voice and cleare reading, the face and brest; the whole body in playing with a little ball, which exercise therefore is most convenient, whereof a peculiar book of *Galen* is extant; there is also a certain diversity according to violence, and magnitude in motion, swift attenuates, and thickens; slow, rarifies and increaseth flesh; vehement extenuates the body, and makes it leane, yet together hard, flourishing, and firme; too much motion exhausteth and dissipates the substance of the spirits, and solid parts, and cooles the whole body, it dissolves the strength of the nerves, and ligaments, it sometimes looseneth, and disrendeth the membrances, and breaks the lesser veines.

CHAP. VI.

Of Sleeping, and waking.

MOderate watchings ſtirs up the Spirits, and ſenſes, and render them more flowriſhing, diſtribute the Spirits, and heate into all the parts of the body, they helpe diſtribution of aliment, and promote the protruſion of excrements, yet if watchings are immoderate, firſt they conſume and diſſipate the Animall Spirits, and dry the whole body, eſpecially the braine, they increaſe choler, they whet and inflame, and laſtly the heate being diſſipated, they ſtir up cold diſeaſes. *watchings.*

The ſtrength being decayed is againe kindled a freſh with moderate ſleep, the ſpirits, that are diſſipated with diurnall labours, are reſtored, the heate is called back into the inner parts, from whence a concoction of Aliments, and crude humours is happily performed in the whole body, the whole body and eſpecially the bowells are ſweetly moiſtned, the heate increaſed, and the whole body becomes ſtronger, cares are taken away, anger is allayed, and the mind enjoyes more tranquility, immoderate evacuations beſides ſweate, are hindred, and ſleep is eſpecially beneficiall to old men; on the contrary immoderate ſleep obſcures the ſpirits, and renders them dull, and cauſeth an amazedneſſe in the underſtanding, and memory, it ſends out the heate, being hindred with crude, and ſuperfluous humours accumulated, ſleep alſo, which ſeizeth on our bodyes after what manner ſoever, when they are empty, drys and extenuates the body. *Sleep.*

CHAP VII.

Of Bathes.

EVery Bath of freſh water, moiſtneth, but in heating and cooling, there is not the ſame faculty every where, a temperate Bath of ſweet water opens the pores of the skin, and ſoftens, and rarifies the part, and diſcuſſeth the excrements into the extreame parts, and corrects the dryneſſe of parts, and ſo takes away laſſitude, but if it ſhould continue long 'twould diſcuſſe that which is diſſolved, and weaken the ſtrength. *A Temperate Bath.*

Luke

Luke warme. Luke-warme Bathes, if they incline to cold, ſomething refrigerate the body, nor have they power of rarifying the parts and diſcuſſing excrements.

Cold. Cold water of it ſelfe cooles, yet by accident the pores being ſhut, and the heate penned in heateth, whence if through diſſipation the native heat ſhould be in danger, cold things being timely applyed, have power to recollect and preſerve it.

Bathes oftentimes do hurt, and eſpecially to thoſe that are not accuſtomed to them, and to Plethorick perſons, and ſuch as are filled with crude humours, as alſo to thoſe which are obnoxious to Catarrhes, and inflamations, or an Eryſipelas. The Romans often frequented Bathes, and they often bathed twice a day, the preparation whereof you may ſee *Galen* 10. of the method of healing Chap. the tenth; they uſed unctions alſo before and after bathing, whereof *Galen* the ſecond of ſimple faculties of healing Chap. the twenty fourh; and the ſeventh.

Chap. VIII.

Of Excretions and Retentions, and of Venery.

Excrements of the paunch. THe body may be eaſily kept in its naturall State, if thoſe things which are profitable for its nouriſhment, be retained, and thoſe things which are unprofitable, and ought to be caſt out, are omitted, but if thoſe things which ought to be retained, in the body, are caſt out, and thoſe things which ought to be protruded, are retained, the health is in danger.

The ſeverall concoctions have their ſeverall excrements; the excrements of the paunch, if they are not evacuated in due ſeaſon, hinder concoction whilſt putred Vapours exhale from thence to the ſtomach, and neighbouring parts, for the ſame reaſon they offend the head, ſtir up cholick paines, and other evills, but too ſudden cleanſing of the paunch oftentimes hurt nothing, whilſt thoſe things which are offenſive nature doth expell from the paunch of its owne accord, yet if any ſuch thing happen too often or too laſting, it neceſſarily defrauds the body of nouriſhment, and the ſtrength is weakned, and the guts are debilitated, and offended.

Urine. Urine if it be made in due ſeaſon, is commodious and profitable

fitable for the body, but if it be made ſooner then it ought, and eſpecially, if it have bin retained longer then it ought, it brings no ſmall dammage, for it oppreſſeth the bladder, and often times ſo fills it, that afterwards urine cannot be expelled, and ſometimes an inflamation of the bladder, nay ſudden death, followes; but if the reyns have not drawn whey as it were, it remains mixt with blood, and ſtirs up greivous Symptomes in the whole body.

Seed untimely retained cauſeth heavineſſe, and dulneſſe, of the body, and if it be corrupted ſtirs up greivous accidents, all which may be avoided by Venery, but let it be timely, and lawfull, neither is there any need to try any thing for the preſervation of health, which is contrary to divine lawes, and the Creator of man is ſo much indulgent to him in this thing, as tis neceſſary for him to ſhun all things which may hinder his health; but too much Venery diſſipates the naturall heate, cooles and debilitates the whole body, accumulates crudities, hurts the nerves, generates the running Gout, and brings the Palſie, and debility of the ſenſes and underſtanding. *Venus.*

THE

THE FOURTH BOOK, PART II.

Of the Method of the preſervation of Health.

CHAP. I.

Of thoſe things which are to be obſerved by all for the preſervation of health.

AFter we have explayned thoſe things which are neceſſary for the Preſervation of health, now we muſt ſhew a Method how all thoſe things are to be uſed for the ſafty thereof; but their are ſome certain common precepts which are to be obſerved by all; ſome peculiar precepts to be obſerved according to ages, ſex, and other Circumſtances. The moſt common Precept here is this, that what ever is according to nature is to be kept, but ſince that in ſome health exactly ſuch, in others difference from hence, which is called a newtrall conſtitution; the former is to be exactly preſerved with its likes, and nothing contrary to be admitted, whereby the body may be put out of that naturall ſtate; but a Newtrall conſtitution requires ſome change, yet that ought to be ſmall, and by degrees, if the courſe of life will admit thereof.

The moſt generall rule to defend health.

Yet that moſt generall rule is to be obſerved by all, namely that mediocrity is to be ever accompted ſafeſt according to that of *Hippo. 2. Apho. 52.* to much of every thing is good for nothing, or all exceſſe is hurtfull to nature. As alſo that 2. *Apho.* 50, thoſe things that we are long accuſtomed unto although they are worſe, yet are they leſs troubleſome to us, then thoſe things that we are not accuſtomed to. Moreover

Moreover, we are to endeavour, that the naturall conſtitution of our bodies, conſiſting in a good moderation of cold and heate, occult qualities, due conformation of the Organick parts, and unity may be preſerved by thoſe things which are fitly borne to preſerve it, namely by their likes, in caſe the body bee throughly well conſtituted, or ſomwhat with contraries, if the body decline from the beſt ſtate. But all things are to be avoided which may deſtroy it.

Moſt healthfull aire.

Likewiſe cauſes of health ſometimes require things plainly alike, ſometimes a little contrary, and therefore the Phyſitian ſhall appoint the right uſe of thoſe things which neceſſarily happen to the body, namely aire that is temperate is the beſt for thoſe that are temperate, and hurtfull to no conſtitution of body. Moreover let the pureſt bee choſen, cold aire when the fire is kindled is changed, hot aire is tempered by water that is cold, being poured out of one veſſell into another, or ſprinkled on the floare, or by cloaths moiſtened in water and hung in the bed-chamber, or Roſes ſtrowed in the houſe, or the leaves of Vines, Willowes, Water Lillies and other cooling Herbes; moyſture in exceſſe may be corrected by the kindling of fires, and burning of ſuffumigations of hot things; drineſſe is corrected with the moyſtnings of waters & ſprinklings or ſtrowings of moiſtning Herbes.

Meate and drinke.

As for Meat, meats of little juice are offenſive to all, and profitable to none, nay even the dayly uſe of thick, viſcide, tenacious, cold, hard, flat, and acrid meats are to bee avoyded by all, ſince they cannot bee well concocted, nor afford good nouriſhment: yet ſome regard is here to bee had of the appetite according to that of *Hippocrates*, 2. *Apho.* 38. a litter worſe meate and drinke that is more pleaſant, is to be preferd before that which is better and ungratefull, as alſo of cuſtome according to that 2. *Aphor.* 50 thoſe things that we are long accuſtomed unto, although they are evill, are wont to trouble us leſſe then thoſe things which we are not uſed unto. Moreover meates are to be taken onely in that quantity whereby our ſtrength may bee refreſhed not oppreſſed, that which hath beene ſpoken of meat is alſo to be underſtood of drinke.

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Passions of the mind. Of the passions of the mind, this in generall may be spoken, that overmuch of all them are to be avoyded, and quietnesse of mind and moderate joy is to be cherished.

Excrements. The excrements of the belly twice a day or at least once ought to be ejected, urine likewise ought to be expelled as often as their is need.

We are to take heed likewise of that of *Celsus*, least in our best health we take things adverse thereunto, and therefore we ought not rashly to trouble or molest our bodies with purges or other medicines, but tis better to exercise our bodyes moderately every day, least excrements should be gathered together, and if any disease seeme to be comming upon us, to follow this counsell, that is by quietnesse and abstinence many great diseases are cured.

Chap II.

Of the cure of little ones not yet borne, and of the dyet of women with child.

THese things being premised in generall, what course of dyet may best agree to every degree of health (of which before, in the first Book and third Chap.) we will now explaine distinctly, and therefore we will handle good habit or the preserver of the best State, called under the generall name of the Hygeinall, which governs sufficent health in all our actions. The Prophylactick is that part which guides the neutrality of those that are falling away. The Analyptick is that which brings neuters to be healthy; And first a method of preserving of the health of such as are very well is to be explained; wherein notwithstanding some things may be delivered, which may be accommodated to the otherdegrees of health.

Seed the cause of future health. But in the first place it is to be noted that the foundation of our future health fully depends on the conception and seed of our parents, and therefore as Fernelius in his first Book of Pathology Chap. 1. writeth, If Husbandmen being to sow Corne choose the small and young seed, having found by experience, that ill fruite comes from that which is rotten, how much more diligently ought we to observe the seed in the procreation of our Children.

Dyet of such as are great. Moreover when the Mother hath conceived a Child in the wombe, she ought to beware of all things which might bring

any

any detriment to the young; or rather, she ought to be carefull, that she may strengthen, and preserve it safe; namely that she avoid foggy Aire, that she beware of the smell of candles newly put out, of brimstone, castor and such like, and of the smell of herbs that are too fragrant, she should shun meates of ill juice; and sharpe, and such as cause urine, or cause loathing, or provoake sneezing, she should not use many Aromatick things; if those that are great desire, any ill meates, they are not altogether to be denyed them, but if the food, which the woman desires cannot be obtained by her, least any inconveniencies should happen to the young, they use to give her some hony with nutmeg; or water distilled from the tender leaves of a Vine in the month of *May*; or of the barks of Citron, or the pills of Oranges, or of the Roote of Piony, being bruised and prepared in Spanish Wine, or Malmesy.

Strengthning the young.

For the strengthening are exhibited, the precious Stones, called Pearles, Coralls, the shavings of Ivory, the barkes of Citron, Cinamon, Saffron, the wood of Aloes, Cloves, Quinces, Sugar of Roses, sweete Almonds, corrected with high Country Wine, Water, called the Balsome of Children, the confection of Gems, Diamargariti calidi, Malmsy Wine applyed with Bread to the belly.

Hindring abortion.

The same things may hinder an abortion which is nigh at hand, and moreover *Unguentum Comitissæ*, externally applyed, also those that are great should principally avoid hard labours and passions of the mind, yet to be altogether idle is not so convenient.

Whether a veine be to be opened of the woman with child.

The opening of a vein easter the fifth month for the most part is prohibited, but before the fifth moneth you may open a veine, in Plethorick bodies, nay some unlesse they are let blood, before the fifth month miscarry, of purgation Hippocrates writeth in the fifth *Apho.* 39. thou shalt purge those that are with child, any time within foure months, and sometimes untill the seventh month, but sparingly, and you are to use only lenitive medicines.

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Chap III.

Of the Diet of Infants, and thence forward untill 21. yeares of Age.

When a Child is brought forth into the World, before the teats are given him, we ought to give him ſome pure honey, or Corall with Sugar, or the Sugar of pennidice, with Oile of ſweet Almonds, whereby the Dregs may be drawne through the Paunch, and an Epilepſie be prevented.

The Infant is nouriſhed with the mothers Milk.

Afterwards let the Infant be nouriſhed with Milke, and that from his Mothers Breaſt, as having moſt agreement with the Infant, and it is generated of the ſame blood, by which before the little one was formed, and nouriſhed in the Wombe, unleſſe perhaps the Mother be ſick or ill diſpoſed; the Infant is to bee nouriſhed with Milke, untill it be two years old, or certainly till the eighteenth Month, & tis to be accuſtomed in the meane time to other meats by little & little; yet ſuch as may be eaſily concocted, commonly their is prepared for them Papp made of Bread, and water or Milke, yet by reaſon of its clammineſſe, it ſeemes not to ſo good to many, and therefore more wholeſome may bee made with crums of Bread, or certainly with bread firſt dried in an Oven.

Diet the firſt three yeares.

Afterwards the Infant by degrees is to be accuſtomed to more ſolid meats, but the firſt three years, his food is to bee moiſter, and the Infant is to be nouriſhed with good meats, and ſhould uſe Bathes often, but not preſently after eating and drinking; neare the end of ſeven years Age, the uſe of Bathes ought to be more ſeldome, Infants and Boyes ſhould not drink Wine.

By how much the more a boy growes in yeares, by ſo much the more both the mind and body are to be imployed, yet the exerciſes ought not to bee immoderate, leaſt that any member ſhould be turned awry, or leaſt the body ſhould bee dryed too ſoone with two much motion, and the growth of the body ſhould be hindred; of ſleep, by how much the more Age increaſeth, ſo by little and little we ought to abate it.

Diet in 2. and 3. Septinary.

In the ſecond and third Septinaries more ſolid meats are to be afforded, yet not over much drying: Exerciſe alſo ought to be ſomewhat leſſe then the ſtrength might tolerate, and in the third Septinary order of Diet convenient for every courſe of life is to be begun, for thoſe which are given to a laborious kind of life ought to feed more plentifully in the third Septinary

Septinary, and with thoſe meates, which being taken in no great quantity, nouriſh much, and ſtrengthen them for greater labours.

Diet of Schollers.

But thoſe wich apply their mindes to learning at this age ought to be carefull of the animall ſpirits, and diligently to endeavour that they may be plentifully generated being pure, and cleare, which may be if they live in a ſubtile Aire, pure thin, by dyet and meats that are not thick, but which may afford matter for pure and lauadble blood, and endeavour to evacuate all excrements in due time, not to accumulate crudities, nor weaken their bodies with untimely ſtudies, nor is the uſe of Venery to be granted till the end of this Age.

CHAP. IV.

Of the Diet of middle Age,

Diet for middle age.

That Age which followes the third ſeaventh Yeare or from the twenty firſt to the fiftieth, is accounted the middle Age, and for the moſt part there is the ſame reaſon of Diet, unleſſe that the former halfe part or the fourth ſeptinary, and the latter halfe or the ſeaventh doth more agree with the diet of the Age, which he hath attained, then of that Age which is truly the middle.

The rule of diet.

variety.

quantity.

Firſt for what belongs to meate, in meate is to be obſerved quality, quantity, time of taking, manner, and ſuch like circumſtances; as to the quality of meats, thoſe are to be choſen, which are moſt temperate, and moſt familiar to our nature, amongſt which, Bread well baked obtaines the firſt place, hence the fleſh of Animals, and thoſe things which are taken from Animals, and alwaies they are to be choſen which are of good juice, and to be avoided, which have ill juice, yet ſomthing is here to be graunted to cuſtome, 2. *Apho.* 56. and to the various conſtitutions of bodies, and *Celſus* admoniſheth a ſound man, and one which is in health to avoide no kind of meate which the people uſe, which is principally to be obſerved by thoſe, which neceſſarily muſt live a different courſe of life; variety of meats pleaſe, and divers ſorts of meat are eaten with greater pleaſure, yet we are to beware leſt meates are eaten together of different ſubſtances, and various faculties, whereof ſome are thick, others thin, ſome eaſie, others hard of concoction, ſince from ſuch variety corruption of

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mears, may eaſily follow, but thoſe which have a certaine ſimilitude are rather to be choſen, that the ſame heate may be required, for the concoction of the ſame.

Quantity. Secondly that quantity of food is to be taken which may increaſe the ſtrength, and not hinder it, but you cannot meaſure that, neither by weight, nor number, but tis to be found in this, in that you have regard to three things; firſt, to the nature of aliment, ſecondly, to the nature of the body, and the courſe of life and labours, and thirdly, to the time of the yeare, and conſtitution of the aire.

For firſt, meats hard to be concocted being taken in greater plenty, hurt more, then thoſe of eaſier concoction next meate brings leſſe inconveniency if it offend onely in quantity, then if it alſo hath an ill quality joyned therewith, regard is alſo to be had of pleaſantneſſe as is ſaid before.

Moreover, one ſtomack deſires more, another concocts more, in which matter the counſell of *Hippocrates* is more ſafe, the *6 Epid. Comm.* 4. Text 22. The ſtudy of health is not to be glutted with meate, nor to be ſlow to labour: and *Avicenne* admoniſheth us to riſe from the Table, with thoſe that are hungry; laſtly thoſe which live idely, and live a life not ſo labourious concoct leſs, thoſe which are exerciſed in labour digeſt more.

Of the time of the yeare, *Hippocrates* writeth, 1. *Apho.* 15. Their Bellies which are born in the Winter or Spring are very hot, and their ſleep tedious; therefore at thoſe ſeaſons of the yeare they ought to eate more, foraſmuch as they have more heat, whence it comes to paſſe, that they want more plentifull nouriſhment. And in the third of Diet he teacheth, that wee ought to eate more in Winter, but drink more ſparingly, but in Summer, the contrary. But nevertheleſſe if any one either through ill cuſtome, or the allurements of meats hath any way offended herein, that afterwards is to be be corrected by faſting, or more ſparing diet, ſleep, quiet, or vomiting, and therefore tis good to omit ſupping once a week, or elſe to eate very little ſupper.

Time. As to the time, to eate often and much is neither commodious for the body nor mind, yet tis better to eate a little often, then much at once, but it is moſt wholeſome that a man of middle age, well tempered, and that hath government of himſelfe, doe eate twice aday; ſo that he takes onely ſo much meate, as may not oppreſſe the ſtomake; in other things ſome thing is to bee granted to Age temperament,

temperament, kind of life, cuſtome and ſuch, like but the time betwixt dinner and ſupper ought to bee ſhorter then that which is betwixt ſupper and dinner againe.

whether ſupper or dinner ought to be largeſt.

But whether ſupper or dinner ought to be larger, is ſeverally underſtood amongſt Phyſitians: that we may briefly conclude the matter, if any dine more ſparingly, and frugally, which the Ancients for the moſt part did, the ſupper ought to be the larger, but if we obſerve our cuſtome and manners, ſince men about noon day dine more plentifully, and cannot ſufficiently concoct their meat in that ſhort time, which is betwixt dinner and ſupper; tis altogether neceſſary that they ſhould ſup more ſparingly, ſince tis not convenient to be twice filled with meat the ſame day, for then they ſhall have a troubleſome night, and in the morning perceive crudities, and principally this to be obſerved by old men, becauſe experience teſtifieth, that all old men are offended with large ſuppers.

Order.

As for the order of meats, tis of ſome concernment, whether wee take this or that meat in the firſt or ſecond place; namely, thoſe are to be taken in the firſt place, which mollifie the Paunch, and make it ſlippery, and thoſe which are not of ſo good juice, are eaſily concocted, and deſcend out of the Stomack, and are eaſily corrupted; to theſe are to bee added thoſe things which may ſtop the belly, they are not ſo eaſily concocted, and which deſcend ſlower, and are of better juice.

quantity of drink.

As for drink, of the qualities and differences thereof wee have ſpoken before; as to the quantity, as a little of Wine, ſtrong Beere, and if their be any other kinds of drinkes like to theſe, the uſe of them moiſtens the body, cheriſheth the ſpirits, corroborates the ſtrength, helps concoction and diſtribution of meats, provokes Urine, heates the habit of the body, and is a remedy againſt the coldneſſe, and dryneſſe of old age, it cauſeth ſleep; corrects the acrimony of choler, exhilerates the mind, and makes mens manners pleaſing; ſo the immoderate uſe thereof, and drunkenneſſe is the Plague it ſelfe of health, and of a man, for by immoderate drinking, the native heat is conſumed, crude and perverſe humors are accumulated, the mind is troubled, and a kind of madneſſe is begotten.

Time fit to for drink.

The moſt convenient time of drinking is betwixt meales

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for ſo it conduceth much to the concoction of meate, and the right diſtribution of the ſame, but if you drink upon an empty ſtomack, the head and the Nerves are extended; if after meat, the concoction is thereby hindred; if the meat doe not eaſily deſcend, the concoction being perfected, tis profitable to drinke ſomething; drink alſo is to be avoided going to reſt, but eſpecially after exerciſes and Bathes; ſudden drinking of cold drink is unwholeſome; tis more commodious alſo to divide the drinke then to drinke it together, leaſt it cauſe a floating in the ſtomack.

Paſſions of the mind. The paſſions of the mind, all of them that are vehement are to be avoided, and on the contrary, moderate joy is to be cheriſhed.

Exerciſe of body. Motions of the body all of them, doe not agree with all, yet for all ſound men, deambulation may ſuffice, and frication and ſuch like exerciſes; otherwiſe to thinner bodies more moderate, to ſtronger greater exerciſes are more convenient, yet regard is here to be had of cuſtome, according to that of *Hippocrates*, 2. *Apho.* 49. thoſe which were accuſtomed to dayly labours, although they are weake and old, eaſier endure exerciſes then thoſe that are unaccuſtomed thereunto, although they are ſtrong and yong; regard alſo is to be had of the time of the yeare, for in ſummer, leſſer and ſhorter exerciſes, in Winter greater and ſtronger are to be appointed; ſo long alſo onely the body is to be exerciſed, untill a freſh colour appeare in the body, and the body begin in ſome meaſure to ſwell, and ſweat to flow out: exerciſe and motion is to be uſed when the concoction is performed in the ſtomack and liver, and as *Hippocrates*, 6. *Epid. Sect.* 4. *Apho.* the laſt labour ought to goe before meate, wherefore the moſt convenient time for exerciſe is the morning, when the Stomack is empty, and the excrements of the Paunch and Bladder are firſt ſent out, the ſame time is moſt fit for ſtudy; regard is alſo to bee had of the place where exerciſes are, for exerciſe under the Sun heates the body very much, powers out humors, and are very obnoxious to thoſe whoſe heads are weake or full of humors, but all exerciſes that are in the ſhade are ſafer.

Reſt

Reſt is no leſſe neceſſary then motion, for this is the remedy of wearineſſe, and repaires decayed ſtrength, and therefore exerciſe and reſt take their interchangeable turnes.

Sleeping and waking.

The time alſo is to be appointed for ſleeping and waking, the moſt fit time for ſleep is the night, appointed for man by God himſelfe, but we ought not to ſleep preſently after meat, but an houre or two after ſupper, otherwiſe the head will be filled with many vapours; diurnall ſleep likewiſe fils the head with vapours, but if any one hath contracted a ſence of wearifomeneſſe, or hath paſt an unquiet night without ſleep, tis lawfull to cheriſh ſleep ſo long in the day time, and eſpecially for old men, who ſeldome ſleep the whole night, but wee are to ſleep ſo long untill the meate be concocted in the Stomack and Liver, and the ſpirits that are taken away are reſtored, which ſpace is not equally in all, leſſe then ſix houres ſcarce ſufficeth, but beyond 9. houres ſleepe is ſcarce to be extended, for the moſt part the ſpace of ſeven houres is ſufficient.

Sleep for thoſe that are ſtudious.

But thoſe which are ſtudious principally offend in their ſleep, if they wake long after ſupper, and ſleep after the riſing of the Sun, for they do not onely pervert the order of nature, but alſo much hinder the concoction, whilſt they impeade the inſtauration of ſpirits, which were waſted with diurnall labours, and watchings, and call them from the Stomack, and fill the head with vapours.

Manner of lying.

But we ought to lie downe with our legs and armes a little bent, our head ſomething elevated, on either ſide, ſince lying ſupine hurts much, and firſt to lie on the right ſide, that the concoction of the Stomack may bee helped by the Liver, not under the canopy of Heaven, nor the Beames of the Moone, and the windowes are to bee ſhut, and the nocturnall aire to be kept out, the bed-chamber ought to be without any ſmell, the bed ſhould bee ſoft, and fitted to drive away the frigidity of the Aire, when you pleaſe, the Head alſo is not to be wrapt with too many cloathes.

Watchings.

Watchings after ſleep ſhould bee moderate, for too much conſumes the native heate, and diſſipates Spirits, dries the body, brings forth crudities, dulls the ſenſes, and offends all the actions.

There

Bathes. There is no ſmall profit alſo of Bathes, for the preſervation of health, as is ſaid before, part the firſt chap. the ſeventh, yet the right uſe of them is to be appointed, neither are we to go into a Bath before the meate be concocted in the ſtomach, leaſt crud humours ſhould be carried into all the parts of the body. In a Bath we muſt abſtaine from all meat and drink, and we are to go out before we are weary, and to defend the whole body from cold, nor muſt we eate nor drink before the heate of the bath be expired.

Lotions of the head. Lotions of the head open the pores of the skin and diſcuſſe Vapours, yet they are not to be uſed when either a Catarrh, or paine of the head offendeth, but are to be uſed in the morning, or an houre before Supper, and after the waſhing of the head it ſhould be throughly dryed with warme linnen cloathes. Laſtly the waſhing of the feet is not profitable, to hinder their ſweating, but to avert humours which would flow from the head thither.

Extremens. Laſtly we muſt endeavour that preſently after ſleep, the dregs of the paunch may be caſt out, if the paunch anſwers not to deſire, tis to be moiſtned with Raiſins of the Sun, the broath of a Cock, a decoction of the ſtaulkes of Burrage, Mallowes, Beares breech, or ſix or ſeven Pruins, boyled in the broath where Senna hath been infuſed, to be taken for the firſt courſe, or a little before meate, the excrements of the third concoction are to be expelled by dayly exerciſe, the head is to be combed in the morning, the mouth to be waſhed with water, the eares, noſe, and palate to be cleanſed, the eyes and the whole face, are to be waſhed in cold water, and the body, eſpecially the Armes, and the Legs are to be rubbed.

And if ſo any error be committed in the uſe of theſe things, which may eaſily happen, afterwards it is to be mended the next day by its contrary, and an inequality being introduced the contrary cauſe is taken away.

Chap. V.

Of the dyet of old men.

Diet for old men. THat part of Phyſick which rules, or governs the age of old men is called, Geronomick, but becauſe in old age the body every day is more and more dryed, and the native heate is conſumed, we are to endeavour that dryneſſe may be prevented

prevented, and the native heate ſo much as may be preſerved.

Hotter and moiſter Aire therefore is agreeable to this age, and unleſſe it be ſuch of it ſelfe, tis to be corrected by art, eſpecially in Autumne and Winter, which Aire is cheifly offenſive to old men. *Aire.*

The Aliment it ſelfe alſo ought to be hot and moiſt, of good juice, and eaſie of concoction, but thick meates, hard, glutinous, and which fill the head, grow ſowre in the ſtomach, and are eaſily corrupted, are to be avoided, and if hurt be contracted by the uſe of ſuch things, tis to be corrected, by the uſe of Diatrion, Pipereon, Diacalaminth, and ſuch like. *Aliment.*

Of the uſuall quantity alſo every day ſomething is to be abated, for as Hippocrates writes, 1. *Aphor.* 10. there is little heate in old men, and therefore they need little nouriſhment, ſith thence their heat is extinguiſhed with much; and therefore meate is to be given ſparingly, but often, and indeed very conveniently thrice aday, *viz.* break-faſt, dinner, and ſupper.

The beſt drink for old men is Wine, from whence Wine is called old mens milk, yet tis not to be taken in too great plenty, and it ought to be of a hotter nature, and other things good and generous, middle aged, but thick Wines which cauſe obſtructions, and have an aſtringent faculty or hinder urines, are not convenient for old men, wine mingled with hony is good for old men alſo. *Drink.*

Old men ſhould uſe moderate exerciſes before meate, yet ſo that no laſſitude may thence enſue, but principally moderate frication is commodious for them, eſpecially in the morning. *Exerciſe.*

Old men ſhould ſleepe longer, and if they are troubled with waking, that remedied with the uſe of ſweet Almonds, Lettice boyled with Sugar, and dill being taken the laſt courſe, and with Somniferous lotions of the feet and hands. *Sleepe.*

Firſt of all let them avoid vehement perturbations of the mind, and let them rather refreſh their minds and bodyes with honeſt pleaſures. *Perturbations of the mind.*

Laſtly let old men be carefull that they void their excrements well, and therefore, if the body be coſtive, the belly is to be moiſtned with convenient meates or with hony of Roſes ſolutive, but ſtronger, and more Phyſicall things are not to be given to old men. *Excrements.*

CHAP.

Chap. VI.

Of the Dyet of ſuch as are out of temper and of neuters.

Bodies that are neuters how manyfold.

As for what belongs to the Dyet of bodyes, that are neutrals, there art two kinds of bodies deviating from perfect health, for ſome are more remote from a ſickly conſtitution, others are neerer to it, and theſe are twofold as before is ſpoken *lib.* the firſt Chap. the third, neuters falling away, which governing part of the Method of the defence of health is called Prophylactick; in neuters tending to health and waxing ſtrong, the governing part of the Method of reſtoration of health is called Analyptick.

But thoſe former neuters which are as yet far from diſeaſed, yet decline from the beſt health, whether from their birth, or whether they have contracted ſuch a habit from cuſtome and dyet, it is hard to change, neither can it be done ſuddenly, but by degrees, and with long diligence; but if leaſure doth not permit, tis neither commodious, nor poſſible, for as *Galen* 2. of the defence of health Chap. the third thoſe who are buſied in civill affaires, and diſtracted with many buſineſſes tis ſafer for ſuch a one not to indeavour to change his temperament.

Dyet of untemperate men.

Such bodyes therefore, if either leaſure will not permit, and their minds are not bent to reduce them into a better ſtate, they ought to be preſerved ſo by their likes, but if you intend to reduce them to a better condition, you muſt uſe contraries by degrees; yet a hot and moiſt diſtemper, ſince that tis more agreeable to our nature, is by no meanes to be changed, becauſe it introduceth no diſeaſe, but bodyes which are become too dry, are alwayes to be moiſtned as much as may be, during the whole terme of life.

Of ſuch as are hot.

Hot bodyes therefore ſhould avoid hot Aire, hot and ſharpe meates, their drink ought to be more plentifull, but ſmaler, and ſtrong drink rather then wine, their exerciſe ought to be moderate, the uſe of bathes, of freſh waters warme, frequent; they muſt ſhun anger, too tedious meditations, and their ſleepe ought to be longer.

If dryneſſe be joyned to the heate, let them avoid the uſe of hot and drying things, and therefore let them beware of

of a hot and dry conſtitution of Aire, and vehement exerciſes, if humidity be joyned and that be moderate, ſince that temperament is moſt agreeable to man, and conduceth to the prolongation of life, tis to be preſerved as much as may be, and only to be fore-warned that no more of the heat and humours may be added, and cauſe diſeaſes, and ſtir up putrifaction, wherefore let theſe avoid Aire that is too hot and moiſt, let meat be given which hath attenuating force, and let them endeavour that it may be well concocted, let their exerciſes be ſuch, as may diſcuſſe excrements, yet not dry the ſolid parts; let all other things be moderate, and principally let them endeavour, that the excrements of the belly and the urine may freely paſſe from them.

Of cold. Thoſe which are cold are to be nouriſhed with hot meates, let them uſe exerciſes, which may ſtir up heate, let them evacuate timely the pituitous excrements.

Of dry. Dry conſtitutions ſhould uſe moiſt meates, and moiſtning drink, and bathes of freſh water, but the moſt unhappy conſtitution is cold and dry, which repreſents old age from the beginning, and haſtens to it and therefore ſuch are to uſe heating and moiſtning things, and to be nouriſhed with hot and moiſt food, their exerciſes ſhould be moderate, ſuch as only ſtir up the naturall heate, their ſleepe longer and the uſe of bathes of freſh water frequent; Venery is very hurtfull: *Moiſt.* cold and moiſt, if the conſtitution of the body be ſo, the frigidity is to be corrected, and the humidity preſerved, to which purpoſe moderate exerciſe conduceth, and excrements if they are timely and duly evacuated.

Dyet of neuters declining. Neuters declining, which now incline to ſickneſſe, diſeaſes are imminent to them, eſpecially for two reaſons, Plethory, and Cacochymie, both of them therefore are to be taken away; if the falling away from health be but little, it may be done with reſt and abſtinence; but if it be greater, opening of a veine, and purging is to be uſed, which is ſpoken of in the following book, for this Prophylactick part is placed in the end of a cure.

Only we here admoniſh two things, firſt that the Spring-time is beſt for preſervation; as Hippocrates 6. *Aphe.* 47. teacheth, he ſayes, to thoſe that the breathing of a veine or purging are profitable, to them the opening of a veine, and a purgation is to be commanded

manded, in the Spring; it is alſo profitable, to purge black and Melancholy humours, before Autumne.

Uſe of the aloes. Moreover the uſe of aloes doth much conduce to the preſervation of health, ſince it gently purgeth the excrements which ſtick in the firſt paſſages, which are oftentimes the cauſes of many diſeaſes, it reſiſts putrifaction and corruption, and ſeldome reacheth the Liver, but becauſe aloes, if it comes to the Liver offends it, it is not to be uſed too often, and in too great plenty, leaſt it ſhould penetrate to the Liver, but it purgeth onely the firſt paſſages, which is performed profitably, if it be taken in a ſmall quantity, a little before Supper.

Dyet of neuters growing better. Laſtly, for what belongs to the dyet of thoſe newters that are inclinable to health, two things in the firſt place are to be obſerued in their dyet, firſt that they fall not againe into the diſeaſe; ſecondly that they may ſuddenly recover their former health: firſt when, as it is 2. *Apho.* 12. thoſe things which are left in diſeaſes after a criſis are wont to cauſe relapſes, it ought of the peccant matter be yet remaining, that is to be taken away by degrees, and by helping, and the principall parts are to be ſtrengthned, but if nothing of the vitious matter be preſent, the body is carefully to be refreſhed with moiſt aliment, and that which is eaſie to be concocted, namely the yolkes of eggs, broathes with Bread, Chickens, Hens, Capons, Fiſh; laſtly Goates fleſh, Mutton, Veale; ſleepe helps concoction, unctions ſtrengthen the ſtomach, before meate are appointed fricatious alſo, moderate walking, Baths of freſh warme water, laſtly ſtrengthening things are to be uſed, and ſuch as may reſiſt the reliques of the cauſes of imbecility, and of ſickly diſpoſition, but thoſe things which may call back the diſtemper, which trouble ſick, theſe are to be avoided.

THE

THE

FIFTH BOOK,

PART I.

Of the Materialls for Cure.

SECT. I.

Of Medicines.

CHAP. I.

What a Medicine is.

THere remains the laſt part of Phyſick which is the Therapeuticall, which reſtores men that are fallen into diſeaſes to their former health, and expells thoſe diſeaſes from mens bodyes which torment them, but that the Phyſitian may obtaine this end, it is neceſſary that he be inſtructed in two things, firſt a Method whereby he may find thoſe things that are helpfull by Indications, ſecondly Inſtruments or Materialls for cure, whereby he may performe that which he found out by Indications.

Inſtruments of Phyſick.

The matter fit for cure is properly reduced to three heads, dyet, manuall operation, and making up of Medicines.

Firſt you are to be admoniſhed that you are to diſtinguiſh cures, from the materialls uſed in curing, for cure is that whereby inſtruction is given from the Indicant to performe or act ſomething, and is alwayes one, as to heate or make hot, but the Matter of helpe is that whereby that is performed by the Phyſitian which the Indicant commands, which

dicant commands which may be manifold, as whilſt you are to heat, it may be done with Pepper, Ginger, Wormewood, *&c.*

But ſince that of Dieteticall matter is ſpoken ſufficiently in the former book, it remaines that wee ſpeake of Medicines, and Manual operation, and firſt as for Medicines, by a medicine wee underſtand every thing that is a different thing from nature, which may alter our bodies and reduce them to a naturall ſtate from a preternaturall. In which reſpect it differs from aliment and Poyſon, for Aliment, as it is aliment, is onely that which increaſeth the ſubſtance, or it renewes and increaſeth our bodies; a Medicince alters, but doth not repaire, but if any thing can together nouriſh and alter our bodies, tis alimentall Medicine, or medicinall aliment; but poyſons neither nouriſh, nor alter our bodies, but are deſtroyers of our bodies, and have power to corrupt them.

Medicine what is it.

Chap. II.

Of the faculties of Medicines in generall.

Medicines how many-fold.
Simple
Compound

MEdicines are two-fold, ſome are ſimple, other compound; a ſimple is that which is ſuch by nature onely, and hath nothing mixt with it by art; compound are when more naturall things are mingled by art into the forme of one medicine.

Simple how many fold.
Plants.

Simple Medicines are taken from Plants, Animalls, Mineralls; and Plants are either taken whole or their parts, Roots, Woods, Piths, Barkes, Leaves, and Branches, Flowers, Seeds, Fruits, Juices, Gumms, Roſins, Oiles, and Liquors, as Wine.

Living Creatures.

Animals alſo are uſed whole, or their parts, as Harts-Horn, Marrow, Fleſh, or thoſe things that are generated in them, as Milke, Eggs, or their workes, as Hony, Wax, or their excrements as Gall, Urine.

Mineralls.

Under Mineralls are comprehended not onely thoſe things which are properly called Mineralls, Vitriall, Antimony, Sulphure, and Mettalls, and the excrements, but alſo divers kinds of earths, as Uermillion, Iriſh Slat, Bole-Armiack, as alſo all Stones and Gemms, alſo divers kinds of Salts, and concreted juices in the earth, of which Naptha is one, alſo bathing-waters, in which ranke Manna may be put, if there be no other place fit for it.

The

The faculties are various, of ſo many different things, and from hence the diviſions of Medicines are various, for firſt, ſome Medicines are ſaid to bee ſuch in action, others in power to be ſuch; things as are ſaid to be ſuch in action, which in them containe that which they are ſaid to be, the act being as it were preſent, and abſolved, and ſo the operation is in a readineſſe, and can affect our bodies at the firſt touch, with that quality wherewith they are endued: for Water, and Ice, are cold in action, becauſe after what manner ſoever they are applyed to a body, they can preſently coole the ſame; but thoſe things are ſuch in *potentia*, whoſe force is not perceived at the firſt touch, but lyeth hid and as it were aſleep, nor doth it diſcover it ſelfe by action, untill it be ſome way changed by our heat and be burnt, and reduced into action, ſo Pepper, and Wine, although to the touch they are cold, yet nevertheleſſe they heate. *The difference of Medicines Actuall. Potentiall.*

But although the force of Medicines are various, yet they may conveniently be divided into manifeſt and occult; thoſe are called manifeſt which affect our ſenſes, or which excite qualities in the patient which are diſcerned by our ſenſes, and whereof a manifeſt cauſe may be rendred. *Faculties of Medicines manifeſt.*

But occult are ſuch which doe not produce qualities in a Patient, obvious to ſence, but performe ſomething by a hidden propriety, to wit, they purge a certaine humor, they ſtrengthen a certaine member, they reſiſt poyſon, or being hung or carried externally worke upon the body, the manifeſt cauſes whereof cannot be explained, and no other reaſon can be given, then that ſuch a power or force is in them, by a peculiar propriety of nature, although there are ſome who reject hidden qualities, yet *I. C. Scaliger* rightly thinks that tis a high peice of impudence to reduce all things to manifeſt qualities, in the 218. of his exerciſes *Sect.* 8. and thoſe which endeavour this, bring fooliſh and ridiculous reaſons, or deny thoſe things which are confirmed by experience; and theſe faculties and actions are different from thoſe in their whole kinde as alſo from others, which are ſpoken of before in the 2. Booke 2. Part. *Cap.* 12. both from hence in the firſt place, becauſe the ſtrength of theſe qualities, are far greater then theirs of the primary qualities, and their efficacy is great oftentimes in the ſmalleſt body. *Occult*

But both of them, the manifeſt and occult faculties and actions of Medicines are various, of manifeſt qualities ſome are primary, others ſecondary, *The firſt the ſecond.*

The third kind of qualities.

others of a third kind; the first have power of heating, cooling, moistning and drying; the second to soften, to harden, condense, rarify, resolve, attenuate, thicken, to draw, to repel; the third, to provoke Urine, to cause and stay courses, to move vomit, generate flesh, and to breake stones, although the power of breaking stones may more fitly be attributed to the propriety of the whole substance, as beneath Cap. 17. shall be shewne.

Occult are of three kindes, for either they evacuate a certaine humour by a peculier faculty, or they have a sympathie with a certaine part, whence they are called cephalicks, or cardiacks, or they resist poyson.

The kinds of faculties in Medicines.

But the faculties of all Medicines according to the changes which they make in our bodies, may be referred to four ranks or formes, first some belong to an inducing of a new quality, such as are those which are said to have the efficacies of the primary qualities, to wit heating, drying, cooling, and moistning, but because every thing that alters, cannot be safely applyed to every part, appropriated Medicines are conveniently joyned to every member which do alter. Moreover hitherto is to be referred those which are accounted amongst the number of secondary qualities, such as soften and harden, loosening, rarify and condense, stiptick, and obstructing, astringent and opening, attenuating and incrassating, filling, and deterging or cleansing: lastly hereunto belongs, Anodunes, Stupefactives, and Hypnoticks or such as cause rest.

In the second forme are those which prevaile in causing motion, attracting and repelling; to the third forme those things are referred, which consist in the generation of any thing, ripening, generating quitture, breeding flesh, Glutinating, cicatrizing, and procuring milke and sperme.

To the fourth forme are referred those things which corrupt, corrode, putrify, such as cause dry crust, burning, and such as doe corrupt seed and milke.

The fift forme comprehends those things which belong to the taking away of any thing, such things as make lesse, such as purge, such as cause Vomiting, Urine, or sweats, or provoke courses, expel the secondine, or send forth a dead child, such things as break and expell the Stone, Errhines, Sternutatories, and Apophlegmatismes, such things as purge the breasts, and such as kill and expell Wormes.

They

They may be placed in the last forme which resist poyson and are the drugs against poyson.

Chap. III.

Of the first faculties of Medicines.

Altering temperate.

As for what belongs to the first forme, and first for altering Medicines, some of them being compared with mans body are called temperate, which cause or bring forth no mutation in man either in coldnesse, drynesse, heat, or moisture; and these are either such simply and in all the quallities, or els in two of them only; but the intemperate are such as have power to change the heate or moysture of our bodies.

Intemperate.

Degrees of qualities.

Moreover these qualities are divided by Physitians into certaine degrees, which are left to bee esteemed by their effects; the first degree is when a Medicine alters our bodies obscurely and scarce sensibly; the second is, when it manifestly changeth our bodies, yet without hurting, inconveniency or trouble: the third degree is, when it doth not onely manifestly alter the body, but vehemently, and not without trouble, and paine, yet without corruption: the fourth degree is that which altereth the body not without paine, and that most grievously.

Mansions of degrees.

To either of these degrees there are appointed certaine Latitudes, which are commonly called mansions, as they alter more intensely or remisly, or betwixt both, which they call in the beginning, middle, and end.

Temperate Medicines.

The temperate are, *Venus* haire, Sparagus, Licorish Sweet Oyle, Pine-nuts, Jujubes, Figgs, Sebestens, Raysins, Dates, Gum Elemie, and Tragacanth, Calves and Goates Suet, and Hoggs Grease.

Hot in the first.

The hot in the first degree are, Marsh-mallowes, Burrage, Bugloss, Beets, Cabbage, Camommil, Bindweed, Agrimony, and Fumitory, Flex, Melilot, A leafe that swims in Ditches without any Root, Spikenard, Wall-wort, and Coltsfoot, the flowers of Borrage, Bugloss, Bettony, Oxe-eie, or Wild Camomil, Melilot Camomil, black Poplar, Arabian Stæchodos, an herbe with grey downe like an old mans haire called Senecio in Latin: Fruits; sweet Almonds, Chestnuts, Jujubes, Cipruſnuts, green Walnuts, Grapes, ripe Mulberies, sweet Apples, Fragrant Seeds, Coriander, Fenegreeke, Flax, Grumwell, Lupines,

pines, Seſanix rice, Rootes, Marſh-mallowes, Bares Breech, Beets, Bugloſſe, Licoriſh, Satirion, Barkes, Guaicum, Tamarisk, Liquors, Juices, and Gummes, Sugar, Bdellium, Ladanum, *Al.* 2. *i. e.* Others in the ſecond degree, Gumme of ivy, the tallow of Goates, Does, Harts, freſh Butter.

Hot in the ſecond. Hot in the ſecond degree, Worme-wood, Pimpernell, greene Dill, Angelica, Parſly, Mugwort, Bettony, Calamus Aromaticus, ground Pine, Fænugreek, St. Johns-woort, Ivy, Hopps, Bawme, Horehound, Motherwort, Sweete-ferne, Baſill, common-Burnet, Maiden-weed, Poley, Roſemary, Summer or Winter Savory, Sage, Scabious, Scordium, Stæchados, Feaverfew, Flowers of Night-ſhade, Saffron, Gilliflowers, or Carnations, Schænanth, Lavender, Lupines, Bawme, Roſ-mary; Fruits, as Capers, Nutmeggs, Piſtacknutts, dried Figs, dryed Nuts; Seeds, as Dill, Parſley, Bittervetch, Water Rocket, Pulſe, or Vetches, Nettle ſeed. Roots, as Parſley, Caper-roots, Mayden-weed, common Burnet, Turneps, Zedoarie, Roſewort; Barkes, as the Barkes or Wood of Caſſia, Cynamon: others in the third degree.

Frankinſence, Roots of Capers, Liquors, Gums and Roſins, Wine that is new, Ladanum, Aloes, and Galbanum, Myrrh, Maſtick, Frankinſence, dryed pitch, Roſin, ſtorax; Fats, as Lions fat, Libards, Beares, Foxes.

Hot in the third. Hot in the third degree are Mettalls, Flos æris, which is that which comes from the Braſſe in melting, burnt Braſſe, Squama æris or the Scaling of Braſſe, Verdegreaſe, Dreggs of Braſſe, Allum, Salt, Nitre, Brimſtone, Red-vitriall; Herbes or leaves, as Sowthernewood, Aſarabecca, or the chaſt Plant, Wake Robin, the Herbe called Hieruſalem, or Ladies Roſe, the herbe Ammios, dried Dill, Bayes, Dittany, Carnations, Germander, blew flower, Baſtard Saffron, Century the greater and leſſe, Celandine, (or Pile-wort) Calamint, Fleabane, Horſemints, Fennel, Epithymum, ſo called, becauſe it growes upon Time, Juniper, Elecampane, Hyſſop, Laurell, Marjerom, Marum an herbe cald Marjerom, Mints, Fennelflower, flowers of the wild Vine, wild Marjerom, wild Woodbine, Parſley, Sneeze-wort, Penny-royall, Oxe-ſtay, Rue, Savine, Wild Time, wild Mints. *Al.* 2. Time, trifoile, Vervaine, Nettles, Flowers of Agnus-caſtus, Epithymum, Violets, of the wild Vine, of the wild Woodbine. Fruits, Iuniper-berries, Cloves, the fruit of Balſimum, Anacardium, that is a fruit of an Indian Tree, like a Birds heart, and the juice like blood, Pepper, *Al.* 4. Seeds of Ammi, and Anniſeed of Hieruſalem,

ſalem, or Ladies Roſe, Carawayes, of Garden Creſſes, baſtard Saffron, according to *Galen*, Fern. 2. of Fennell, Cummen; Carrots, Fennell Flower, Turneps, Parſly, Hartwort, Staveſager, of a Vine. Roots; of ſweet Garden Flag, others in the ſecond degree, Aſarabecca, wakerobbin, Sea Onion, or Squills, Dittany, Leopards bane, Fennell, Engliſh Galingale, both kinds of Hellebore, Elecampane, Orrice, Parſly, Raddiſh, Barkes of Mace, Liquors, Teares and Gums; old Wine, and ſweet Aſa, ſtinking Aſa, Ammoniack, Cedar, Pitch, Opoponax, Muske.

Hot in the fourth degree, are ſuch as belong to mettalls as vitriol, Arſenick, Sandaraca, which is a Gemme, Chryſocolla is a kind of a minerall found like ſand in veines of Braſſe, Silver, or Gold, which Goldſmiths uſe to ſolder Gold, and Silver with; Myſyſory, is that which the Apothecaries call vitriol, Melantheria, Inke, wherewith Chyrurgions conſume putrifyed fleſh, Herbs, or Leaves; Pepper-wort, Garden, and water Creſſes, ſome would have them to be hot in the third degree, great headed Leekes, the fullers herbe Thapſia, a Milke Thiſtle; Fruits, as Pepper *&c.* Seeds as of both kinds of Creſſes, Muſtard-ſeed; Rootes, as Garlick, Onions, Coſtus, Leekes that have great heads, baſtard Pelitory, or ſneezing wort, Euphobium. *Hot in the fourth.*

Things cold in the firſt degree, Herbs, or Leaves, as Orack, ſowre Sorrell, Mallowes, Mirtles, Pelitory of the wall, Flowres, of Mallowes, Roſes, Violets; Fruits, as the ſubſtance of Citrons, Quinces, Pares, Plumbs; Seeds, as Barly, Millet; Rootes, of Mallowes, Concreate Juices, Acacia, others in the ſecond, Draggons blood; Stones as a Hyacinth, a Saphir, an Emerald. *Cold in the firſt.*

Things cold in the ſecond degree, Leaves, and Herbs, a kind of beete which ſome call Spinack, Spaniſh Succory, Lettice, Ducks-meate, Endive or Succory, Violet leaves, Sorrell, Plantine, Knot-graſs, Fleawort, Night-ſhade; Flowers, of wild Poppies, Cichory, water Lillies; Fruits, as Gourds, Cucumbers, Oake Apples, Oranges, Pomgranates, Damaske Pruins, Pippens, Peaches; Seeds, of Sorrell, Cichory, Winter Cherries, Wood of Santalls. *Cold in the ſecond.*

Things cold in the third degree, Herbs, or Leaves, Purſlan, Mandrake, life everlaſting, Henbane, others think it hot in the fourth degree; Flowers, as of Pomgranets. Fruits; as Oringes, Mad-Apples of Mandrake; Seeds, as of Hemlock, Henbane, Poppy, Rootes of Mandrake, juice of the juice of Holly Roſe. *Cold in the third.*

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Cold in the fourth. Things cold in the fourth degree; Herbs or Leaves, Hemlock, Poppey; Fruits, Apples of Pern; Concrete Liquours, as the juice of Poppy or Meconium, also Opium, according to the vulgar opinion, which is not true, for they are hot.

Moist in the first. Moist in the first degree; Herbs, Bugloſſe, Pellitory of the wall, Mallowes; Flowers, of Bugloſſe Mallowes, Endive; Fruits, as the ſubſtance of Citron, Injubes, ſweet Almonds, Seeds, of Mallowes, Seſami, which is a white graine growing in Jndia; Rootes, of Satyrion, Bugloſſe, Lycoriſh, Mallowes, Rape Rootes.

In the ſecond. Moiſt in the ſecond degree; Herbs, as Violet Leaves, Water Lillies, Milk Thiſtles, a kind of Beet which hath no ſavour, which ſome call Spinach, Lettice, Ducks-meate, Purſlan; Flowers, of Water-lillies, Violets; Fruits, Gourd, Melons, Pompions, the juice whereof ſome place in the third degree, Peaches, Damask Pruins, ripe Grapes, Sugar.

Dry in the firſt. Dry in the firſt; Herbs and Leaves, Beetes, Cabbage, Camomill, Fennill, Violets, or Purple coloured Lillies, Malabathrum *i. e.* a certaine Herb, ſhe ſwims in Ditches in India without any Roote appearing, Mirtles, Petty Mullein, or Longwort, Flowers of Oxe eye, Camomill, Saffron, Violets, Melelot, Roſes; other in the ſecond degree, Fruits; as Iuniper berries, Cheſnuts; Seed, as Beanes, Fenegreek, Barly, Roots; of Briony, of the wild-Vine, of madder, Tamariſk, Marſhmallowes, Wake-robbin; Gums; Frankinſence, others in the ſecond degree.

In the ſecond. Dry in the ſecond degree, Herbs as, Pimpernell, Mugwort, others ſay in the firſt degree, Green Dill, Bettony, Bindweed, Calamus Odoratus, Endive, Sea Cabbage, Shepheards-powch, Horſtaile, Chervills, Mints, wild Mints, Plantine, Roſemary, Spikenard, Walwort, Fumetory, Burnet, Sorrell, Vervine, Shephards rod; Flowers, of Piony, Scarlet, Anemone or wind Flowre, ground Pine, Wood-bines, Stæchados; Fruits, the Oily acorne, Capers, Quinces, Ciprus-nuts, Nutmegs, Pares, Piſtach-nuts; Seeds, Fennell, wild Saffron, Lentills Ervum, Millet, Rice, Poppy, Night-ſhade; Roots, of Caper, Cichory, Raddiſh, Wood of a Santall Tree, Teares, Gums and Roſſins; as Galbanum, oppopanax, dry Pitch, Myrrh, Storax, Maſtick, Hony.

In the third. Dry in the third degree, belonging to mettals, as flowre of Braſſe, burnt Braſſe, the dregs of Braſſe, Draggon-wort Salt, Solder of Gold, or Saltpeter, Brimſtone, red vitriol; Herbs,

and

and Leaves, Fearne, Yarrow, Cinqfoile, Poley Mountain, Trifoile, Worme-wood, Southernwood burnt, Dill burnt, Parſely, Aſarabecca, Ammi, Calamints, Germander, Ground pine, Epithimum, Hyſſop, Juniper, Marjerom, Horehound, Origanum, Maiden beets, Wildſtone, Parſly, Sneezing-wort, Rue, Savine, Willow, Water-mints, Time, wild Bettony; Flowres, of Pomgranates, Epithinium, Ground pine, Wild-wood-bine; Fruits, of Cloves, the Fruit of Balſamum, Oake-Apples, Pepper, Juniper-berries; Seeds, as Graines which Dyers uſe, I think he means Cutcheneale. Dill, Parſley, Ammi, of the herbe Jeruſalem, or Ladies Roſe. Anniſeed, Carraway, Cumming, Coriander, Gith, baſtard-ſtone Parſley, Millet of the Vine; Rootes and Barkes, of ſweet Garden Flag, the hollow Roote of Galingale, Squills, common Cinqfoile, Trifoile, Mountaine Oſier, Aſarabecca, Smallage, Leopards-bane, Hellebore, Cinnamon; juices, and Gums, Aloes, the juice of Sorrell, Acacia, Camphir, Muske.

Dry in the fourth degree, Metalicks, Coppras, Arſenick, Sandaracha, Borax, or green Earth found in the Mines of Braſſe, Silver, or Gold, Miſyſory, that which the Apothecaries calls Vitroil, Milantheria or a Metallick juice; Herbs and Leaves; Wild-rue, Garlick, Creſſes, Muſtard-ſeed *In the fourth.*

CHAP IV.

Of Medicines proper to every part, or of corroborating Medicines.

Medicines proper to every part.

But whereas occult qualities are often adjoyned to the primary qualities, the ſame things altering are not convenient allwayes, nor accomodated to all parts, but thoſe things are to be choſen which have regard to every or any part in reſpect of the whole ſubſtance, and by reaſon of ſome occult proprieties have ſome ſingular Sympathy therewith, which Medicines therefore are called Appropriated or Corroborating Medicines, for ſo occult qualities concur with manifeſt, and conſpire in acting, or performing together.

For the head heating and drying.

Cephalicks Heating and drying: Bettony, Marjerom, Sage, Hyſſop, Bawme, Roſemary, Bay-leaves, Bay-berries, Savory, Rue, Calamint, wild Time, Spike, Lavender, Origanum, Herba Paralyſis, I take it to be true love or one berry

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Herbe, Lillies of the Valley, Stechados of Arabia, Chamomill, Basil, Ocymum husked which is a pulse for Cattell, Piony, Seed of Osiers of the Mountain, Fennell, Root of Orris, Gilliflowers, Flowers of Linden or Teile Tree, Juniper berries, Coriander, Anacards or fruit of an Indian Tree like a Birds heart and the juice as red as blood, Nutmegs, Amber, Muske sweet and precious, Aloes, Cloves, Cubebs, Cardamoms, sweet Garden Flag, Acorns is the same with Calamus Aromaticus, Mace, Galingall, Beavers Genitalls, Birdlime, Amber, as also those things which for the most part are externally applyed, as Benzo, Gum of Juniper, Ivy, Tacamahava, the seed of Fennell flowre, Ladanum, Mastick, Storax that useth to be brought out of Syria in Reedes, Thapsia, the fat of a Beare.

For the head cooling and moistning. Cephalicks cooling and Moistning, are Roses, Violets, Water-Lilly Flowers, the leaves and seeds of Lettice, Purslan, Poppy seed, and other cold things, as sorrell, Gourds, to which for Humectation you may add especially in Melancholians, Burrage, Bugloss, sweet Apples, sweet Almonds, as also those things which for the most part are externally applyed to the head,, as the leaves of Vines, sallows, Fleawort, Heads of Poppy, Womans milke newly drawn, the juice of Cucumbers, Gourds, and for moistning sake the seed of flex, Fenugreek, sweet Almonds, Elder Flowers.

Hurting the head. Things offending the head, the seed of a Vine, juice of Wormwood, Milke in drinke, Acrons of the Oake in meat, black Olives, Crabs, a kind of pulse called Ervum, which also resolves or loosens the joynts: these do more offend, Frankinsence, the tops of Jvy, the fruit of Lentisci, that is, the Tree whereof Mastick comes, Saffron, an herb called Maydenseed dryed, sow Bread drank with Wine, Mandrake, Hemlock, seed of Darnell, Storax plentifully taken.

For the eyes. Ophthalmicks, Fennell, Eyebright, Rue, Vervaine, Celandine, Marjerom, Bettony, Elecampaine; Rootes of Valerian, seeds of Clary; these that follow offend the eyes, the

Hurting the eyes. seed of Hempe, stalkes of Lettice, Lentiles (or Ducks meat) Beans, Raddish, Mustard seed, Onions, Leeks.

Hearing the Eares. Things that heate the Eares, Cephalicks as Rue, Lawrell or Bayes, Costus, Fennell Flower, Caster or the cods of a Beaver, also bitter Almonds, Onions, white Hellebore with Hony, Muske being put into them, white silke spun by the silke worme.

Cooling the Eares. Things that coole the Eares, Womans milke Luke warme,

Roses

Roſes, Mallowes, Violets, March Mallowes, the Leaves of Willowes, Lettice, Water-Lettice.

Things heating and drying the Breaſt and Lungs, Iſſop, Scabious, Venus haire, Coltsfoote, Hore-hound, Calamint, Bittony, Speed-well (or Fluellin,) Oake of Hieruſalem, *Carduus Benedictus*, Licoriſh, the Roots of Elecompane, and Orrice, Squils or Sea Onions, Round Birth-wort, Nettle-ſeed, Fennell ſeed, of Figs, of rayſins of the Sun, of Almonds, of Pine Apples, Fox Lungs, the roote of Dragons, wake Robin, Burnet, Flax-ſeed, Flowre of Brimſtone. *Heating and drying the Breaſt.*

Things belonging to the breaſt, cold and moiſt, Violets, Mallowes, the ſeed of white Poppey, Flea-wort, Iujubes, ſebaſtines, Tragacanth, Barley; theſe offend the Breaſt, things too cold, ſharpe things, putrifyed (or unſavoury) ſowre, aſtringent things, as unripe fruit, Vitrioll, the Sea Hare, the Oile of Nuts. *Cooling and moiſtening.* *Offending the Breaſt*

Things corroberating the Heart, Bawme, Roſemary common Baſil, *Carduus Benedictus*, Germander, Fluellin, the Barks and ſeed of Citrons, Graines of Kermie-Berries, Garden Gilliflowers; the Roots of Angelica, of Elecampane, of Marigold flowres, the wood of Aloes, Gold, Saffron, Amber, Muske, Wormeſeed, Mace, Nugtmegs, Cloves, Cinamon, *Cardiacks Hot.*

Simples appropriated to the heart that are cold, Roſes, Violets, Sorrel, Burrage, Bugloſſe, Water-lillies, Plantine, the juice of Citrons, Lemons, Pomeganates, Cherries, ſweet Apples, Black-berries, Santals, Harts-horne, the bone of the Heart of a Stag, or Hart, Unicornes-horne, Iriſh flat, Bolcarmenick, Pearle, Corall, Beazor, Hyacynth, a Saphir, an Emerald, *Lapis Laſuli.* *Cold.*

Things heating and drying appropriated to the Stomack, Mints, Wormwood, Fennel, Roſemary, Sage, Bay-leaves, Bay-Berries, Iuniper Berries, Carraway-ſeed, Anniſeed, Comminſeed, the wood of Aloes, Galangale, Sweet-garden-flag, or Ginger, Nutmegs, Mace, Cloves, Pepper, Cinamon, Wormſeed, Cardamons, Cypreſſe, Amber, Maſtick. *Heating and drying the Stomack.*

Things cooling the ſtomack, ſorrel, Wild-Sorrel, Purſlane, Plantine, Endine, Sow-thiſtle, Cichory, Roſes, Violets, Peaches, Quinces, Melons, Gourds, Cucumbers, Citrons, Pares, White Curtants, Barberies, Pomgranates, the juice of citrons, Acacia, the juice of Lemons, Medlars, Strawberricis, Mulberies, Santalls. *Cooling the Stomack.*

Things heating the Liver, Agrimony, Worme-wood, Venus haire, Sage, a kind of Bind-weed, that growes about Flax *Heating the Liver.*

Flax, Asarabecca, Liver-wort, Squinanth, Spikes Maudelin, Fennell, Parsley, Smallage, Sparagus, bitter Almonds, Elecampane, the flower of Bettony, Raysins of the Sun, Pistack-nuts, the hot Seeds, Sweet-Garden-Flagg, &c. Wood of Cassia, Cinnamon, and the rest of the Aromaticks.

Cooling it. Things cooling the Liver, Endive, Cichory, Garden Endive, Lyons Tooth, and those which belong to these, Purslan, Lettice, Roses, Violets, Water-lillies, Sorrel, Strawberries, the greater cold Seeds, namely of Mellons, Gourds, Cucumbers, and Citrons, and the lesser namely of Lettice, Endive, Garden Endive, Purslan, Barley, Santalls, Camphire, Pomegranates, Currants, Barberies, Strawberries, Melons, Cherries, Sorrell, whey of Goates Milke.

Heating the Spleen. Things heating the Spleen, Ceterach, Spleen-worr, Epithimum, Wormewood, Fumetory, Hops, Rue, Calamint, Parsley, Speedwell, or Fluellin, wild Germander, Groundpine, Bawme, Garden or Water-cresses, Scurvy-grasse, Horehound, Broome, Elder, Asarabbecca, the Rootes of Polipody, Elecampane, Ferne, Fennel, Smallage, Vine-roots, Tamariske, Capers, Birth-wort, Madder, Bitter-almonds, Squils, Sweet-garden-flag, Ammoniack, Bdellium.

Cooling the Spleen. Things cooling the Milt, Mallowes, Endive, Cichory, Purslan, and for the most part the rest of the cooling Hepaticks.

Heating the Reins, and Bladder. Things heating the Reines, and Bladder, Venus haire, Rue, Saxifrage, Betony, Lovage, Fennell, Rocket, Mugwort, Calamints, Eringo, Sparagus, Buttchers Broome, Burnet, Liquorish, Parsley, Smallage, Nettles, Carrots, Dropwort, red Madder, red Parsnips, Grumwell, Iuniper-berries, flowers of Camomill. Cardomoms, Turpentine Chervill, Almonds, Pistack Nuts, the Kernels of Peaches, Cherries, Rootes of Capers.

Cooling the Reines. Things cooling the Kidnies, Mallowes, Lettice, Purslan, Pellitory, Barley, the foure great cold Seeds, Poppy, Lettice, Fleawort, Quinces, Pepons, Stone-berries, Violets, Flowers of Water-lillies, Camphire, Santalls, Sorrell, Iuice of Lymons, Melons, Currants.

Heating the Womb. Things Heating the Womb, Mug-wort, Mother-wort, Bettony, Dittany and Origanum, Penny-royall, alamints, Marjerom, Sage, Time, Bawme, Summer or Winter Savory, Rue, Rosemary, Bay-leaves, Flowers of Camomil, Cumminseed, Anni-seed, Fennel-seed, Carrot seed, Parsley, Smallage, Roots of Birthwort, Red Madder, of Eringo, Fennel,

nel, Parſley, Sparagus Burnet, Angelica, Valerian, Maſterwort, the meate and liquor of the Indian Nut, Bay-beerries, Iuniper-Berries, Cloves, Nutmegs Mace, Sweet garden flag, Cinamon, Worm-ſeed, Saffron, Galingale, Mirrh, Caſtor.

Things cooling the Wombe, Water-lillies, Violets, Roſes, Quinces, and the Sirrup thereof, Purſlane, Lettice, Garden-Endine. *Cooling the Womb.*

Hot ſimples belonging to the joynts, the Gout, and diſeaſes of the ſinews, Marjerom, one Berry Herbe, Lovage, Bettony, Groundpine, Roſemary, Sage, Bay-leaves, Lavender, Stæchados, Mugwort, and moſt of the chephalicks, Caſtor, earth Wormes.

CHAP. V.

Of extenuating, and preparing of humours.

OVt of this forme of humours are ſought digerent, digeſtive, or preparing things; ſo called, all which, ſince they hinder nature in acting, take away and change the qualities, which reſiſt the action of native heat, namely they coole too much thoſe things that are hot, and heate too much thoſe things that are two cold; they moiſten dry things, and dry up moiſt things, they attenuate what is thick, and incraſſate what is thin. *Of cleanſing and preparing.*

Namely yellow choler is to bee corrected with cooling, moiſtning and thickning things, Phleagme is to be prepared with heating, drying and attenuating things; melancholy humors are to bee corrected with things moderately heating, moiſtning and attenuating; black Choler is to be prepared with things that are very moiſtning & attenuating. *Cholers.*

And thoſe things are to be uſed which are fitted to every part, according as the humour reſides in this or that part, cold cephalicks prepare and digeſt choler in the head; cold Thoracicks, in the Breaſt; cold Cardiacks in the heart, things cooling the Ventricle, in the ſtomack; cold Hepaticks in the Liver.

Hot Cephalicks prepare Flegme in the head; hot Thoracicks in the Breaſt, hot things appropriated to the Ventricle prepare flegme in the ſtomack; hot Hepaticks in the Liver; things heating the Reines in the Reines; hot things appropriated to the Womb in the Womb. *Phlegme.*

Theſe

Melancholly and black choller. Theſe things prepare Melancholy, and black Choler, Fumitory, Bugloſſe, Burrage, Spleen-wort Bawme, a kind of bind weed growing about flax, Venus haire, common Germander, ground-pine, Hops, Barkes of Citrons, Fennell Roſemary, juice of Apples, Ceterach, Capers, Epithymum, Violets, Butchers Broome, the flowres, and ſeed of Tamariske of Baſil, Aſhen Keyes.

Chap. VI.

Of Emollients, Relaxing, Rarfying. &c.

Emollients. Emollients are thoſe things which power out that which is concreate, ſuch are thoſe things which neither are very hot nor exceeding dry; many hot in the ſeond degree, and ſomething moiſt, and moreover having a clammy or emplaſtick force, ſuch as are the Leaves and Roots of Mallowes, and Marſh Mallowes, the Roots of white Lillies, Orach, Engliſh Mercury, the Seed of Mallowes Seſami, (a white graine growing in India) Flax, Fenugreeke, Marſh mallowes, Fat Figs, Simple Oiles, the Fat of Hens, Sowes Fat, Calves, Kidds, Sheeps Fat, and ſuch like, almoſt all Marrowes, freſh Butter, Wax, Pitch, Roſin, Bdellium, Amoniack, Storax melted, Ladanum, Galbanum.

Things hardning. To theſe are oppoſed hardning and binding things, which are cold and moiſt, Sengreen or life everlaſting, purſlan, Fleawort, Ducks-meat Night-ſhade.

Looſening. Things looſening are compared to thoſe things which bind, which joyning together humors contrary to nature, become hard, and are eſpecially thoſe which when certaine matter, or a vapour or Wind fills the ſpace of the parts, and extends them, rarifies them, and attenuates and diſcuſſes an unſavory ſpirit and matter, ſuch are thoſe things that are moderately hot, moiſten more largely, and are of a thinner ſubſtance, that they eaſily penetrate and are not hindred by thickneſſe, as Lillies, Oile of Camomil, Flaxſeed, Fenugreek, Fats, Butter, Greazy wool and ſuch like.

Condenſeing. Condenſing things, are of a more watry nature and contract more weakly, and moreover they cloſe the thin and externall Pores, they contract and condenſe, but they cannot contract the whole part on every ſide, and powerfully, ſuch are cold water, Purſlan, Sengreen, Fleawort, Mouſe-eare,

Duckes

Ducks meate, Thiſtles, green Houſeleek, the greater and the leſſer.

Binding and Stopping condenſing.

Stiptick things are cold and aſtringent, and of a thick ſubſtance, for being applyed externally, by their thickneſſe they ſtop the pores, and by their frigidity and ſiccity they contract the part and cloſe them into one another, of that kind are thoſe which are otherwiſe called binding (or aſtringent) the Barks of Pomegranates, Frankinſence, Mirobolanes, the Roots of Tormentill, Rhubarbe Torrified, Plantine, Horſe-taile, little double Dazies Blood-wort, or Wall-wort, the Floures of Pomegranates, Flowers of Roſes, Sorrell; ſeeds; as of Plantine, Roſes, Purſlan, Ciprus-nuts, Mirtles, Quinces, Pares, Medlars, Mulberries not ripe, Ceruiſes, or (ſwallow Pares,) the fruit of a Cornell or Dogg Tree, Oake Apples, Kernels of Grapes, Cups of Acorns, the red juice of Wax or Hony in the Hony-Combs; alſo ſuch juice of Wild Hony, Acacia, Maſtick, Vermillion, Spode, which is ſoot ariſing in the riſing of Braſſe, Pearles, Coral, Bolcarmenack, Iriſh flat, Allum, Lapis Hæmatites or Bloodſtone, Iron.

Rarifying.

To condenſing things are oppoſed rarifying things, and to aſtringent things, opening things; rarifying things are thoſe which open the Pores of the Skin, and render the paſſages wider, that Vapours may be blowne or breathed out the better; ſuch medicines are hot, but moderately, of thin parts and not drying, as Marſh-mallowes, Engliſh Mercury, Dill, Flowers of Camomill, of Melilot, of Elders, ſeed of Fenugreek, Flax, dry Figs, old Oile, Butter.

Opening the mouths of Veſſels.

Opening things are thoſe as dilate the Orifices of the Veſſels, whence they may be called in generall aperient, yet thoſe are principally called aperient, which penetrate deeper and attenuate the thick humors, and are hot in the ſecond degree, endued with ſomewhat a thicker ſubſtance, and are not eaſily diſſipated untill they have performed their operation, to this purpoſe bitter things are very uſefull. next to theſe are attenuating and cutting, which divide, diſſolve, and make leſſe, thoſe attenuate the thick, theſe the viſcide, and glutinous humours, and are moreover of a thinner ſubſtance, and hot for the moſt part in the third degree; alſo ſharpe, and ſuch as appeare biting and

A hematiting and

hot

hot, to the ſmell, or taſte, or to them both, and have a nitrous and ſalt ſavour, or they are ſharpe and bitter, ſuch are

Opening. the five opening Rootes, ſo called, that is, of ſmallage, Fennell, Sparagus, Parſley, and Butchers broome, Graſſe, Cichory, Eringo Rootes, Gentian, Ferne, wild or Garden madder, Century the greater, Aſarabecca, Capers, of Tamarisk, of Aſhes, Fumetary Wormewood, Agrimony, Venus haire, Liver-wort Ceterach, Ground-pine, common Germander, Bind-weed, Hore-hound, Calamints, Penny-royall, Scurvygraſſe, Brooklime, Water-Creſſes, Anniſeed, Fennell, ſeed, ſeed of Ammi, of Agnus Caſtus, red Parſnibs, Lupines, bitter Almonds, Capers, Kernells of Peaches and Apricocks, Cinnamon, Cubebs, Sorrell, Ammoniack, the juice of Lymons.

Incraſſating. To theſe are oppoſed, Incraſſating things, which make the thinner, and more liquid juices thicker, ſuch are cold or temperate, without ſharpneſſe, of a thick and terrene ſubſtance, whereby, whilſt they mingle themſelves with thinner humours, they make them become of a thicker conſiſtence, as Bolearmenack, Poppy, Sorrell, Rice, Lentills, Quinces, wild Pares, Amylums, tis a food made of Corne without grinding, Chalybeate milke, the juice of Pomgranets.

Playſter-like things. Emplaſticks, and thoſe which have a clammy and Plaiſter-like force, are ſuch as adhere cloſe to the paſſages of the body, and Plaiſter up the pores, as it were, fills them, and ſtops them, and they are certaine dry, and earthy things, yet without mordication, and acrimony, and if they are bedaubed over the paſſages of the body, they are hardly taken away, but ſome are alſo mixt with an aqueous, and acrious humour, yet are tenacious, as ſweet oyle, ſuch are Amylum, Pompholix, which is the ſoile that runs off Braſſe, Ceruſſe, Chalke, Bole armenack, Iriſh ſlat, Parget Litharge; burnt lead, the Rootes of Marſh Mallowes, Lillies ſeed of Fenegreek, all mucilages, and bran of wheate, Kernells of Pine nuts bruiſed in water, Gume Arabeck, Sarcocolla, Tragacanth, freſh Greaſe, and Marrowes, freſh butter, new cheeſe, whites of an egg, wax.

Detergent things and ſuch as open obſtructions. To theſe are oppoſed detergent things, and ſuch as open obſtructions, whereof theſe cleanſe filth in the ſuperficies of the body, or skin, but thoſe are of a more ſubtil ſubſtance, & penetrate into the pores alſo, and open obſtructions, and moreover have a drying faculty, with tenuity

tenuity of substance whether they be hot, or cold, for there are both hot and cold abstergent things, such as are all salt things, bitter things, nitrous things, as Hore-hound, Century the lesse, smallage, Wormewood, Southernwood, Hyssop, Cresses, the bread of Lupines, and of a kind of Pulse called Orabus, Agrimony, Beets, Germander, Tansey, Bitter Almonds, Roots of Birthwort, Orice, Gentian, *Solomons* Seale, Barley, Bran, Iuice of Lymons, Nettle-seed, Rootes of Tamariske, Bark of Capers, Spleen-wort, Squils, Nitre, Hony, Sugar, all Lixuviums, or Lee, Whey, the Galls of living Creatures, Verdy-grease.

CHAP II.

Of Medicines easing paine and causing rest.

Anodunes. Lastly, in this forme are Anodunes, Narcoticks, and Hypnoticks, those are properly Anodunes which doe not take away the cause of a disease or dull sence of paine, but such as mitigate the paine, the cause stil remaining, and they are temperate and gentle, and endued with mild heat, and are soft to the touch, and bring forth a pleasant and sweet pleasantnesse and those performe that, which are endued with a luke-warme and gentle heate, and are most like to our bodies in temperature, and for the most part are soft and fat, and loosen, and mollifie the part that it may be the lesse apt to be sensible of paine, such are Camomil, Melilot, Dil, Elder, Mallowes, Marsh-mallowes, Seeds of Fenegreek, Flax, wheat, Barley, sweet Oyle of middle age, Oyle of sweet Almonds, and other things prepared, with those above, fresh Butter, Hens grease, Goose-grease, Whites of Eggs, the pulpe of White-bread, warme Milke, and Hoggs grease.

Stupefactives. Narcoticks or stupefactives, and Hypnoticks, which also cause sleep, but neither take away the cause of paine, but stupifie the part and benumes it, least it should perceive that which is painefull; but this power depends on a hidden quality, such like are Lettice, Water-lillies, Poppey, Night-shade, Henbane, Mandrake and Opium.

CHAP.

Chap. VIII.

Of drawing and Repelling Medicines.

Things drawing. IN the ſecond forme, are drawing Medicines which attract the humours, and Spirits out of the body into the ſuperficies, but that attraction is made by heate, concurring with tenuity of ſubſtance, and ſome are hot and dry in the ſecond degree; which draw moderatly; others in the third degree, which draw more; others in the fourth, which draw moſt of all, and with their heate raiſe a tumour in the skin, with redneſſe, and laſtly raiſe bliſters, from whence medicines to take away haire, Synapiſmes, Rubifying medicines are prepared, ſuch are the Rootes of both kinds of birthwort, ſelandine, ſow-Breed little Dragon, Gentian, wild Pellitory, or ſneezing-wort, Crowfoot, muſtard-ſeed, Creſſes, Garlick, Onions, Leaven, an Indian fruit like a Birds heart, and the juice like blood, Gum Amoniack, Galbanum, ſagapenum, Opoponax, dry Pitch, Propolis or that in a Honycombe like wax, Gooſe dung, Pidgeons dung, Hen dunge, and Cantharides.

Repelling. Repelling Medicines, are oppoſed to attracting, and prohibit the Flux of humours, or repreſſeth and caſteth back that humour which hath newly flown in, and moves therein, and is not as yet ſettled; they performe this, either becauſe they are cold or aſtringent, or becauſe they have both a cold and aſtringent faculty; aſtringents are two-fold, ſome are cold, others hot, and indeed they doe moſt powerfully bind, which are both cold, and aſtringent; thoſe things which repell only by frigidity and are aqueous, or humid, are cold water, life for ever, Purſlan, Ducks-meate, Endive, Lettice, Night-ſhade, Coltrops of water, Venus Naucll, Fleawort, the white of an egg; cold things aſtringent are, Plantine, narrow leaved Solomons ſeale, Mouſeare, Daizes, Horſetaile, the leaves of ſervice, or ſherve Tree, Oake, Mirtle, Medler Tree, the Flowers of Roſemary, Pomgranates, Mirtle-berries, Oake Apples, ſwallow Peares, Barberries, Mirtles, the Barks of Pomgranates, the Rootes of wild Damſons, the Rootes of Barberries, the Rootes of Cinqfoile, Snake-weed, (or ſmall Biſtort) Tormentill, the juice of Pomgranates, Acacia, Hypociſtis, or ſap of the Rootes of Cyſtus, of Mulberries not ripe, ſorrell, Iriſh ſlat, Bolearmenack,

nack, ſanguis Draconis, Tutty, hot aſtringents are, ſpike, Aloes, Frankencenſe, Mirrh, Cypreſſe, Wormewood Cyprus Nuts, the Barks of Frankencenſe, ſweet Garden Flag, Allom.

CHAP. IX.

Of Ripening things, and ſuch as generate quitture; alſo of ſuch as generate fleſh and Brawny fleſh, of ſuch as dry and cleanſe green wounds and cauſe Cicatrizing, and of ſuch as generate ſeed and milke.

Ripening and concocting of quitture.

IN the third forme are ripening and concocting things, and moving purulent matter, ſo called, becauſe without them the generation of matter cannot be eaſily performed by nature, to wit, ſuch which by the ſimilitude they have with our bodyes, defend and increaſe the ſubſtance of the native heat, for they are temperately hot, and together moiſt and emplaſtick, which ſhutting the pores or paſſages, keep in and retaine the ſpirits and heat, ſuch are ſweet Oyles Oyle, mixed with water, Butter, Hogs greaſe, Calves greaſe, the ſeed, and Bran of Wheate, Wheaten Bread, the ſeed of Fenugreek, Flax, Leaves and Rootes of Marſh Mallowes, Mallowes, Beares breech, the Rootes of white Lillies, boyled Onions, dry Figs, Fats, liquid Pitch, (or Tarr) liquid ſtorax, Turpentine, whereof ſome if they ſeem, either too dry or too moiſt, you muſt obſerve, that ſcarce ever one of theſe is uſed alone but are mingled with others, ſo that the dryneſſe with the one may be corrected with the humidity of the other, and the humidity of the one with the drineſſe of the other.

Generating fleſh.

Sarcotticks or ſuch as generate fleſh, are ſuch as conduce, to the reſtauration of fleſh, in a wound or ulcer, indeed nature, in the generating of fleſh is the cheif workeman, yet certain Medicines doe as it were helpe nature, whilſt they remove excrements, which hinder nature in the generation of fleſh, and preſerve the native heate of the part, of which kind are thoſe which moderatly heat and dry, and cleanſe filth, without biting according to the plenty of quitture, and according to the humidity or ſiccity of the body, ſometimes they ought to be gentler, ſometimes ſtronger, ſuch are Barly Bread, a kind of pulſe, called Ervum, Fenugreek, Tragacanth

gacanth, Orice, Teares of jeat, Maſtick, Frankencenſe, Scamony, Aloes, Mirrh, Hony, Walwort, Saint Johns-wort, Birth-wort, Braſſe Oare, Ceruſſe, Tutty, Pompholix, Litharge, (or white lead.)

Next to theſe are Glutinating Medicines, which are no way detergent, but rather aſtringent, and by ſome are called Enaima, and Traumatica, becauſe they are uſed, in joyning of bleeding wounds, although they are uſed in cleanſeing Ulcers, from which nevertheleſſe, according to more or leſſe, Epuloticks differ from ſuch as cicatrize, as being ſuch dry more to the ſecond degree; in the number of Glutinatives, and Epuloticks are, Allum, Litharge, Circocolla, Aloes, Bolearmenack, Lead, Braſſe-oare, Birth-wort, the Flowers of Pomgranates, Corall, Horſe-taile, Plantine, Wal-wort, Tormentill, Cinqfoile, common Thurrow-wax, the Barkes of Pomgranates, Frankencenſe, Burnt-braſſe waſhed, Sanguis Draconis, Lapis calaminaris, Antimony.

Hereunto belongs Traumatick Medicines, or vulnerary which by a peculiar force, ſo diſpoſe the blood, that fit and laudable fleſh by it may be reſtored, or any other ſubſtance, which is loſt, and afford matter, for potions, called vulnerary, ſuch are, great and little Cumfry, Sannicle, Cumfery, the middle Sarracenous, Agrimony, Winter-green, Fluellin, Mug-wort, Plantine, Savine, Horſe-taile, Rootes of Tormentill, of Gilli-flowers Carduus Benedictus, common, or water Burnet, Ladies-mantle, Periwinkle, Pimpernell, Golden-rod, Mouſe-eare, century the leſſe, Adders-tongue, Bittony Saint Johns-wort, Flowers of Roſes, Tanſey, Veruine, Dragon, Rupture-wort, Cinqfoiles, Scordium Crabs-eyes, Mace, Bolearmenack.

For wounds. Generating hard fleſh. To Epuloticks Poroticks all ſuch as generate brawny fleſh are nere alike unto, namely, ſuch as dry, thicken, harden, moderatly heate, and bind, ſome of thoſe are given inwardly as juice of Primeroſes, or Cowſlips, powder of the Roots of Agrimony, of the juice thereof, but eſpecially the ſtone called Oſteocolla, ſome are externally applyed, as Bolearmenack, meale, Oſteocolla, Aloes, Cypres Nuts, Frankencenſe, Tragacanth, Acacia.

Generating milke. Laſtly to this forme belongs thoſe things which generate and increaſe milke and ſeed, they helpe to generate milke which conduce to the generation of good blood, and draw blood to the pappes, and have a peculiar conſent with the breaſts, ſuch are Fennell, and Dill green, Louage, Smallage, Poley

Poley Mountaine, Rocket, Milke-wort, yet ſome are ſaid to conduce to the generation of milke, by a propriety of ſubſtance, as powder of Chryſtall, Fennell, and Dill.

In like manner thoſe things for the generation of ſeed, which generate the beſt blood, which is the matter of ſeed, and what things ſoever, draws the blood to the veſſels, appointed for generation of ſeed, or which fill the ſeed with wind; namely moderately moiſt, and temperatly hot, ſuch are, Leekes, Parſnips, a kind of a land Scinks, Satyrion, Rocket, Aſhen Keyes, Flax, Garlick, Onions, Eringo-rootes, Turneps, Sparagus, Green-ginger, Galingale, ſweet Almonds, Pine-nuts, Piſtack-nuts, Cheſtnuts, Dates, Beanes, Carrots, Rapes, Rice, Artechoakes, obſtreæ. *Generating ſeed.*

CHAP. X.

Of ſuch things as make the skin red, of ſuch as cauſe Bliſters, and of ſuch as cauſe ſcabs, or puſtules, of burning things, of Corroſives, Putrifactives and of ſuch things as take away haire, and extinguiſh milke and ſeed.

TO the fourth ranke, belong thoſe things which breake forth, Rube-factives, Eſcaroticks, and Cauſticks, which are all comprehended under the name of fiery Medicines, which with their exceeding heate, as the heate of water, or fire, burne our bodyes, the moſt gentle amongſt them, are Rube-factives which onely by heating make the skin red, and thoſe things which lye deeper, they draw out to the skin, ſuch are Muſtard-ſeed, Creſſes-ſeed, Nettle-ſeed, the Rootes of Thapſiæ. *Making red the skin.*

The ſtronger are called veſicatories, becauſe they raiſe Puſtules, or Bliſters, which for reaſon of the tenuity of ſubſtance, burne only the Cuticle, or the outmoſt skin, and draw out a humour, like ſcalding water, and pull the cuticle from the cutis, or thick skin, and raiſe it into a bladder, ſuch are, Cantharides, Muſtard-ſeed, Leaven, ſtrange Clematis, Crow-foot, ſeed of Creſſes, Thapſia, roote of Sow-bread, baſtard Pelitory, ſea Onions, Garlick, Doves-foot, Euphorbium, Pidgeons-dung, Soape. *Veſicatories.*

The more vehement are Eſcaroticks, or ſuch as cauſe, *Burning the skin.*

Puſtules, or ſcabs, ſo called becauſe they burne, not only the cuticle, but alſo the cutis, and they are hot in the fourth degree, and of a thick ſubſtance.

Cauſticks. Amongſt theſe the moſt vehement are Cauſticks, and they are endued with extraordinary heate, and thick ſubſtance, whlch burne not only the skin, but ſometimes the fleſh alſo, as burnt braſſe, Flowre of Braſſe, quicklime, vitriol, Aſhes, or duſt of the dregs of Wine, little Figs, Aſhes, of Aſh, Savine, Pidgeons dung, Aſhes of a Pine Tree, white Hellebore, Salt prepared of the lee, whereof ſoape is made, Arſenick, Oaker, Mercury ſublimate.

Of corroding Medicines. Beſides theſe there are yet other Medicines which draw away fleſh, and they are two-fold, ſome of them are more mild and are called Cathereticks, others are ſtronger which are called Stypticks; Cathereticks, or Corraſives, are thoſe which take away the ſoft fleſh that is growing, and only the ourmoſt which they touch, they take away the ſuperficies not ſuddenly, but by degrees, but cannot be indured to penetrate deeper, and they are hot in the third and fourth degree, the milder whereof are, Aloes, Allum, Aſhes of Oyſterſhells, Aſhes of an Oake and Fig-tree, the Rootes of a white Vine, of black Hellebore, burnt Lead, Antimony calcined, the ſtronger are quick-lime, Flowre of Braſſe, burnt Braſſe, vitriol calcined, Quick-ſilver precipitated, ſublimate vitriol, Myſy-ſory (a ſtinking mettall) burnt lead, oyle of vitriol, ſulphure.

Things putrifying. Stypticks, or Putrifactives, ſoften the harder fleſh, and they are the hotteſt, dryeſt, ſharpeſt, pernicious to the native heate, which ſeeing they deſtroy, and take away the radicall moiſture there followeth corruption of the ſubſtance of the part, and a deadly putrifyed diſeaſe, ſuch are Arſenick, Orpiment male, or Female ſtone-Ferne; Pityocampes, they are wormes in a Pine Tree, Monks-hood, ſandaracha.

Taking away of haire. Hereunto belongs thoſe things that take away haire, and extirpate them, and make the part bald, and if they continue long in the skin, they exulcerate and burne it, ſuch are ſtrong Lee, quick-lime, Ants, or Piſmires eggs, ſandaracha, Orpiment and Arſenick.

Conſuming of milke. Moreover concerning the extinguiſhing and diminſhing, of milke and ſeed, the generation of milke is hindered, if the ſtore of blood be abated, which medicines do not performe, but ſpare dyet, or exerciſe, hinders the comming of it to the breſt, ſuch are Hemlock, Lettice, Ducks-meat, Water-Lillies, Gourds, Night-ſhade, Purſlan, Poppy but milke that is generated

generated, is conſumed, by the ſeed of Agnus Caſtus, Calamints, Cummin, Rue, ſage, ſaffron, Bean-meale, Lupines, Baſil, ſome whereof are thought to doe it by a hidden propriety.

Certaine things conſume the ſeed by a hidden propriety, Rag weed, the leſſer, as the greater, increaſeth ſeed; ſeed of Agnus Caſtus, ſome by a manifeſt quality, cold things as Hemlock, Gourds, Henbane, Lettice Water Lillies, Wood-ſorrell, Ducks meate, ſorrell, and ſower things; hot, Calamints, mints, Dill, Rue, Hemp ſeed, hereunto alſo belongs Saccharum Saturni, Camphir, which *J. C.* Scalliger denyes. *Extinguiſhing the of ſeed.*

CHAP XI.

Of Medicines purging through the Paunch.

IN the firſt ranck of Medicines, namly of thoſe things which conſiſt in the ablation of any thing, and are firſt called Purgers, but although all Medicines in generall which free any parts of the body from excrements may be called, purging medicines, yet uſe hath brought it to paſſe that they are only called purging medicines in particular which lead or drive out excrements through the paunch or by Vomit; thoſe which move by the belly and are wont to be known by the common name of Evacuators, are twofold; ſome of them are ſuch as only purge the belly and the firſt paſſages, others there are which reach beyond the firſt Region of the body and emit peccant humours from the more remote parts, which are more properly called purging medicines. *Purging.*

The former ſort the Greeks call, Enteropticks and Hypacticks that is Lenitives, becauſe they evacuate ordure out of the guts, and whatſoever is detained in the ſtomach, guts, and Orifices of the Meſeraick veines, whether they doe it by mollifying and humecting, or by lubritying and making the paſſages ſlippery, which they imbue, and melt the feces with their abundant humidity, and provoake to expulſion, or whether they have a power of cleanſeing and moderatly ſtimulating, ſuch are, Mallowes, March mallowes, the herbe Mercury, Beets, Cabbage, Blites, Orach, Sparagus, Rayſins, ſweete Pruins, Sebeſtens, Caſſia, Manna, Tamarinds, Oyle of ſweet Almonds, new fat Figs, ſweete Apples, fat Broaths, eſpecially of a Cock or Capon, whey, eſpecially of Goats milke, freſh new Butter. *Lenitives.*

Things purging. But the purging medicines are moſt properly ſo called which ſend forth ſome particular humour out of the body, from ſome particular part, but by what power they performe, that is much controverted by Phyſitians, but it ſeemes probable, that purging medicines, whither taken in at the mouth, or by Cliſter, or externally applyed to the Navell or belly, or held in the hands or applyed to the Buttocks are reſolved and deduced into action by the heate of our bodyes, and that the moſt ſubtill ſpirits, or vapours of them ſo reſolved are diſperſed through veſſels into the whole body, and by a hidden force and propriety, move the humours which have affinity with them, and trouble, ſtir up, and as it were ferment them, and do ſo bring it to paſſe, that thoſe humors, which before were mixed with the blood, and cauſed no diſturbance of nature, being now ſtirred up and ſeperated from them, and being by themſelves, ſtimulate nature and irritate it to expulſion, which being irritated by the helpe of the expulſive faculty, expells both the purging medicine, and the vitious humor ſo ſeperated by the power thereof, together from the body.

More mild. But ſome of them are more mild which mollify the belley, yet beſides this, by a propriety of ſubſtance, regard a peculiar humour, and exerciſe their ſtrength beyond the firſt wayes, to the Liver and Spleen, yet cannot evacuate from the whole, and the moſt remote parts, ſome are ſtronger, which evacuate beyond the liver and ſpleen, alſo greater veſſells, but

Stronger. the ſtrongeſt purges are thoſe which evacuate humours out of the whole body, and from the moſt remote parts, and from the ſmalleſt veines; there are divers purging medicines, yet the difference of them is drawn, from the number of humours, which they attract by a ſpecifique force.

Cholagogues, or the milder purgers of choler.

Manna. MAnna, which in the broath of Beef, or of a Hen, or in a decoction of Pruins, or Tamarinds being diſſolved, and ſtrained, is given, from an Ounce to three Ounces.

Caſſia. Caſſia Fiſtula, is a benigne, and ſafe medicine at all times and all ages, unleſſe that it be too moiſt and windy, and therefore, not ſo convenient for a moiſt ſtomack and guts, and

and thoſe that are flatulent, and therefore is corrected with Cinamon, Maſtick, Anni-ſeed, Fennell-ſeed, Carrot-ſeed, halfe a drachm, or a whole drachm being added to it, it is exhibited conveniently in the forme of a Bolus, or Electuary not long before meate, it is given from halfe an Ounce, to two Ounces.

Tamarinds. Tamarinds are cold and dry in the ſecond degree, and for that reaſon, repreſſe the Acrimony, and heate of humours, the pulpe is given from an Ounce to two Ounces, or three Ounces, and in decoction to foure Ounces.

Juice of Roſes. The juice of Roſes, ſyrups, and Hony prepared of it gives ſtrength to the Liver, and bowels, but it opens the Orifices, and therefore is not to be given to ſuch as are with child, the juice is given to two Ounces, the Syrup and Hony to three or five Ounces.

Violets. The juice of Violers, and Syrup and Hony prepared thereof, mitigates heate, the juice is given to two Ounces, the ſyrup and Hony to foure Ounces.

Peach Tree flowers. Flowers of the Peach-Tree cauſe not only purging, but vomiting, and purge chollerick and ſerous humours, the Syrup prepared of them is given to two Ounces, the conſerve to an Ounce, a handfull of them infuſed in Wine doth performe the ſame.

Citron Mirobolanes. Myrobalans, of citron colour, are cold and dry, and alſo bind, and ſtrengthen the bowells, but are not ſo ſafe in obſtructions thereof. Their aſtriction is corrected, opening things being added, and ſweet ſmelling ſeeds, or if they are rouled in Oyle of ſweet Almonds, they are given in powder to two drachms, in infuſion to five drachms, or to an ounce and halfe.

Rhubarb. Rupbarbe beſides yellow choler, purges phlegme alſo, but not unleſſe it ſtick in the higheſt paſſages, tis principally good for the liver, it hath divers parts, by the more ſubtile it purgeth and opens, by the thicker it binds, whence it is profitable, in a Lientary, and in ſpitting of blood, and in ruptures, it is given in the ſubſtance, in infuſion, and decoction, it ought to be very light, and the third part of Cinamon is added, or of Camells hay or Indian ſpike, when you are willing only to purge, or open, tis beſt given, in infuſion or decoction, but when you would bind and corrobarate tis beſt in the ſubſtance; there is alſo an extract prepared hereof, but ſuch a one, which ſcarce purgeth ſtronger, then when it is taken in the ſubſtance

tis given in the ſubſtance, to two drachms, in infuſion to halfe an ounce.

Turpentine. Turpentine moves not only the belly, but the bowells, and eſpecially cleanſeth the reines, tis given with the powder of Rhubarbe, or Licoriſh, and Sugar, made into a Bolus, or with the yolke of an egg, and ſome convenient water therewith, wrought in a Morter, and reduced into a milky liquor, tis given from halfe an Ounce to ſix drachms.

Aloes. Aloes is hot in the ſecond degree, and dry in the third, exceeding bitter, it opens the mouths of the veines, and therefore is hurtfull to ſuch as are apt to a Flux of blood, or ſuch as are with child, and Hecticks, and no way ſafe for thoſe that are hot and dry, extenuated; tis moſt conveniently taken prepared, and extracted, and Roſated, as they call it, by reaſon of the bitterneſſe of it; it is not eaſily given in drinke, but in pills, moſt properly it is given from halfe a drachm, to three drachms.

Fleawort. Fleabane, or Flea-wort, the ſeed of it, is cold and dry, in the ſecond degree, tis given in infuſion, rather then in the ſubſtance, from a drachm to three drachms,

Stronger Purgers of Choler.

Scamony. SCammony is hot and dry in the third degree, it primarily drawes choler, next Phlegmaticks humours, and unleſſe it be well corrected, it frets the guts by its Acrimony, cauſeth gripings, opens the Orifices of the veſſells, and cauſeth a Flux of blood, it hurts the ſtomack, Liver, and Heart, inflames the Spirits, and ſtirs up feavers, and therefore we ſeldome uſe it alone; and leaſt that it ſhould offend, fat things are to be added, Tragacanth, Bdellium, Oyle of ſweet Almonds, ſeed of Fleabane, Cinamon, Spike, Galangale, Fennell ſeed, Quinces, Maſtick, the juice of Violets, and Roſes, tis commonly corrected, by boyling it in the ſubſtance of a Quince, and ſo prepared tis called Diagrydium, there is alſo prepared of it an extract, or Roſin, it is ſcarcely fit to be given to thoſe that are weake although it be corrected, the doſe of Dyagridium is given from five to fifteen graines, ſome give a ſcruple.

Aſarabccca

Aſarabecca purges choller by the Paunch, yet it rather ſtirs up vomit, it attenuates, opens obſtructions, and provokes ſweats, and therefore is profitable for Hydropick and Icterick perſons, and ſuch as are troubled with the Spleen, and Quartan Agues, tis given in the ſubſtance from halfe a Drachme, to two Scruples or a Drachme, in infuſion from two Drachmes to halfe an ounce. *Aſarabeca.*

The milder purgers of Phlegme.

MYrobolans, Chebulæ which principally are good for the Braine and Liver, according to ſome evacuate alſo black choller, emblick which are appointed for the heart, Spleen, and Liver, as alſo Bellirick are cold, in the firſt, and dry in the ſecond degree, and bind, and therfore are not ſafely given in obſtructions, nor when Phleagme tenaciouſly cleaves to the guts, but in fluctuations and in a looſeneſſe, and when there is need of aſtriction and corroborating, they are prepared according as we have ſhewed before, of the Citron Myrobalams there is alſo the ſame Doſe to be given. *Mirobolanes Chebula. Emblica. Bellirick.*

Agarick purges onely thin, and aqueous Phlegme, but not viſcide, and principally evacuates the excrements of the Braine, and Lungs, opens obſtructions of the bowells, yet is not ſo commodious for the ſtomack, and therefore the third part of Cloves, Nutmegs, Galingale, Sal gemmæ, Ginger, are to be added, tis given in the ſubſtance to two Drachmes, in in infuſion from two Drachmes to halfe an ounce. *Agarick.*

Mechoacan alſo purges Phlegme, but principally ſerous and aqueous humors, and therefore is excellent in Dropſies; tis corrected with the third part of Cinamon, Anniſeed, Maſtick, tis given from a drachme to two drachmes in the ſubſtance, in infuſion to halfe an ounce. *Mecoacan.*

The ſtronger Purger of Phlegme.

TVrbith is hot in the third, and dry in the ſecond degree, and drawes out thick and viſcide Phlegme, even from the remoteſt parts, tis hurtfull to the ſtomack, and cauſeth *Turbith.*

ſeth loathing, and Vomit, and is not to be given to children, old men, nor Women with child, and when tis exhibited, it is to be corrected with Ginger, Maſtick, Pepper, Cinamon, Fennel, Galingale, nor muſt you eat fiſh after you have uſed it, the Doſe is from 2. ſcruples, to 4. ſcruples, in the ſubſtance, in infuſion or decoction from 2. Drachmes to 3. Drachms to 6. Drachms.

Seeed of Carthamus. The ſeed of wild Saffron, purgeth Fleagme, and Water, by Vomit and Stoole, and is very good for the breaſt, and ſuch as have Aſthmaes, but it is an enemy to the ſtomack, and therefore it is uſed with the third part of Cinamon, Galingale, Maſtick, or Anniſeed, tis given in decoction from three Drachmes to ſix Drachmes.

Coloquintida. Coloquintida, which is hot and dry in the third degree drawes out Flegme, from the moſt profound and more remote parts; Turbith cannot evacuate but is a moſt vehement medicine, and offends the ſtomack and Guts, when there is a Feaver; and moreover it uſeth to be ſod, being bound up in a skin, tis ſeldome uſed alone, but inſtead thereof Troches made thereof, which they call Alhandals, are wont to be uſed, tis corrected with Cinamon, Tragacanth Maſtick, Bdellium, and other Cordiacks, Hepaticks, and Stomaticks, tis given to 15. graines or a Scruple.

Hermodactiles. Hermodactiles purge thick Phlegme eſpecially from the joynts, and therefore is good for the Gout; tis corrected with Cinamon, Ginger, Mints; tis given in the ſubſtance from 2. ſcruples to a Drachme and halfe, in infuſion, or decoction to 3. Drachmes.

Euphorbium. Euphorbium is hot and drying the fourth degree, it drawes away thick and tough Phlegme, but more powerfully aqueous humours, it is a violent medicine, and tis reckoned by ſome, rather among poyſons, then purgers, tis corrected by cordials and ſtomaticks, Oyle of ſweet Almonds, Saffron, Maſtick, by the ſowerneſſe of a Lymon or Cytron, the higheſt Doſe of it is 10. Graines.

Opopanax. Opopanax heates in the third, and dries in the ſecond, it drawes away thick and viſcide Phlegme from the more remote parts and joynts, tis corrected with the third part of Ginger, Spike, Cinamon, or Maſtick, tis given from halfe a Drachme to a Drachme.

Sagapenum. Sagapenum is hot in the third, and dry in the ſecond degree, and purges clammy and thick humours from the Bowels, Braine, and more remote parts eſpecially of old men hurts

hurts the ſtomack and Liver, it is corrected as opopanax, the Doſe is from halfe a Drachme to a Drachme.

The milder Purgers of Melancholy and black humours.

INdian myrobolans are of the ſame nature with the reſt of them, onely that theſe purge melancholy. *Indian. Mirobolanes.*

Polipodie evacuates aduſt choler, as alſo Phlegme; tis profitable in diſeaſes of the ſpleene, and Hypocondries, the Doſe is from a Drachme to three Drachmes, in infuſion to an Ounce and above, *Polipodie.*

Epithymum purges a duſt choller, and Melancholy without trouble, and is profitable in Diſeaſes proceeding from hence; yet becauſe tis hot and dry in the third degree, tis ſafer to be uſed in Winter, then in Summer, tis given in the ſubſtance from two Drachmes, to three Drachmes in infuſion from halfe an ounce to an ounce. *Epithymum.*

Sena is as it were the middle betwixt the ſtronger and weaker, hot in the ſecond, dry in the firſt, tis a very uſefull medicine, which not onely evacuates aduſt humours, but alſo choler and Phlegme; cleanſeth all the bowels, and is convenient for all ages, when tis more dry tis not inconveniently corrected with the flowers of Violets and Burrage, Ginger, or Ginamon, or the fourth part of Galingale is added to it, the powder is given from a Drachme to two Drachmes, in infuſion from halfe an ounce to an ounce. *Sena.*

The ſtronger purgers of Melancholy and aduſt humors.

LApis Armenius purges dull, thick, melancholy humours, yet more gently then Hellebore, it is corrected by waſhing in Cordiall waters, tis given from halfe a Drachme to a Drachme, or ſometimes to a Drachme and halfe. *Lapis Armenius*

Lapis Lazuli hath the ſame vertue but is ſomething weaker, tis corrected with Cordialls, the Doſe is the ſame. *Lapis Lazuli.*

Black Hellebore is not uſually to be given to children; women that are great, nor to weake bodies, and indeed it is more ſafely given in decoction, then in the ſubſtance, tis corrected with Cordialls, and ſtomaticks; tis given in the ſubſtance *Black Hellebore.*

ſubſtance from a ſcruple to two, nay to a Drachme, in infuſion or decoction from a Drachme to halfe an ounce.

Hydragogues and ſuch as evacuate aqueous humours.

Root of Orice. THe juice of the root of Flowerdeluce is hot and dry in the third, opens drawes, out thin Choller and water; but for women with Child tis not ſo ſafe, becauſe it provokes the months, tis corrected with a little Wine and Cinamon, and Manna, or honey of Roſes is added; or decoction of reyſins of the Sun, tis given from halfe an Ounce to an Ounce and halfe, or two Ounces.

Hedge Hyſop. Gratiola or hedge Hyſſop purges by ſtoole and vomit, but troubles not a little the body, tis corrected with Cinamon, Anniſeed, Liquoriſh, tis given in the ſubſtance to a Drachme, in decoction from halfe an Ounce to an Ounce.

Elaterium. Elaterium or the juice of wild Cucumbers drawes water and choller out of the Bowels, and happily drawes forth the water of hydropick perſons, but it provokes vomit alſo, gripes the bowels, opens the mouthes of the Veines, and unleſſe it be cautiouſly exhibited doth miſchiefe; tis corrected with Tragacanth, Fleawort, Bdellium and Cinamon; in the Doſe you muſt not eaſily exceed ſix Graines.

Spurge. The rine and juice of the root ſpurge, purgeth and gnaweth powerfully, and therefore is corrected with Bdellium, Tragacanth, Mucilage of Fleawort, Cinamon, Spike, the Doſe of the Barke of the Root is from ſix graines to fifteene graines, but of the milke (or juice) from three graines to eight graines.

Mezereum. Mezereon whoſe force is fiery, exceeding ſharpe, exulcerating, biting, kindling Feavers, diſſolving the ſtrength of the heart, and noble parts, and purging choller violently; and Bilous ſeroſities, tis corrected with Sorrel, with the juice of Pomegranates or of Quinces, of Purſlan, Mucelage of the ſeed of Fleabane, the Doſe in the ſubſtance is from ſix grains to ten graines, in the decoction from halfe a Drachme to a Drachme.

Elder. Dwarfe. Dwarfe elder, or Dane wort and elder, the ſeed and middle barke, and juice of the root and leaves, draw out water, they are corrected with Cinamon, the Doſe of the berries is given to a Drachme, of the barks to two drachms, of the juice from

from halfe an ounce to ſix drachmes.

Soldanella or ſea Colewort are the beſt remedy to draw out water, but tis an enemy to the ſtomack, tis corrected with Cinamon, and Ginger, the Doſe is from a drachme to 2. drachmes, of the juice to halfe an ounce. *Soldanella.*

Gummigote purgeth choller and water, and oftentimes cauſeth vomit, which is prohibited by the addition of the ſpirit of ſalt or Mace, the Doſe is from five graines to eight graines. *Gummigote.*

The root of Ialap powerfully and with violence purgeth ſerous and black humors, tis given from a ſcruple to 2. ſcruples. *Ialap.*

Although each of theſe do purge ſingle humors, yet ſome of them do purge other humors alſo ſecondarily, Rhubarbe, Aloes, Caſſia, Agarick, Scammony, evacuate choller with Phleagme; Myrobolanes, Chebulæ, *Lapis Armenius*, *Lapis Lazuli*, Phlegme and black choller: Sena, Epithymum, Polipodie, black Helleborе, purge choler, Phleame, and Melancholy, the latter Phyſitians have drawne other medicines into uſe unknown to the Ancients, prepared of Venus Mercury and Mars.

CHAP. XII.

Of Medicines that cauſe vomits.

SEcondly amongſt evacuating medicines are ſuch as cauſe vomitings, which indeed evacuate the ſtomack immediatly, yet if they are too ſtrong they draw the neighbouring Bowels and the greater veines, they performe that for the moſt part by a peculiar propriety, by reaſon of which they have an inclination upwards, yet ſome of them for a manifeſt cauſe, namely becauſe they ſwim in the ſtomack and oppreſſe it, and looſen the Orifice of the ſuperior ventricle, ſuch are all fat and oily ſubſtances. But ſome are gentle, others indifferent ſtrong, others very ſtrong. *Things cauſing vomits.*

The gentle are ſimple water, or Barley water luke warme, eſpecially with a little honey, and ſalt, dranke by little and little at one draught, common oyle luke warme, foure ounces or ſix ounces, Hydromell largely taken, Hydreles to ten ounces, Figgs newly eaten, and cold water dranked after. *The moſt gentle.*

The middle ſort are the Flowers of Dill, as alſo the Seed of Orach, and of Raddiſh, they are given from two drachmes to halfe an ounce, the root of Aſarabecca, and Orach are given in the ſubſtance to foure ſcruples; Bittony, the middle barke of a Walnut, to a drachme, in infuſion to halfe an ounce, the greene pill that cover the walnut ſhell dryed in an Oven, from halfe a drachm *The middle ſort.*

a drachm to a drachm, the juice of Raddiſh to two ounces, the tops of green Elder, (or the berries.)

The ſtrongeſt. The ſtrongeſt are the Rootes, of Spurge, of Sow-bread, to a drachm; in infuſion, from a drachm to two drachms; the Rootes of white Hellebore, in infuſion from halfe a drachm to a drachm, adding cardiacks, Flowers of Danewort, Barkes, or Roote; Flowers of broome, ſeed of broome, from two drachms, to halfe an ounce, the ſeed of ſpurge, the husks being taken of, ten in number, a water to provoke vomit made of green Walnuts and Raddiſh Rootes, Ana, parts 2. of Vinegar part 3 ℈, being diſtilled, is given to two ounces or three ounces, white vitriol, Salt of vitriol, glaſſe of Mars, and Flowers, crocus Metallorum, and from thence a water to cauſe vomiting prepared by Rulandus, Mercurius vitæ *&c.* are in uſe with the chymiſts.

Chap. XIII.

Of Medicines cauſing Urine.

Diuretick. OF Diuretick medicines, or ſuch as cauſe Urine, ſome are properly ſo called, namely ſuch as eaſily penetrate into the veines, and poure humors into them, they cut, and ſeperate the thick from the thin; that they may ſo doe, tis neceſſary that they be hot in the third degree, and of a moſt thin ſubſtance, of this kind are, the Rootes of ſmallage, Fennell, Parſly, Butchers-broome, Sparagus, Valerian, Burnet, Spikenard, Aſarabecca, Wormewood, Agrimony, Nettles, Ground-pine, Cheruil, Rue, Scordium, Anniſeed, Fennell-ſeed, Hart-wort, cheruil, Gromwell, Saxifrage, Juniper-berries, ſweet Almonds, Peach-ſtones, and water diſtilled out of them with Malmeſey Wine, Cubebs, Garden-creſſes, the wood caſſia, Medicines of ſpirit of Salt, and of Tartar, others leſſe properly ſo called, whereof ſome are hot but doe not attaine to the third degree, as Turpentine, Parſnips, Dill, Venus haire, freſh gathered Rootes of Smallage, others are moiſt alſo which ſupple, or looſen the paſſages of Urine, as Licoriſh, march Mallowes, the ſeed of Mallowes, others are cold, which have an abſterſive faculty moderate, attenuating, and refrigerating force, ſuch are Pippens, Gourds, Cucumbers, the ſubſtance and ſeed therof, Barley, Strawberries, whey, juice of citrons, and Lymons, others beſides that they are of thin parts, they afford much aqueous humidity, as thin white

white Wine, the ſeed of Melons, Gourds, cucumbers, waters of baths.

CHAP XIV.

Of Medicines provoking ſweats.

Provoking ſweat.

IDroticks, or Sudoriphicks are endued with a greater tenuity of parts, then Diureticks, they are hot alſo and beſides they penetrate into the fartheſt parts of the body and cut humours, they attenuate, rarify, and turne into exhalation, and what ever is in their way, they carry with them, and drive into the extremities of the body, or if ſome amongſt them are cold, or aſtringent alſo, by a hidden quality, whereby they reſiſt poyſon, they drive malignant humours to the ſuperficies of the body.

Such are *Carduus Benedictus*, Venus haire, Rootes of Fennell, Smallage, Parſley, Burdocke, Burnet, Angelica, Tormentill, Worm-ſeed, China, Flowers of chamomill, the wood guaicum, Saſſafras, Iriſh ſlat, Harts-horne, juice of Elder, Bezoarticum, Minerald without, and with Gold fixed ſteele, or Diaphoretick, and copper, and ſteele fixed, Diaphoretick, Mercury precipitate, alſo to provoke ſweates, Laconick bathes, of ſweet water are profitable, alſo fomentations, as warme Bottles, and hot Tiles, Frications, Vnctions and ſuch like.

CHAP. XV.

Of Diaphoreticks and Medicines, diſcuſſing wind.

Diſſolving.

DIaphoreticks, with the Greekes are the ſame, with diſcutient and diſſolving medicines with the Latines, and they drive out through the inſenſible paſſages, and ſecret pores, all ſuch things are hot and dry, and have power of converting humours into Vapours, and of opening, and dilating the pores of the skin, ſuch are camomill, Melilot, Dill, Fenugreek, Rue, ſeed of Flax, Lupines, Galbanum, dryed Pitch, Storax, Brimſtone, Sagapenum, and ſuch like which are lately named.

Diſcuſſing of wind.

Next to theſe are they which are called, diſcuſſers of wind, which as well can diſcuſſe, and conſume wind within the body as when it is moving to the extremities, ſuch are, beſides

beſides thoſe already named, century the leſſe, which wonderfully conduceth to the diſcuſſion of wind, upon the Hypocondries, Anniſeed, Bay-leaves, Pennyroyall, Fennel-ſeed caraway-ſeed, cummin, Ammi, carrot ſeed, Parſley, *Agnus Caſtus*, Dill, Juniper-berries, Bay-berries, Galingale, cloves, Mace, the Pills of Oranges, the genitalls of a Beaver.

CHAP. XVI.

Of provoking courſes, expelling the ſecundine, and a dead child.

Bringing downe courſes. Such as bring downe menſtrous, are either improperly ſo called, to wit, ſuch as corroborate the expulſive faculty, or further the generation of blood, or elſe attenuate its thickneſſe, and viſcidity; or properly ſo called, which open obſtructions of the wombe, and draw down blood to the wombe, which opening and cleanſeing things moſt powerfully performe, and ſuch as are not of a very thin ſubſtance, leaſt through their tenuity of ſubſtance, they ſhould preſently be ſcattered, and therefore there is moſt conveniently provided for this purpoſe, things which have ſome bitterneſſe, mixt with Acrimony; ſuch like are Sage, Pennyroyall, Dittany, or Garden-ginger, Marjerom, Rue, Calamint, Wild-Marjerom, Birtony, Spike, Aſarabecca, Mugwort, Germander, Worme-wood, Ground-pine, Rootes of red Madder, Birth-wort, Fennell, Parſley, Flowerdeluce, Eringo, Lovage, Burnet, Saffron, Flowers of white Violets, Parſnips, Juniper-berries, of Bays, Flowers of Camomill, Cinamon, Mirrh, native Borax.

Expelling Secondines and a dead child. The ſtronger of theſe drive out the ſecundine, and expell a dead child, which therefore are called caſters out, and drivers out, or Ejaculators, becauſe they drive out the young; ſuch like are, Aſa fætida, caſtor, Myrrh, and thoſe things which are variouſly applyed externally, as Opopanax, Galbanum, Amoniacum, Sulphure, the ſmell of the burnt hooſes of an Aſs, Coloquintida, Rue, wild Cucumbers, the gall of a Cow, or Calfe.

CHAP

Chap. XVII.

Of Medicines that breake the ſtone.

Since the common Doctrine of the generation of ſtones is ſuſpected, as is ſaid before in the ſecond Booke, page 2. C. 9. alſo the common opinion which ſtrives to ſupport it concerning the power of diſſolving ſtones is ſuſpected, and therefore here we deſervedly fly to the propriety of the whole ſubſtance, which nevertheleſs is not inconveniently drawne, from a Saline or ſalt force, the medicines breaking the ſtone are Ground Ivy, Bitony, Pelitory, the Rootes of Reſtharrow, the five Diureticks, the Rootes of Raddiſh, Saxafrage, Burs, bitter Almonds, cherry-ſtones, the ſtones of Apricocks, the Kernells of Medlars, Grumwell, Parſnips, cinamon, Gourds, crabs ſtones, Goates blood, Lapis Judaicus, the Rootes of Sparrage, Snales, Lignum Nephriticum. *Breaking the ſtone.*

Chap. XVIII.

Of Errhines, Sternutatories, and Apophlegmatiſmes.

Errhines draw out phlegme into the Noſtrills, not from the ventricles of the braine but ſuch as is about the membranes covering the braine; they performe that by their heate and vitroſity wherewith they are endued by their extergent and ſharpe faculty; ſuch are made of Marjerom, Rue, Pimpernell, cabbage, Beetes, Rootes of Flowerdeluce, Fennell flowre, Penneroyall, Wild Marjerom, Hore-hound, Sowbread, Wild Cucumbers, celendine, Fell-wort, the juice of double or ſingle Paſque flowre. *Errhines.*

Prarnicks, or Sternutatories, or ſuch as cauſe ſneezing, are thoſe which by their Acrimony irritate the expulſive faculty of the braine, which being wearied deſiring to expel the medicine, ſends out together with it the excrements, which remaine about its membranes, and in it ſelfe, ſuch like are certaine Errhines moſt curiouſly powdered, and likewiſe white Pepper, Ginger, white Hellebore, baſtard Pellitory, Caſter, Cloves, ſneezing-wort, Euphorbium. *Sternutatories.*

Laſtly, Apophlegmatiſmes, Maſticatories, or Gargariſmes are thoſe which being put into the mouth and touching the *Apophlegmatiſmes.*

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Palate, draw excrements from the braine into the Palate and mouth, and that by their whole ſubſtance, or by their heate and Acrimony, which poure out and melt excrements, and ſtimulate the expulſive faculty of the braine to expell, ſuch are made of Maſtick, Raiſins, Hyſſop, wild Marjerom, ſweet Marjerom, Penneroyall, Caſter, Cubebs, the barkes of the Rootes of Capers, Ginger, Fennell flowre, white and black Pepper, Muſtard-ſeed, Turbith, Staves-acre.

CHAP. XIX

Of things cauſing ſpittle.

Expectorating things. THoſe things which helpe to evacuate humors in the breaſt and lunges when they are therein contained, ought to be cutting and attenuating and ſomewhat ſharpe, that they may render what is thick thin, and what adheres by reaſon of viſcidity, may be cleanſed, leaſt the thinner parts being reſolved, the thick ſhould be left behind and become unfit for expulſion, nor ſhould they be too ſharpe leaſt they ſhould ſtir up the cough, ſuch are made of Hyſſop, Venus haire, Scabious, Raiſins, Horſe-hoofes, the Roote of Elecampane, Birth-wort, Angelico, Flowerdeluce, Wake-robbin, Squills, Licoriſh, Raiſins of the Sun, Injubes, Sebeſtens, Almonds, Figs, Piſtack-nuts, the ſeed of a ſilke worme, Garden Creſſes, Water-creſſes, Hartwort, Nettle-ſeed, Sperma ceti.

CHAP. XX.

Of Medicines killing and expelling wormes.

Killing wormes. LAſtly thoſe things may conveniently be referred to this ranke which kill wormes, whither they doe it by bitterneſſe, or by a peculiar or occult force, ſuch are century the leſſer, Wormewood, the Herbe Lung-wort, Mints, the leaves of Peach-Trees, Rue, Purſlan, Sorrell, Lyons-Tooth, Cynæ or Santonici an Herbe like Southernwood, the ſtalkes of Leekes, Orach, Plantaine, Lupines, Rootes of Grapes, Ferne, Gentian; Elecampane, bitter Almonds, Peach-ſtones, Aloes, Syrup of Pomgranates, Citrons, Hearts-horne prepared, Bole armenick, Myrrh, whither they are taken inwardly or externally applyed to the Navill.

CHAP.

CHAP. XXI.

Of drugs good againſt Poyſon.

IN the laſt ranck of Medicines, we will place thoſe things which reſiſt Poyſon which are called Alexiteria or Alexipharmaca, all of theſe if we rightly weigh the matter, performe that which they doe either with their whole ſubſtance, as they ſay, or elſe by ſome occult propriety: Medicines againſt Poyſon are two-fold, ſome are generall, and common, which reſiſt all manner of Poyſons, and ſtrengthen and comfort the heart and vitall Spirits,, ſo that they cannot eaſily take infection, others are particular which oppoſe ſome peculiar ſort of Poyſon. *Drugs good againſt Poyſon.*

Common Antidotes againſt Poyſon are Angelica, Carduus Benedictus, Valerian, Dittany, Scabius, Divells-bit, Swallow-wort, Burnet, Tormentill, Rue, Germander, Sorrell, Worme-wood, Plantine, Marigolds, Speed-well, or Fluelin, Vipers-graſs, Zedoary, Gentian, Juniper-berries, Citrons, Bezoar ſtone, Unicornes-horne, Harts-horne, Bole armenick, Iriſh-ſlat. *Common Antidotes.*

Of thoſe Alexipharmicks which reſiſt particular Poyſons, many are delivered by Dioſcordies in his ſixth booke. *Proper.*

CHAP XXII.

Of the manner of finding out the vertue of Medicines.

WE come to the knowledge of the faculties of theſe Medicines two wayes, by reaſon, and Experience; and indeed eſpecially by experience; for the force of ſome Medicines, as acting in their whole ſubſtanc, is found out only by experience and although reaſon may ſeeme to perſwade ſome things, yet unleſſe it be confirmed by experience it is to be rejected; truly thoſe indications are not plainly to be rejected which are taken from externall paſſions of things, from the place, and Aire, from colours, and ſmells, and remarkeable ſignes, yet in many things they faile, unleſs experience be joyned: nay experience alone often ſufficeth, for thoſe things which are cleerly manifeſt to our ſenſes, leave nothing of doubt, yet if that which is found by experience, *How the vertues of Medicines may be found out.*

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Manner of experiments.

can be confirmed by reaſon, that is, by much the moſt certaine knowledge, but when reaſon ſeemes to be adverſe to experience, tis better to cleave to experience, yet experience ought not to be taken raſhly, nor to be taken from one example but many obſervations, and thoſe are choicely to be collected, which may be done if the medicine acting, and the body or ſubject ſuffering, be diligently conſidered.

In medicines, eſpecially ſuch as are taken from Plants, the ſubſtance, quantity, quality, age, time of gathering, native place, and ſuch like, are to be conſidered, and eſpecially to be regarded, whether it have got any ſtrange, and acquired quality, but it ought to have its owne vertue whole and entire.

The ſubject is mans body, and all medicines are ſaid to be ſuch, not abſolutly, nor in reſpect of other things, but in regard of mans body, whence it comes to paſſe, that experience ought to be made, of the primary qualities in a temperate man; in others for the moſt part, eſpecially thoſe that are ſick, and thoſe that are affected with me ſimple diſeaſe, and not a compound, leaſt experience ſhould be put out of its courſe, nor is it enongh, that experience be made once, or in one body, but obſervation ought to be made in many that are alike in Temperament, age, ſex, ſtructure of body; it is alſo to be conſidered whether any Medicine, performes any thing primarily, and by its ſelfe, or by accident.

THE

THE

FIFTH BOOK,

PART. I.

SECT. II.

OF

CHYRURGERY.

CHAP I.

Of Chyrurgery in generall.

AFter we have ſpoken of the faculties of the medicines, it remains that now we ſpeake of Chyrurgery, and that we propound all the operations, which are made by the hand, and Chyrurgicall inſtruments, in mans body, for the recovering of healths ſake, we will propound the operations which often are the matter of helpe.

Chyrurgerys what.

But although the word Chyrurgery, which ſignifies manuell operation, may be taken of all actions, which are done by the hand, yet according to Preheminency, tis taken for that part of Phyſick, in particular, which by the artificiall uſe of the hand, cures diſeaſes of mans body, which are contrary to nature, and ſo Chyrurgery is imployed only in the externall parts of the body, and exerciſed in thoſe internall parts alſo to which the hand, and Chyrurgicall inſtruments can reach.

Sith hence three things are required to performe an action, the Agent, the Subject patient, and thoſe things by which

the action is made, in Chyrurgery alſo, theſe three are to be
Diſcription of a Chyrurgeon. conſidered, the Agent, is the Chyurgeon, which Celſus in his ſeventh Book, and the beginning of that Book thus deſcribes, a Chyrurgeon ought to be a young man, or a middle aged man, with a ſtrong hand, ſtable and never ſhaking, and as ready with his left hand as with his right, ſharpe, quick and cleere ſighted, not daunted in courage, not pittifull, as he is willing to cure, whom he takes in hand, one that may not by the clamour haſten his motion more then the matter requires, nor leſſe then is neceſſary, let him cut, but let him performe all things, as if no others paine could trouble him by their crying.

The ſubject. The ſubject is mans body, the knowledge exactly whereof, and the figure of every part, and their ſcituation, and concoction is required in a Chyrurgeon, which often defection of bodyes will bring forth.

Thoſe things by which an action is performed, are inſtruments; and ſome other things are neceſſary for performance of operations, as the place, light, garments, Servants, ſtanders by.

Inſtruments. The Inſtruments are various, yet the cheife are, an inciſſion knife, a Pen-knife, a paire of Tongs, an inſtrument to pluck haire from the body by the Rootes, called *voſſella*, a Probe, a broad Probe, a Seaton needle, a Needle, Threed, a Hooke, a little hollow Inſtrument of Chyrurgeons, boared, a Phillet, Swathing-bands, Clouts, and little rags, Lint, Sponge.

Place. The place is to be choſen, which is moſt commodious for Chyrurgicall operations, and wherein the ſick may not be hurt, by wind, cold, heate, or any externall accident.

Light. The light whether it be that of the Sun, or ſome other, ought to be ſuch, that the Chyrurgeon may accurately diſcerne that part, which he dreſſeth, leaſt he ſhould offend himſelfe or the patient.

Servants and ſtanders by. The Servants, and ſtanders by ought not to be diſpleaſing and troubleſome to the ſick, but ought to be attentive to the commands of the Chyrurgeon, ſilent, and which is their duty, faithfull to performe his dictates.

Garments. The garments of the Chyrurgeon ought to be ſo made, that they may no way hinder him in his operation.

The Chyrurgeon himſelfe ought to endeavour as much as in him lyeth, to performe his operation preſentſy, ſafely, and with delight, and as much as poſſible without paine.

All

All the Chyrurgicall operations are five, a putting together or conjunction of ſeperated parts, a correcting and ſetting right of thoſe things which are out of joynt, or out of their place, a Solution of continuity, an Extirpation, or cutting off of Superfluities, and a Reſtitution of deficiencies, of which now in their order. *Chyrurgicall operations how many.*

CHAP II.

Of putting together, and binding in generall.

POſition is that operation of Chyrurgery whereby the parts, are joyned together, which were ſeperated contrary to nature. *Setting or putting together.*

Deligation or binding is neceſſary to this as alſo for the moſt part to other Chyrurgicall operations, to which belongs faſciation, or Swathing-bands, and the putting in of Tents, fitting of Splints to bind about wounds, and the action it ſelfe or putting in of a round ſtring to cleanſe the wound, aright or true placing of the part bound. *Binding.*

Of Swadling.

A Swath is a long and broad band (or liſt:) faſciation is a convenient circumduction and convolution of the ſwathing-band about the member to be cured, the moſt convenient bands are linnen, which are cleane, light, ſoft, which have neither ſeames, nor knots. *Swathing.*

The differences of Swathing-bands are various, which are taken from their figure, length, and breadth, they differ in reſpect of figure, becauſe ſome are rolled up thick, long and equally broad, and rolled up into a round circle, others are rent, or broken, which conſiſts only of one linnen cloath, but that cut or parted, either in the middle or outſides, others are ſowed together, which are Swathing-bands and Ligatures ending in divers heads, and repreſenting ſeverall figures; Swadlings differ in longitude, becauſe ſome are longer, others ſhorter, and ſo it is of latitude. *Differences of it.*

There are two kinds of deligation, the one ſimple, the other compound or manifold, the ſimple is either equall or unequall, the ſimple that is equall, is only round, which incompaſſeth *Differences of deligation.*

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paſſeth, the affected member, in a round circle, alike every way, without declination, unto either part, but is ſimple equall, binding is divided into Aſciam, and Simam, which only differ in reſpect of more and leſſe, becauſe Aſciadeclines a little from a round, but Sima, much of ſeverall wayes of ſwathing are many differences, taken from the ſimilitude of the parts which are bound, or from the ſimilitude of certaine Animalls or other things, of which *Galen* in his Book of ſwathing.

The manner. As for what belongs to the manner, ſometimes the binding, is to be begun from the part affected, other times from a ſound part, neereſt to the part affected, ſometimes from the oppoſite part, moreover ſometimes ſwathing is to begin, at the end of the ſwathing-band, ſometimes at the middle, thirdly ſwathing-bands ſhould neither preſſe the part too hard, nor ſuffer it to be looſe, for when tis too looſe, it doth not ſufficiently containe the part, and when it is too hard it cauſeth paine and inflamation.

The uſe. The uſe of ſwathing is twofold, one by its ſelfe, which is to draw together the disjoyned parts, to contract thedilated, to direct the diſtorted, to containe the member framed and the adjunct parts, to reſiſt a humour flowing, or to repreſſe a humour which is already flowne, or to force blood to extenuated parts; but that which begins in a place affected repreſſeth from the part, that which begins from a ſound or oppoſite, forces towards the part, the other is by accident, which is to keep on medicines applyed to any part.

Of Cerots or Bolſters.

Splents made up with Linnen. SPlenia, are Plaiſters ſo called, from the figure of the Spleen, the Ancients calls them, Plumaccoli, but now they are called Pulvilli, Plagulæ, they are linnen rags folded up together, which are put to the part, ſome according to longitude right, others oblique, others tranſverſe, and ſome doubled, ſome threefold, others fourefold, ſometimes ſingle, and ſometimes more, according to the uſe which they are put for to ſtrengthen, the binding members, unequall in thickneſſe, or thin and hollow parts are to be equalled, and filled up; that the whole dilagation may be equall, the parts alſo

are

are to be defended from the paine of the ſwathings and bands, and the Sanies, and thin matter, is to be expreſſed and imbibed.

Of Splents.

SPlentors, or ſplents, which are wont to be fitted to broken bones, and ſuch as are out of joynt, after they are ſet, which were prepared by the Ancients, of wooden-ſlips of a cane, but now they are prepared of the wood, of Firre, or ſplentors of ſome other wood, or of the Barks of Trees, or Paiſtboard, and hard Leather, which may anſwer to the parts greivouſly wounded, or broken, or put out of joynt, eſpecially to the hands, ſometimes to the cheſt of the body, ſo made up, of light wood, that they may anſwer to the figure of the member, or of white thin plates of Iron, or tough skin, or ſhell, Paper glued together, and fitted, ſo that they may containe, the parts drawn and joyned together, leaſt that they ſhake or totter, and ſlip out againe, and ſlide out of their places. *Splents.*

Of Binders.

LAqueus, is a band or binder ſo knit together that being drawn in or preſt by weight, is ſhut, or cloſed, the uſe thereof is to extend broken limbs, or ſuch as are out of joynt, to continue ſuch as are put right in their places, to bind the parts and draw them in ſtraight, alſo to bind the heads of veſſells out of which blood flowes, the differences of them may be ſeene, in *Oribaſius de Laqueis*. *Swathing-bands.*

Of fit placing of a member that is bound.

THe convenient placing of a part that is bound conſiſts in this, that it may have that poſition, which may preſerve its naturall figure, and may be without paine, and may be convenient for the cure of a diſeaſe. A member ſhall be ſo placed

placed if all its parts, bones, muſcles, nerves, veines, and arteries, may enjoy that poſition whereby they neither are diſtended, nor preſſed; if the member be ſet or placed ſoftly, and equally; if the orifice in a hallow ulcer, or wound, tend downeward as much as may be, that the quitture may be purged out; laſtly if moderation be obſerved in ordering of the binding ſo that it be neither too ſtraight nor too looſe.

But collocation is made either by putting in, or by ſuſpending; a member is fitly reſtored, when tis underpropt with certaine ſtayes, with feathers, wooll, or ſoft rags, that it may be quiet and leaning or reſting on ſomewhat, it ſhould lye allwayes even, and ſoft, leaſt it either ſhould be ſhaken by motion, or extended by reaſon of flux, or leaſt the ſanies and thin matter ſhould be retained in it: the member is ſuſpended, either when the ſick keepes his bed, or newly begins to walke, and eſpecially the hand, and the arme are to be kept in a Swath, which Celſus calls, *Mitellam.*

Chap III.

Of Coaptation of broken bones.

Setting how manyfold.

Syntheſis, which joynes together ſeperated parts, is either of bones, or of fleſhy and ſoft parts, ſetting together bones is either a fitting thoſe that are broken, or a reſtoring thoſe which were out of joynt.

Of broken bones.

The putting together of broken bones, is performed by two operations, whereof the one is called Caraſtaſis, Antitaſis, or extenſion; the other is called Diorthoſis conformation, or tis called repoſition of the bones, into their owne places; extenſion is either equall, or unequall, equall is that wherein the member is equally extended from either ſide of the broken bone, but that is ſaid to be unequall, when the member is more extended on one ſide; that

Extenſion.

ſide ought to be more extended, wherein the broken bone is contained but no man can rightly performe thoſe operations, unleſſe he knoweth the nature, and differences of bones and fractures, for when a muſcle is drawn back to its head, and ſo carries with it that part of the member which is joyned to it, firſt there is need of extending, which the Greekes call Antitaſis, which ought to be done, as neere as may be, with little or no paine, and that is performed by one worke, or more, and that either with the hands only, or raynes as it were

were ſwathings, or inſtruments, according as the bone is more or leſſe broken.

Diorthoſis, or conformation, is a reſtitution of a broken bone into its place, aud a right fitting of the extremities of the broken bone, which is performed if after the member be ſo much extended, that in putting it back the bones cannot touch one another, the Chyrurgeon is to take hold of the member on both ſides, with both his hands, and that which is ſlid into the right part he ſhould thruſt into the left, and the contrary, and what ever hangs out of the bones, he ſhould put back into their owne cavities, untill the extremities of the bone are rightly united, and thruſt back, into their places, and the member hath recovered its naturall figure. *Strengthning.*

The cure of a fracture with a wound.

But if the extremities of the broken bones, breake through the skin, that they hang out, ſome convenient inſtrument of Iron, like a barr, is to be uſed, to force the broken bones into their place, but if any particle of a bone ſo hang out, that it cannot eaſily be put into its place, it is to be cut off with a ſharp paire of ciſſars, or to be filed off with a file, that it may be ſhorter, neither let it any more hinder the repoſition: in ſuch a fracture which is joyned with a wound, if any thing ſtick betwixt the broken bones, which may impede their glutination, whither particles of a bone, or any thing whatſoever, it is to be taken away without violence; when the bones are rightly placed, the extenſion is to be remitted by degrees, and with convenient binding and placing of the member, and ſo to be performed, that the bones united and rightly framed may remaine ſo.

Yet before ſwathing-bands are put about a broken member ſome medicines uſed to be applyed, to hinder the Flux of humours and inflamation, and to farther the generation of brawny fleſh, of which, read the Inſtitutions.

Manner of ſwathing or deligation.

The deligation is to be performed, neither too ſtraight nor too looſe, with two ſwathing-bands, whereof the firſt is to begin above the fracture, and to be bound about it, twice or thrice upwards; the other, being longer by halfe, is to be rolled about the contrary way, and is to be put on firſt upon the fracture, and beginning from thence to be rolled about ſomething downeward and againe is to be carried above the fracture, and laſtly towards the

the ſuperior ſound part, but in fractures of great bones, that the deligation may be the more ſtable, and the bones firmely put into their places, may remaine ſo, Bolſters or croſſe folded cloathes, and ſplentors, and Plates, are alſo to be uſed, moreover the member is rightly to be placed, gently, equally, and inclining upwards, ſo that the part may obtaine its naturall poſition, to which purpoſe, both a hollow Pipe, and Cane, or Plate, or ſuch like, are ſometimes to be applyed, the deligation being well performed, is to be looſned the third day, the fracture to be cleanſed, and bound up againe, and this is to be continued untill hard fleſh be grown, and the fracture healed, but if a fracture be joyned with a wound, after the extenſion is abated, and there is convenient conformation of the broken bones, the lips of the wound are to be drawne together, and being drawn, to be kept together, yet ſo that the ſwath-bands be not too ſtraight bound, which ought to be ſlacker, and to be extended on both ſides, beyond the lips of the wound, leaſt paine ſhould be ſtirred up, but in the following deligations, a hole, or vent, may be cut above the wound, both through the Plaiſters, and ſwathing bands, that it may be perfectly cured.

Chap IV.

Of reſtoring of bones that are out of joynt.

Syntheſis which puts bones ſlid out of their places into them again, callethis Arthrembla, this is performed three wayes, either with the hands of the Chyrurgeon which is convenient in tender bodyes, and when the hurt is newly done, or with certaine common inſtruments, as by the helpe of raynes, ſwathing-bands, *Laqueorum, ſcalarum, ſedilium, forium biſidarum*, and it is convenient for children, Women, and thoſe whoſe muſcles are grown ſtronger, and luxations have been longer, or by inſtruments, certaine Engines, peculiar for that purpoſe, is performed, and are uſed for ſtrong bodyes, and old luxations, and altogether on thoſe, which cannot be reſtored by the two former wayes, of ſuch Engines, you may ſee *Hippocrates*, of joynts and fractures, and *Oribaſius* of Engines intititled, *de machinis*.

But after what manner ſoever, reſtitution of a bone out of joynt is performed, foure operations are neceſſary to doe, it

But

firſt Extenſion, Repoſition, Deligation, and Confirmation, and Collocation, of the members ſo replaced. *What things are required for the ſetting of bones.*

Extenſion, is made, either by the hands of the Chyrurgeon, or his Servants, or by raynes, bindings and ſwathings, or Inſtrumenrs, and Engines, as is ſaid.

Extenſion being made, the bone which is ſlid out of its place is to be put into it againe, which worke the Greekes call, Moclia, and Mocleuſes, namely a compulſion of a bone that is out of joynt and extended into its owne place, which being ſlid from or out of the end, in the ſame way which the joynt ſlid, it ought to be put back to that place out of which it ſlid, whereof there are ſo many wayes as there are joynts. *Repoſition.*

The joynt being reſtored, the intention is to be remitted and the member afterwards, ſo to be ſtrengthned that the joynt cannot againe goe out of its place, which for the moſt part is performed in the ſame manner as in fractures. *Deligation.*

Laſtly the member is to be placed gently, and equally, and to be kept unmoved till the fourth or ſeventh day. *Collocation.*

Chap. V.

Of the putting together of the ſoft and fleſhy parts.

Setting of ſoft parts.

THe fleſhy and ſoft parts, disjoyned preternaturally are joyned together, either without any diviſion of them, or by ſolution of their continuity, that putting together, which is performed without any diviſion of parts is various, and of different parts, and firſt of all ſometimes certaine parts being ſlid out of their places, come to be put into their naturall place againe, ſuch are the guts, and paunch, which ſometimes by the wounds of the paunch come out, ſometimes the Rim of the belly being looſned, or broken, falls into the groine, and cods, or breake out at the navell, hitherto belongs the wombe, and gut Rectum, which ſometimes alſo fall out of their places, and therefore all theſe are to be put into their places againe, but how the reſtoring of each ſingular part ought to be performed, is ſpoken in our Inſtitutions, and 3 *d.* Book of praxis.

wounds, how ſet.

Moreover, for what belongs to the manner of joyning together, wounded parts, without diviſion, the lips of the wounds, ſince they are diſjoyned, are to be brought and joyned together, and when they are brought, being joyned are to be kept together, which may be done too wayes without ſolution of continuity, either by

by ſwathing, or gluing, or a ſuture with the Glue, and in-
Swathing. deed as for ſwathing that is convenient being made for Wounds according to the length of the member, and not very deep, and when we hope by faſciation only, the lips may be joyned. A ſuture is not raſhly to be appointed, and indeed if the wound be long, narrow, and ſtraight, ſwathing is better, that is, deligation of three fingers breadth is enough. The manner of faſciation may be ſeen in the Inſtitutions.

A ſuture by glue. But when in tranſverſe and long wounds, faſciation alone is not ſufficient to draw and continue the lips of the wound together, there is need of a ſuture; but when in wounds of the face prickings cauſe deformities, and in other long and great wounds before the glutination of the wound the ſutures are broke; tender bodies alſo cannot indure a ſeam which is made with a needle, a certain lutination or ſuture is invented by glue, by which without any diviſion of the wounded part, or ſtitching with a needle, the lips of the wound are drawn together. Proviſion to perform this may be ſeen in the Inſtitutions.

A ſuture by a needle. But that conjunction of wounded parts which is made by ſolution of continuity is performed with a ſuture and pipes to the ſuture, three Inſtruments are to be uſed, the Needle muſt be triangular and thred ſtrong, leaſt it ſhould be broken, nor too hard, but ſoftned with Wax, equall, or even, the Pipe ought to be Gold mixt with Copper, or Silver, with a hole in the end that the Needle may paſſe through the hole, and the Pipe holding it, and being put to it, it may ſtay the lips of the wound, leaſt whilſt the needle is put to it it ſhould be ſtirred, neither ſhould it be lengthned to the protraction of the thred and needle: the manner of the ſuture is two-fold, the one is that which is performed in the ſame manner as Skinners or Furriers uſe to ſew their skins, being fitted for wounded guts; the other is thus, in the middle of the wound, with a Needle drawing a double thred, the lips of the wound are tied, and a knot being made, the thred a little above the knot, is to be cut off: Moreover in the middle ſpace on both ſides another hole is to be pricked with a double thred, and a knot being made in the like manner, tis to be cut off, and that is to be continued till the lips of the wound be rightly ſowne together,
Fibulæ. and brought to mutuall contract.

There is mention alſo amongſt the ancients of a Pipe, but

but what it was for the moſt part is unknown at this day, ſince it is incredible that thoſe iron hooks ſhould be fixed to the skin, ſince that would have cauſed intollerable pain, the opinion of *Gabriel Fallopius* is more probable, who teacheth that pipe to be that ſuture newly deſcribed, which is called *Interciſa*, and at this day is moſt frequent, which is drawn with a needle drawing a double thred through both the lips of the wound, and above the wound, with three involutions, both the ends of the thred are tied together and knit into a knot. But the word *Fibula* ſignifies every Inſtrument that joyneth things together. And thus much of the Chyrurgicall operation which is of putting or joyning together.

CHAP. VI.

Of correcting of Bones that are repreſt or ſet awry.

THe other Chyrurgicall operation is *Diorthoſis*, or the putting right, a correcting of bones put awry, or writhen; The Skull if it be depreſt, which often happens in Children, is to be reduced into its naturall condition and place, either with Cupping-glaſſes, the haire being ſhaved with a great flame put to them, and the mouth and noſtrils being ſhut, the Patient by expiration, together with a violent ſtriving, by putting *Cucurbita Cornea*, out of which the mouth and noſtrills of the ſick being ſhut, a ſtrong man may ſuck up aire, or with ſome Plaiſter ſticking very faſt to the skin, which is to be applied, and when it cleaves very faſt then to twich it up, or with an elevating Augur, or trepan, or by perforation and elevation of the Skull.

Of the noſe

The bones of the noſe being broken or bruiſed, are to be drawn back by the finger, or a Specillum put into the noſtrill, and without are to be directed and put into frame by the hand, and afterwards a tent is to be put into the hollow of the noſe or noſtrill.

Directing of contracted members.

A member being contracted firſt it is to be ſoftned, afterwards either gently to be bowed, or with an Inſtrument fit for that purpoſe it is tenderly and by degrees to be drawn in, or ſtretched out.

The

Direction of crooked Legs or Armes. The Legs or Armes in Infants being awry, the beſt way of directing them is, that they may be reduced by handling and directing them gently with the hands and by degrees, and with ſwathings drawing them the contrary way to that which they are in, and by rolling the ſwath-band by little and little they may be reduced into their naturall and due figure, but if the ſwathing be not ſtrong enough, and that the child deſire to goe, little bootes like bagging ſhooes in that manner as *Paræus* hath deſcribed them in his twentyeth book of Chyrurgery, Chap. the eleventh, are to be fitted to his Legs; and thus much of the ſecond operation of Chyrurgery.

CHAP. VIII.

Of disjunction in generall, and of diſſection of ſoft parts.

The kindes of diviſion. THe third operation of Chyrurgery is disjunction, which devides thoſe parts of the body which are joyned and continued together, of the firſt of theſe there are two kindes, Section, and Uſtion; Section, ſome is of ſoft ſome of hard parts; and of ſoft parts according as it is made by cutting or pricking, in particular it is called, Tome, or cutting, or Paracenteſis, pricking; of the bones and hard parts there is perforation or boaring with a wimble, ſhaving, filing, ſawing; laſtly Uſtion is common both to hard and ſoft parts, all which operations are now to be explayned in their ſeverall kindes.

Opening of a veine. In cutting ſoft parts, firſt comes the opening of a veine, which is appointed for emiſſion of blood out of the body, in divers parts of the body, the proviſion and convenient preparations for that purpoſe may be ſeen in the inſtitutions.

Opening of impoſthumes. Moreover ſince that ſometimes the matter in tumours ſhould be changed into quitture, nor doth an impoſthumation, allwayes breake of its owne accord, and it is to be doubted leaſt the purulent matter retained ſhould offend the neighbouring parts, and bring rottenneſſe to the bones, ſometimes alſo there is venemous matter, and affects the way to the internall parts, or an impoſthumation or Ulcer neere a principle part, or joynts, may ſtop the fundament, oftentimes an Ulcer or impoſthume full of matteris to be opened with an Inſtrument, or by which opening ought to be ſo performed

as

as that the adjacent veines, arteries and nerves may not be offended; the Sanies either is included in a bladder, or elſe hath no bladder; if the quitture be not included in a bladder, let that part be wounded that the tumour may come to its height, and the skin is very thin, yet as neere as may be doe it in a declining part; the Inſtruments fit for cutting are, variety of Inciſion knifes, according to the variety of figures, and neceſſity of their uſe, the bigneſſe of the cut is to anſwer to the quantity and the quality of the matter to be emitted, an inciſion being made, and the matter in ſome part evacuated, leaſt the wound before the whole matter be let out ſhould cloſe up againe, tents are to be put in, nay if neede be, the wound muſt be dilated, and the part ſo bound up and placed, that the quitture may conveniently flow forth, but if the purulent matter be incloſed in a bag, the tumour according to its longitude if it be leſſe or cut athwart like, the letter X; if it be greater and the whole bagg with the matter in it, tis to be taken out and nothing of it to be left behind.

Thirdly Fiſtulaes alſo are often to be cut, which is done with a fit Inſtrument, which therefore the Greeks call *Syringotomon* that is a Pipe cutter, the manner of cutting may be ſeen in the Inſtitutions. *The cutting of a fiſtula.*

Fourthly parts alſo are ſometimes to be ſeparated which are joyned together from ones birth, after ones birth, whereunto belongs the cutting of the tongue when it is tyed, of eares when they are ſhut, of the fundament when it is cloſed, the opening of the private part of a female, the freeing of the prepucium when tis ſtraightned, a ſeperation of it from the glans, the opening of the top of the yard, or glans when tis cloſed, ſeparation of fingers growing together, the opening of the eye lids when they grow together, all which may be performed by cutting by a skilfull Chyrurgeon, and how it ſhall be performed, ſhall be explained in the Inſtitutions. *Seperation of parts that are joyned together preternaturally.*

Fifthly hitherto belongs ſcarrification, which is performed with an inciſion knife, or launce, and ſo that the skin may be opened only with gentle cuttings, or to wound it deeper, and that the more ready evacuation of blood may follow, cupping glaſſes for the moſt part with a burning flame are to be applyed, which may attract the humours more potently, yet ſometimes ſcarrification is appointed without cupping glaſſes, ſuch as that of Mallets which was in uſe amongſt *Scarification.*

the Ancients, and the ſcarrification, in uſe with the Ægyptians this day.

Cutting of veſſells. Sixtly, *Angeio'ogia* ſo called in particular, which is a cutting of the veſſells in the forehead, in the Megrim, and an inveterate Opthalmy, and when there is a perpetuall weeping of the eyes, whereby a veſſell, freed from the neighboring parts, is tyed with a threed on both ſides, and afterwards in the middle betwixt the two threeds it is to be cut *tranſverſe* according as the manner of operations is delivered in the Inſtitutions.

Cutting of the varices. To the cutting of veſſells belong the cutting of the *varices*, which was done by the Ancients, almoſt in the ſame manner as the cutting of the other veſſells laſtly propounded, as you may ſee out of *Celſus* the 18. Book Chap. the 13. *Paulus Ægineta* the 6. Book the 82. Chap. *Hier. Fabricius* hath another manner of Chyrurgicall operation, Tit. of Chyrurgery of the veſſells called *varices*, namely ſuch a one, the Inſtrument *Volcella* (which is to pluck up haire by the Roote) bowed or lifted up firſt with a hooke, he pricks the varices in many places, afterwards he puts to it a binding medicine repreſenting the figure of a candle, according to length of it, and upon this he puts the barke of a hollow reed or Cane,

Cutting of an Aneuriſme. To *Angeiologie* alſo may be referred that cutting of an *Aneuriſme*, out of *Paulus Ægineta*, 6. Book, 37. Chap. and 64. Chap. which may there be ſeen, which nevertheleſſe is ſcarce to be attempted unleſſe the Aneuriſme be very ſmall, and in an ignoble part, not having any great veſſells, ſince without great danger it cannot be performed.

Paracenteſis. Seaventhly, to Seperation or Section, belongs *Payacenteſis* by which word every pricking in generall was denoted by the Ancients, and tis performed in divers parts, and that either with a needle or with the point of a knife, this operation is famous and Ancient, in the paunch, to evacuate water of thoſe that have dropſies, which retaines the name of the generall name, the manner and reaſon of performing whereof in the Inſtitutions and in the 3. Booke of Practiſe part the 6 th. *ſec.* the 2 d. Chap. 3. is delivered; in water of the head the ſame pricking is ſometimes uſed in the skin of the head, and in the cods filled with water.

Cauching of Cataracts. Hereunto belongs the cure of a Cataract by pricking which is ſo to be performed as Celſus alſo deſcribes in his 7. Book and 7. Chap.

As

As alſo the cutting of the wind-pipe, which is called *Laryngotome*, which when it is neceſſary is to be performed with a launce, (the other parts being removed, under the Larynx betwixt the third and fourth ring of the Wind-pipe, the manner of operation is propounded in the Inſtitutions. *Laryngotome.*

As alſo the cutting of the breſt, in an Empyema, or an Ulcer or impoſthume, in the cavity of the breſt, which is performed on one ſide of the breſt, betwixt the fift, and ſixt rib, and how it alſo is to be performed is explained in the Inſtitutions. *An inciſion of the breſt.*

Moreover a Seton, or uſing of a Seton Needle by which operation the neck is prickt, and the wound kept open, that peccant humours may be evacuated by it, of which operation you may alſo read in the Inſtitutions. *Applying of a Seton.*

To prickings, we have annexed leaches, or the application of leaches, which being choſen, prepared, and cleanſed, are applyed with a rag, or a reed; by their biting they open the veines and draw out blood, and indeed from the ſubcutaneous parts only, and capillary veines, if they are applyed only to the skin, but if they are applyed to any great veſſell, they draw blood from the innermoſt parts of the whole body, and therefore they are applyed according as there is need of this or that evacuation, and are applyed to children when we dare not uſe the launce to open veines. To the veines of their armes when they are affected with any greivous diſeaſe that requires evacuacion of blood. *Leaches.*

Chap VIII.

Of Section of Bones.

But that cutting which is performed in hard parts of bones is fourefold, according to the various manner of ſeperation, and variety of inſtruments, namely ſhaving, filing perforation, and ſawing.

Firſt ſhaving is a plaining and a making ſmooth of the inequality of bones with an inciſion knife ſhaving them, or a detraction and taking away of the filth clinging faſt to the bones, and it is performed with files, in magnitude and figure, according to the ſeverall natures of diſeaſes and of bones; either ſtraight, ſuch as are hammers which they uſe in driving, or bent in the end ſuch as they uſe in drawing, ſometimes they uſe both a file, and a Hammer wrapt in a clout. *Shaving.*

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Filing. Secondly filing, or wearing away of bones with a file, is uſefull in the teeth when they hang out contrary to nature.

Perforating. The third is perforation whereby we cut the part out of the middle of a bone, either with a Trepan or with a file, or together with a Trepan and a file; the perforation which is made by a Trepan, the Greekes call, *Trupeſis*, a wimble they call *Trupanon*, and *Trupane*; but a *Trepan* is either ſtraight and ſharpe, and in a hollowed circle, which is called a wimble in particular, or it is hollow which is called, *Modiolus*; *Trepan* is like to common wimbles which Carpenters uſe, and tis twofold, the one is that which anſwers plainly to the wimbles of Carpenters; the other, which neere the point at ſuch a diſtance as the thickneſſe of the skull is of, hath a knot without, or a circle fitted, which whilſt the Trepan is within the skull, hinders it that it cannot goe deeper then is fit, which kind of Trepan, becauſe it cannot goe deeper, the Greekes call *Trupanon*, or *Abaptiſton*; *Modiolus* the Greeks call, *Cointhion*, and *Coinichis*, and *Prion Caractos*, tis a hollow Inſtrument of Iron, round and long like a Pillar, at the bottome of the mouth like a ſaw, or full of teeth, and ſtraight Trepans, which are called *Perſteria*, are oppoſed to it, which are turned about with a handle, which if it have a naile (or pin) in the middle tis called male, and if it have not is called female, but the perforation or boaring is performed principally when the skull is broke, or when ſome matter, or blood is contained within the skull, the manner of which operation may be ſeen in the Inſtitutions, ſometimes alſo in rotten bones when the rottenneſſe goes deep.

Kinds of Trepans or wimbles.

Sawing, Laſtly by ſawing, or cutting with a ſaw, bones are divided, when any dead part, the fleſh being firſt cut away with a knife to the bone, and the bone is laid open, or when ſome broken bone hangs out, and cannot be put back into it place, or when any chinke is to be filled up, or when the table of the skull is to be taken away.

CHAP.

CHAP. IX.

Of Burning.

THe laſt kind of ſeperation remaines, which is burning, which is to be uſed when diſeaſes cannot be taken away by medicines, nor cutting; burning is performed two wayes, either by thoſe things which actually have in them fire, and a fiery quality as Iron, or other fiery Inſtruments made of Gold, Silver, Braſſe, which are called actuall Cauteries, or with burning medicines, which are called potentiall Cauteries. *Burning.* *Burning twofold.*

There are ſome differences of actuall Cauteries, eſpecially, in reſpect of matter and figure, and differing alſo ſome other wayes; as for matter, Metallick Inſtruments prepared of Iron, Braſſe, Silver, Gold, are in uſe this day, Iron burnes potently, Braſſe and Gold not ſo violently, the figures of Cauteries are various, which are deſcribed every where, ſometimes they are fiered more, ſometimes leſſe, ſometimes impreſſed deeper, ſometimes ſuperficially only, the manner of burning is to be ſeen in the Inſtitutions, *An actuall Cautery.*

Another manner of burning is that which is performed by potentiall Cauteries, what Cauſtick medicines are, and Eſcaroticks, is ſpoken above, part the 1. ſect the 1. Chap the 10 th. and in what manner Cauteries are to be prepared ſhall be ſhewne in the end of this Book. *Potentiall.*

Fontanells, and Iſſues are made by actuall and potentiall Cauteries, namely little Ulcers, prepared to evacuate, draw back, and drive humours through them, but in what parts, and how theſe Fontanells are to be made ſhall be ſhewn in the Inſtitutions. *Iſſues.*

To this third operation may be referred that, whereby ſomething is drawn in the body, or out of the body, by cupping glaſſes, but a cupping glaſs is a veſſell with a belly which is faſtned to the body to draw, all whoſe ſtrength of acting comes by reaſon of vacuity, but what the differences of them are, the manner of applying of them, and their uſe, ſhall be ſhewn in the Inſtitutions: and thus much of the third Chyrurgicall operation. *Cupping glaſſes.*

CHAP.

CHAP. X.

Of drawing of things out of the body which were ſent into the body from without

How many wayes things may be drawn out of the body.

THe fourth Chyrurgicall operation is, *Exaireſis*, or extraction of hurtfull and unprofitable things out of the body; but things which are to be taken away, are either ſent from without into the body, or begotten in the body.

Drawing out of things thruſt into the body.

Firſt for what belongs to the extraction of things ſent from without into the body, they are twofold; firſt all thoſe things which are ſent to wound the body, as darts of all ſorts, and Bullets ſhot out of Guns; Moreover certaine externall things which come into the Chops and Throate, Eares, Noſtrills, and Eyes, and ſtick in them.

A Dart how many wayes it may be drawne out.

But Darts are taken out two wayes, either by extraction, or impulſion, that is, either that way which they came in, or that way which it aimed to goe out at; tis drawne out by the part which it came in at, either without any launcing, or with launcing; for if the dart pierced not deep, if it hath not paſſed through great veſſells, or nervous parts, and and meetes with a bone, veines, arteries, or nerves, out of the region whither it tended, and if there be no feare of any great tearing, it may be drawn back that way, which it entered into the body, and that without cutting; but if there be danger, and that it be to be feared leaſt that the body ſhould be lacerated, if the dart ſhould be drawn out the ſame way that it went in at, the wound is to be dilated either by cutting, or without launcing, namely with that Inſtrument, which *Ceſus* in his 7. Booke and 15. Chap. calls *Hyppioeides*, or Swans, or Storkes beake, or other dilating Inſtruments whereby the Dart may the eaſier be drawn back. Tis drawn out by the hand, if it may be, when it is apparent, and is faſtned only in fleſh, or with a *Volcella*, when it ſticks ſo deep that it cannot be taken hold of by the hands, or other Inſtruments which the Greekes, *Boloulca*, that is certaine Inſtruments to pull out Darts, of which kind are long Tongs, Tongs with teeth, ſtraight, a little bent inward, but the outmoſt part broad and round, to which the latter Chyrurgeons have given ſeverall names from their figure, and call them Crowes, Storkes, Ducks, Geeſe bill, the figures whereof are extant, in *Amb. Parey* in the 10 th. Booke 18 th. Chap. but

if

if the point of the Dart, hath pierced into the member more then halfe through, and the place by which the dart is to be drawn through, be more, then it hath hitherto paſſed, and neither bone, Nerve, Veines, nor Arteries hinder it, tis more convenient, to drive the Dart thither whither it tended; diſſection being made in that part, and to draw it out by making of a new wound; but yet if the Dart be too broad tis not expedient to draw it out through another part; leaſt that we add to that great wound, another greate one.

The way of taking out of Musket bullets.

The reaſon of drawing out Musket bullets in many things is agreeable to the exraction of Darts, for three things are required to extraction, the firſt that the way may be dilated with an Inſtrument; ſecondly that the bullet be taken hold of; the Inſtrument takes the bullet, either as a paire of Tongs, or the point of the Inſtrument enters into the bullet, incompaſſeth it with its cavity, or it takes hold with the end that is toothed like a ſaw; thirdly a bullet being taken hold of with an Inſtrument, is drawne out by the hand of a Chyrurgeon with the Inſtrument, of which more in the Inſtitutions.

Things that ſtick in the Chops.

Moreover ſometimes things happen externally to the Chops, Throate, Eares, and happen into the Noſtrills, and Eyes, and uſe to ſtick in them, each of which require ſeverall wayes of drawing forth; if a little fiſh bone, or the back bone of a fiſh ſtick in the Throate, and that it be in ſight when the mouth is opened, tis to be taken out with a *Volsella*, and that either ſtraight, or a little bowed towards the end, and convenient to take out the bones from the Throate, but if it ſhould deſcend deeper into the Throate, or having uſed a *Speculum* of the mouth to open it wide, if it doth not appeare, a vomit is to be ſtirred up with oyle of ſweet Almonds, or of Olives, or with a quill, or putting downe ones finger.

A worme in the eares how to be taken out.

A Worme ſticking in the Eares, firſt of all it is to be drawn out a live, and that it may be the better performed, and the worme may the eaſier be taken, it is to be enticed outward, by injecting ſweete things into the Eares, and applying of them outwardly, but if it cannot be enticed, or drawn out alive, it is to be killed with thoſe things that are bitter, and by a peculiar propriety and force, are deſtructive to wormes, but being killed, tis drawn out by powring in water or wine and Oyle luke warme, and putting in of tents made of Cotton, wet with Hony, Turpentine, or ſome glutinous gum, wherewith

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wherewith twiſting it up and down in the Eare, the worme is drawn forth, the ſick leaning on that ſide the Eare is affected.

Other things which may be put, or ſlid into the eare are either hard, or liquid; if the things are hard, warme Oyle is to be powred in that they may be diſſolved, if it be poſſible, or certainly the paſſages of the Eare may become ſlippery, but if the thing which falls in be of that nature, that it will ſwell with moiſtning, as Peaſe, Beanes, *&c.* all moiſt things are to be avoided, afterwards ſneezing is to be provoaked, the Noſtrills, and the mouth being ſhut, that the ſpirits may be forced to goe out through the Eares, and ſo that together to be thruſt out which was ſlid into the Eares, but if the thing cannot be extruded in this manner, tis to be drawn out with a convenient Inſtrument, yet very warily, leaſt either that which is to be taken forth ſhould be thruſt deeper, or the membrane called the drumme of the Eare ſhould be broken.

If that which is to be taken out be liquid, the affected ſhould hop upon his foote on the contrary ſide, bending his head downeward on the afflicted ſide, that the moiſture may come forth, which if it doth not come to paſſe, ſneezing is to be occaſioned, or a little dry ſponge is to be put into the Eare, ſo that the extremity of the Channell which goes into the Eare be firſt ſtopt and fortifyed with Cotton, that whilſt the ſpirit is drawn, there be no roome granted for the letting in of Aire in any wayes.

If any thing come into the Noſtrills ſticks in them, there is another way of drawing of it out, then that of drawing out thoſe things that ſtick in the Eares.

If ſand or duſt ſtick in the Eyes, the ſtone found in the maw of a Swallow, Crabs Eyes, Pearles, if they are caſt into the Eyes, cleanſe them, but if any greater thing be fixed in the Eye, tis to be drawn out with a fine linnen cloath, wet in pure founraine water, or with a ſponge tyed to a ſoft quill, but if it be greater, tis to be taken out with a little *Volcella*, or unleſſe extraction in this manner doth ſucceed, *Anodunes*, or medicines taking away paine, being applyed and other convenient medicines, the buſineſſe is to be committed to nature.

CHAP.

CHAP. XI.

Of drawing out of things generated in the body according to nature, but retained in the body beyond the limits of nature.

AFter these, amongst those things which are to be drawn out of the body, somethings are found which indeed are generated in the body according to nature, yet are detayned there contrary to nature, and hither to belongs first of all, extraction, or exciſon of a living or dead child out of the body, moreover the drawing out of Urine detained preternaturally.

Of taking out a lived child.

First of all, if the young can neither be brought out by the helpe of the mother, nor by any other, there is no other helpe remaines then cutting, whereby the living child is taken out, and those which are brought forth on this manner, are called *Cæsares*, the young is cut out when the mother is living or dead, but of this *Ceſarean* bringing forth, you may see a peculiar Book of *Francis Rouſſet*, but as for the extraction of a dead child by what meanes that may be rightly performed *Celſus* teacheth in his 7. Booke. 29. Chap. 23. *Ælius Tetrach* Book 4. *Ser.* 4. Chap and *Hieron Fabricius ab Aqua P.* of Chyrurgicall operations, *Amb. Parey* deſcribes fit Inſtruments for this operation in his 23 d. Book Chap. 26. *Joh. Andr. a Cruce.*

Of a dead.

Extraction of a Mola

Next to these is the drawing out of a Mole and the same reason for the most part is in drawing out them as in the extraction of a dead child.

Drawing out urine with a Cathet.

Lastly hitherto belongs the drawing out of Urine by Chyrurgicall operation, but that operation is performed by Silver, or brazen Pipes, which they call Catheters, which that they may be fitted for every body greater or lesse, three of them are to be prepared for men, and too for women in a readineſs, the manner of operation is in the Institutions.

CHAP.

CHAP. XII.

Of taking away the corrupt parts of the body.

Cutting of dead flesh. SOmetimes the parts of the body are so corrupted that there is no hope of curing of them, which as being unprofitable and hurtfull, and such as may infect the parts next to them, and pollute them, are to be taken away; whatever therefore is corrupted, is to be cut off, but the manner of cutting off is various according to the variety of the parts that are hurt, and the place where they are, and nature of the disease it selfe, and therefore the righteſt manner of taking away such from the body is known by particular operations, yet oftentimes in fistula's and other malignant Ulcers, cutting alone is not sufficient as being that which cannot take away the smalleſt *fibrillaes* and particles, but after cutting there is need of an actuall or potentiall Cauterie that the remainders may be taken away, nay sometimes without cutting, by Cauteries only things so corrupted are taken away.

Amputation of a cancer. Hereunto belongs the Amputation of parts corrupted with a Cancer, also a cutting off of the Uvula, corrupted either by inflamation or by *Morbus Gallicus*, the cutting off also of the putred, or corrupted yard, as also of the corrupted wombe.

Of a Vvula, yard, wombe.

Of bones. Corrupted bones are taken away by filing, shaving with an incision knife, or with a wimble, of which it is spoken before, as also with divers kinds of Tongs, whereby the corrupted bones of the fingers, and broken bones hanging out may be taken away.

Teeth. Hitherto belongs the plucking out of teeth, which is performed, the Teeth being first loosned from the gums, and is done with severall Instruments, whose names are taken from the figure, and similitude for the most part, which they have with the beakes of living Creatures, which *Hieron Fabricius*, reckons up, the figures of them are extant in *Amb. Parey*. the 16 th. Book Chap. the 17 th. and *Joh. Andr. a Cruce.*

Amputation of Limbs. Lastly it sometimes happens that in mans body certaine parts are corrupted with mortification & they so dy that ther is no hope of recovery of life, when there is one indication that

that which is corrupted is to be cut off, leaſt the ſound alſo ſhould be affected, which operation the Greekes call *Acroteriaſmos*, or a tearing off the dead fleſh, but in what place and when that Amputation is to be made cannot be delivered in a *compendium*, ſee the Inſtitutions.

CHAP. XIII.

Of freeing and taking away things generated in the body contrary to nature.

THe laſt kiud remains of taking away things out of the body, namely thoſe which are generated in the body contrary to nature, but there is no little difference amongſt thoſe things, for ſome of them are borne together with the parts of our body and are adhere tenaciouſly, as Warts, Warts great above and ſmall below, ſwellings and inflammations in the fundament, the top of the yard, the way to the wombe, callous fleſh, Cornes, Knots, the Kings Evill, excreſcencies of fleſh in the Noſtrills, and *Polypus*, ſwelling in the Chops, ſmall tumours in the Urinary paſſage, Excreſcencies on the eye lids, fleſhy ruptures, or elſe they are contained in ſome part of the body, as water in an aqueous rupture in the paunch, ſtones or gravell in the reines, bladder or yard. *Things preternaturall begotten in the body how many-fold.*

The cutting of warts is performed either by binding, cuttings, or burning; Warts hanging downe are taken away either with a ſilken threed, or Horſe haire, or they are to be tyed with ſome other ſtrong threed every day harder and harder untill they come off; cutting is performed with an inciſion knife, like a Mirtle leave, or with a launce; burning is performed with an hot Iron, or with green wood that is burnt; but how ſeverally the tumour called *Thymus* in the fundament, *glans* or *prepuce*, are to be taken away is ſhewn in the Inſtitutions, and in the 3 d. Book of practice. *Warts.*

Sometimes a little tumour ariſeth in the Urinary paſſage from an Ulcer, and is ſo increaſed ſometimes that it ſtops the urine, this is to be taken away by the helpe of a Chyrurgeon, and fit medicines, but leaſt that other parts ſhould be eroded, medicines are to be ejected through a ſilver Pipe, to the tumour, or elſe it is to be incorporated and mixt with the top and head of a wax Candle, and thruſt into the place affected, or a little Cane with Lint and white wax put into it, and bedaubed with a fit medicine, being hollow that the Urine *Carunckles extirpated out the Urinary paſſages.*

urine may paſſe through it. This is to be put into the urinary paſſages.

Taking away a Polypus. *Polypus* if it admits of cure, it is to be cut off with a ſharpe Iron Inſtrument made after the manner of a *Spatula*, being put into the Noſtrills, of which operation ſee the Inſtitutions, and the firſt Book of Practice.

Epuli a naile in the eye. Fleſhy excreſcencies in the Chops called, *Epuli*, as alſo *Encanthis*, or excreſcencies in the greater corner of the Eye, and the naile of the Eye, unleſſe they can be taken away with medicines, are to be cut off, as alſo peices of fleſh here and there growing in the skin of the body, and excreſcencies which repreſent a kind of ſoft fleſh, which are like the rootes of Muſhroms, and grow like them, and therefore are called Muſheroms, knots alſo, Kings evill, Kernells, ſwellings in the Throate, and ſwellings in the fleſh, or fleſhy ruptures if they cannot be eradicated by Medicines, muſt be taken away by cutting.

Excreſcencies of fleſh Fungi. Nodi &c.

A watry rupture. A watry rupture, or water collected into the cods cannot alwayes be taken away by diſcuſſing medicines, the cods are to be opened, and the water to be let out through the wound.

Stone of the bladder. Laſtly the ſtone of the bladder, ſince it is ſeldome diminiſhed by medicines, the bladder being cut, tis to be taken out, and ſometimes a ſtone ſticking in the urinary paſſage is to be drawn out, but in what manner thoſe cuttings, and operations all of them ought to be performed, is ſpoken in the Inſtitutions, and may there be ſeen, nor can the wayes of thoſe operations be reduced into a *compendium*, but all things which are there ſpoken in the operations are diligently to be obſerved, and thus much of the fourth Chyrurgicall operation.

Chap XIIII.

Of the reſtitution of parts that are loſt, or of the Chyrurgery of imperfect parts.

Chyrurgery of ſuch as are maimed. THere remains the laſt Chyrurgicall operation, which is required in the cure of ſuch as are imperfect and maimed, namely when the extremities of the Noſe or Eares or Lips are ſhortned, and theſe parts maimed, but although parts that are loſt are counterfeited by Inſtruments fained made and painted, out of ſeverall matter repreſenting the ſimilitude

ſimilitude of the part loſt, yet this is only a counterfeite and palliating cure, but when it cannot be reſtored by a new generation of the deficient part, tis to be reſtored by the fleſh of another member being brought and united to it, yet that operation is not to be tryed on every body, but firſt it is to be obſerved what kind of body it is which is to be cured, for in old men or in a body which hath an ill habit, wherein wounds are difficult to be cured, this way of cure is not to be eaſily attempted. *Caſper Taliacotius* in his Book of maimed Chyrurgery, by inſerting, accuratly and largely deſcribes the manner of this operation, the ſum of this operation is this; he makes his tranſferring, or bringing into the Noſe, and Lips, from the Shoulder; but to cure unperfect Eares he takes away from the Region behind the Eares, namely he appoints a convenient cutting in thoſe parts, and the maimed parts being firſt cleanſed, he commits and joynes the skin of that part which is cut off with the maimed part, and that they may be kept joyned together untill they grow together, he binds them with ſwathing bands. And indeed he puts that part of the Noſe or Lips which is maimed, into the wound made in the Shoulder, with the head tyed to the Arme, as it were to a prop, that it is immoveable, and fixt ſo that it can be moved no way. And in this manner when it hath ſtuck ſo long, untill the fleſh of both parts be united and growes together, he cutteth off againe from the Noſe or Lip, the traduct, or that which was brought from another place and is here grown, then he makes conveniently, and frames that fleſh ſo cut off from the Arme into a forme of a Noſe or Lip.

THE

THE FIFTH BOOK,

PART. II.

Of the Method of healing.

SECT. I.

Of ſhewing how to preſerve health.

CHAP I.

Of the Method of healing and of indications in generall.

The Method of healing.

But it is not ſufficient to know the Inſtruments for the recovery of health, and thoſe things which are profitable for the curing of a diſeaſe, but tis neceſſary to underſtand how and in what manner every thing is to be uſed, or to know the Method of healing, and reſtoring of loſt health, the next thing therefore is that we may ſhew the Method of healing.

Capivaccius defines the Method of healing to be an art wherein by indications remedies are found out that the loſt health of man may be reſtored, for the Method of healing (as alſo all Phyſick) is a certaine principall effectine, hadbit uſing indications as Inſtruments to find out remedies for the cure of diſeaſes.

For the end of the Method of healing is twofold. The internall, or proximate, namely invention of fit helps and remedies

remedies in every diſeaſe, or rather an invention of indications, that ſhew what will cure. The externall is a reſtitution of the loſt health, or which is the ſame, an extirpation of a diſeaſe.

But an indication which the Greeks call *Endixis* is ſometimes taken in generall for every ſhewing or demonſtration, yet properly and in particular, and as it pertaines to the Method of healing, it ſignifyes the ſhewing of remedies, and tis a perception of what is healthfull in the Indicant, known by cauſes, or which is the ſame, tis a perception, and comprehenſion of that which is helping, or indicated, with an apprehenſion of what indicates without experience or any forceable argument from the cauſe to effect. *Indication what.*

But although Indication be the firſt Inſtrument of Dogmatick Phyſick whereby tis diſcernd from other Sects, yet hat doth not plainely reject experience, and any forceable arguments, but when diſeaſes and the morbifique cauſes of natuie are not ſufficiently known, it flyes to experience and example as to a forceable Argument.

Experience is the remembrance and obſervation which oftentimes is ſeen to come to paſſe in the ſame manner. *Experience what.*

An *Analogiſme*, or forceable Argument to perſwad is an apprehenſion of what is helpefull from the like, but that ſimilitude is either amongſt the affects or remedies, or amongſt the members. *Analogiſme.*

As for the Indication, that is really a certaine *Enthymema*, by the force whereof that is found out which is done, for the conſequence is ſo manifeſt that no man can deny it, and indeed by the force of thoſe propoſitions which are the foundations of Method, and like Axiomes, and principalls in the Method of healing, and they are theſe.

Every thing which jndicates ſhews the conſervation of its ſelfe, or the taking of it away.

That which is according to nature is to be preſerved, and that which is contrary to nature is to be taken away.

Contraries are cured by their contraryes, likes are preſerved by their likes.

But there are various differences of Indications, the firſt and moſt generall is taken from things about which they are converſant, which are according to nature, and preternaturall, and it is becauſe an Indication is a perception, and infinuation of the preſervation of that which is according to the nature *Differences of Indications.*

nature, of the indicant to be performed by its likes, the other is an apprehenſion of the taking away of that which is preternaturall, to be performed by the contrary of the indicant.

Genericall Moreover one Indication is genericall, another ſubalternate, another ſpecificall and determinate; genericall which the common and genericall nature of the indicant ſupplyes, and which ſimply teacheth how to take away the diſeaſe, and the cauſe of a diſeaſe, and to preſerve ſtrength, but in what manner that may be performed, it doth not ſhew; ſubalternate, which the ſubalternate eſſence of the Indicant ſhewes, and which indeed determinates the matter more, yet not perfectly; ſpecificiall which is taken from the ſpecifique nature of the Indicant, and deſcribes the whole Indicant exactly and its remedie, and is alſo called the determinate.

Subalternate.

Specificall.

Profitable. Thirdly one Indication is profitable, another unprofitable; profitable is that, to which ſome matter anſwers, or which indicates ſuch remedy, the matter whereof may be found out, and primarily, and by its ſelfe can take away the diſeaſe; but unprofitable is that, which ſhews ſuch helpe, the matter whereof which can take away the diſeaſe of the firſt is not to be found.

Unprofitable.

Inartificiall. Fourthly of Indications ſome are artificiall, others inartificiall; inartificiall is that which may be known by others and to the vulgar, as well as to the artiſt, who equally knowes the diſeaſe is to be taken away, and the ſtrength to be preſerved, but knowes not a reaſon how that may be done, ſuch as is genericall, and ſometimes ſubalternate; but artificiall Indications are thoſe which are not known to all, but only to Artiſts, and require a great deale of skill that they may be known, and the Indicant, and helping things are exactly deſcribed ſuch as are ſpecificall and determinate.

Artificiall.

Curatory, preſervatory, vitall. Laſtly ſome Indications are to reſtore, others to preſerve, ſome are vitall, according as they are taken from the reſtoring Indicant, the preſerving, or vitall.

CHAP II.

Of Indicants.

An Indicant. What. But an Indicant as it belongs to the Method of healing is ſome Agent permanent in mans body, which by its proper

proper nature and eſſence ſhews ſome helpe, and ſhews the Indicate which it requiers to be directed to its ſelfe that the loſt health of man may be reſtored.

Whence it appeares what are the true notions of a true indicant, for firſt it is required that it doe act, or that it be ſome Agent, Secondly that it be ſomething permanent and preſent, or adhering to it, Thirdly the Indicant ought to be known to the intellect, Laſtly one Indicant, as it is one, indicates alſo one. *What is required in a true Indicant.*

As for the numbers and difference of Indicants, tis taken from the end of the Method of healing; which is an invention of remedies, for whereas things preternaturall are to be removed and things according to nature to be kept, the Indicant ſhould be twofold; called removing or curing in generall, or vitall, and ſince that things contrary to nature are three, a diſeaſe, the cauſe, and the Symptomes, there are properly foure Indicants ſo called. *The differences of Indicants.*

The Indicant which is taken from a diſeaſe is called *Curatory*, the common name being retained of the method of healing, but that which is taken from the cauſe beſides the containing cauſe, is called *Preſervatory*; that which is taken from the Symptome, is called an urgent Symptome, nor are Symptomes to be excluded from the number of Indicants, ſince that alſo is preternaturall, and hath peculiar indicates which of its proper nature it affords, and that different from the indicates which the diſeaſes and cauſes afford, and remedies may be brought for Symptomes which regard neither the diſeaſe, nor the cauſe of a diſeaſe, which is manifeſt in paine which *Anodynes* ſhew. *An indicant curatory.* *Preſervatory.* *An urgent Symptome.*

The Indicant which is taken from things according to nature is called vitall, but ſince things according to nature, are health, the cauſes of health, and the accidents of health, a vitall indicant may alſo be ſub-divided. *A vitall Indicant.*

But although ſome reckon more Indicants, yet they are not new and peculiar Indicants, but belong either to the cauſes, from whence *Preſervatory* indication is taken, or they are not true indicants, but rather manifeſt true indicants and by accident, and the intervening of another helpe to diſcover remedies, ſuch like are temperament, habit of body, age, ſex, kind of life, ſtrength, cuſtome, the peculiar nature of every one, the condition of the part beſet with the diſeaſe, aire, condition of Heaven, the time of the yeare, the Country, the place of habitation, the times of diſeaſes, and the force of the remedies. *Indicants leſſe properly ſo called.*

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Namely the temperament indicates the preſervation of its ſelfe, of which, a rule; That diſeaſe which differs moſt, from the naturall ſtate, is to be cured with more vehement medicines, that which differs leſſe, is to be cured with milder. Age circumſcribes the vitall indicant, of this there is a rule alſo; By how much the more a diſeaſe recedes from the nature of the age of the ſick, by ſo much the more violent remedies tis to be cured with; by how much the leſſe, by ſo much the more gentle remedies. There is the ſame reaſon of Sex, as there is of age; as for cuſtome, thoſe things that are accuſtomed along time, although they are worſe, doe leſſe hurt, then thoſe which are un-accuſtomed, whence a diſeaſe which differs much from cuſtome, is to be oppoſed with ſtronger, that which recedes leſſe, with weaker medicines. The courſe of life for the moſt part requires the ſame as cuſtome.

Idioſyncraſia ſhews that choice is to be had in Medicines. It is to be conſidered about the part affected, firſt its excellency, whence, a rule; Noble parts are not to be tampered with ſtrong medicines, but ignoble parts will endure them more ſafely; moreover, its conformation and figure which determinates the Indicant and the Indicate; ſo a thinner part being moiſtned over much requires not great dryers, but a thick and compact part requires great dryers, Thirdly ſituation, of which you muſt know, that parts which are deepe in the body, are to be cured with ſtronger medicines, but thoſe that are in the *Superficies* with weaker: Fourthly, the place, of which is to be noted, that if many wayes lye open for the giving of medicines, the next are to be choſen. Aire according to a ſeverall reſpect, ſometimes ſignifies a *Curatory* Indicant, ſometimes a *vitall*. Of the ſeaſon of a diſeaſe *Hippocrates* his Axiome is, In diſeaſes beginning, if any thing ſeeme proper to be removed, move it; but in diſeaſes that are quiet, tis better to be quiet.

Laſtly, medicines ſometimes ſhew a greater, ſometimes a leſſer regreſſe from the naturall ſtate.

CHAP.

Chap III.

Of the concord, and diſcord of Indicants.

But thoſe Indicants, according as they ſometimes agree amongſt themſelves, and ſomtimes diſagree, they are allotted new names, and are called Indicants, Conſentients, contrary Indicants, Prohibents, Permittents, Repugnants, Correpugnants.

Co-indicants or *conſentients* are thoſe, which conduce to the finding out the ſame remedie, and more of them indicate the ſame thing, yet others would not have *Co-indicants* to be Indicants, which require the ſame helpe, but to be that only which in the foregoing chapter we have ſaid to be called not ſo properly Indicants, namely ſuch as indicate mediately, and by the intervening of another, but the reſt which are properly called Indicants, and require the ſame helpe, which is required by another Indicate, are called by a peculiar name *Conſentients*. *Co-indicants.*

Prohibents which you may call contrary Indicants, and Repugnants, they are thoſe which differ from other Indicants and require, and indicate another thing which is adverſe to that, which was indicated from another primary Indicant and indeed ſo that the indication thereof be to be preferred before the other, and that which was indicated from the other is to be omitted. *Repugnants.*

Thoſe are called Correpugnants, which reſiſt together with othes, and prohibit ſomething. *Correpugnants.*

Laſtly, Permittents are thoſe which although they indicate contrary to that which was indicated by another, yet, they are overcome by another, as being more powerfull, ſo that they are compelled to ſuffer that which the other perſwades. *Permittents.*

From whence it is manifeſt that a Phyſitian ought to conſider not only what one Indicant perſwades, but alſo what another requires, for if all the Indicants agree, and conſpire as it were in one, that is boldly to be performed which is commanded by them, but if there be ſome diſagreement amongſt them, tis diligently to be weighed which of them perſwades moſt powerfully, and thoſe things which diſſent amongſt themſelves are to be valued by their ſtrength, dignity, and number. If they are equall according

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to power and dignity, and are uneven according to number, thoſe which exceed in number are to be preferred, and that is to be preferred which is indicated by moſt, but if the Indicants are uneven in ſtrength and dignity, that is rather to be preferred which is commanded by the more noble, or even by one more noble, but if thoſe Indicants are equall both in ſtrength and number, in all things they are to be regarded according to each ſeverall reſpect.

From whence it is manifeſt that if the magnitude of Indicants be even, the vitall indications are allwayes to be preferred before the reſt, and the greateſt reſpect is allwayes to be had to the ſtrength, but if there be not a parity amongſt the Indicants, that is rather to be performed which is indicated from that which moſt perſwades, yet the reſt if it may be are not plainely to be neglected.

Chap. IV.

Of Indicates.

An Indicate.

An indicate is that which helpeth, and is ſhewn that it is to be uſed by the Indicant, it is alſo named *Sumpheron*, that is, profitable, *Proſpheromenon*, that is aid, that which is required, the ſcope, and tis called the ſecond ſcope, to diſtinguiſh from the firſt (for ſo the Indicant is ſometimes called) alſo a remedie in the *Curatory* or reſtoring part.

Diviſion of an Indicate.

An indicate is divided into ſomething to doe as they ſpeake, or into the very eſſence of the remedie and nature of it, and into the uſe, or right Adminiſtration of that matter fit for remedie.

What is to be done.

What is to be done is known by its ſelfe from the nature of the true Indicant, whereby is known that the body is well or ill affected and conſiſts in two things, and the Phyſitian propounds to himſelfe two things principally to be performed, namely that he may preſerve the ſtrength, and drive away thoſe things which are contrary to nature, as a diſeaſe, the cauſe of a diſeaſe and Symptomes, from whence and, what is to be done, as the indicants above ſhew, is divided into *Curatory*, which is a remedie taking away the diſeaſe; *Preſervatory*, which is a remedie taking away the cauſe, and vitall, which is helpfull for the preſervation of life, to which as is ſaid may be added, mitigation of urgent Symptomes

In

In theſe oftentimes contrary indications doe meete, and that which is perſwaded by one, is diſſwaded by another, for the ſtrength requiers giving of nouriſhment, contrary to which a diſeaſe and the cauſe doe indicate, for they are increaſed by the exhibition of aliment, but then that is to be helped, which hath moſt need.

But in giving contrary things, this principle is to be obſerved, that the remedie may be given contrary to the indicant, very exactly, but ſince that which is equally contrary may be given two wayes, either by applying ſuch a thing once which is equivalent to the regreſſion from the naturall ſtate, or oftner by exhibiting contraries, not ſo directly contrary at ſeverall times, the firſt kind of remedie is to be uſed in two ſorts of diſeaſes, namely in thoſe which are weake, and in thoſe diſeaſes, which are extreame, dangerous, but the latter way of remedie is to be uſed in thoſe diſeaſes, which are moderate as it were the middle betwixt the extreame dangerous, and the weake diſeaſe.

Moreover that which is to be done, as of indications, ſo of indicants, one is genericall, another ſubalternate, another ſpecificall, another appropriated, one is profitable, another unprofitable, one is artificiall, another inartificiall.

Uſe and right adminiſtration.

But the uſe and right Adminiſtrations of helpe are comprehended under quantity, place and time which aimes Practicioners commonly name how much, when and where to act or doe, yet it is here to be obſerved that thoſe circumſtances and manners of Adminiſtrations have place both in the helpe it ſelfe, and in the matter fit for cure.

Quantity whence Indicated.

As for what belongs to quantity, ſince that it may be taken both for a definite degree of Adminiſtring of a remedie, in which reſpect quantity, and what is to be performed by a ſpecifique agent are the ſame, and for the doſe, plenty, and bigneſſe of the matter of cure it ſelfe; quantity or magnitude of the eſſence indicating denotes quantiy taken in the former ſenſe, for example ſake, great heat ſhews that it muſt be much cooled. Yet heare is to be conſidered whether the part be ſcituated deep in the body, for then a ſtronger Medicine is to be choſen that it may come to the part affected, with its full force.

Time.

When, or the time is ſhewne from the time or preſence, of the Indicant, for then helpe is to be Adminiſtred when that which requires it is preſent.

Order of Time, doing.

Order alſo belongs to time, for that which in ſimple, is

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Time, incomplicate is order, and the preſence of a vehement Indicant ſhews the order of performing, but that is firſt to be done which is ſhewn by the Indicant, which over-rules the reſt in indicating, and that overcomes the reſt in indicating, by which the greateſt danger is threatned, and without the removing of which the reſt cannot be taken away, and therefore three things being obſerved, we may proceed in a right order of cure; if firſt we weigh what urgeth moſt, and from whence there is feare of greateſt danger, for that is firſt to be oppoſed, which ſtrives moſt, or from whence the greateſt danger of life is threatned. Secondly, if we conſider what regard it hath of the cauſe, and what of the effect, for the cauſe is to be taken away before the diſeaſe. Thirdly, if we conſider what may be in the ſtead of an impediment, and what before what, and what with what, and what after what may be cured, for whatſoever may be a hindrance in the taking away of a diſeaſe, or the cauſe of a diſeaſe are firſt to be removed, and therefore it is to be conſidered whether a diſeaſe be joyned with a diſeaſe, or with the cauſe of a diſeaſe; if a diſeaſe be joyned with a diſeaſe, it is to be conſidered whether thoſe diſeaſes agree or not, if they no way agree but are reſident in divers parts, you may cure them ſeverally, or together, each by their proper remedie, and tis no matter to which you apply the firſt remedie, yet regard is to be had of the parts wherein thoſe diſeaſes reſide, for thoſe which are in noble parts, or thoſe parts which ſerve the noble parts, or have conſent with them, or which performe any publike duty, they are firſt to be taken away, but if the diſeaſes have ſome agreement, and are ſome way united, it is to be conſidered whether the cure of the one is beneficiall to the cure of the other, or atleaſt no way hinder the cure of the other, or whether the cure of the one may bring any impediment or hindrance to the cure of the other, or whether they partly conſent, and partly diſſent; if the cure of the one bring no impediment, or hindrance to the cure of the other, or alſo if it promotes it, as if a diſtemper of the liver, and an obſtruction thereof concurr, you may cure them ſeverally, or together, and begin with which of them you pleaſe; alſo when a reaſon thereof may be had from that which urgeth moſt, if they are not of equall force, but if they are ſo joyned together that the one is more dangerous then the other, you muſt begin with that which is

moſt

the other, neither of them is to be cured by its ſelfe, but the remedies ſhall ſo be tempered that they may both be cured, moſt dangerous, qut if the one be no more dangerous then both be cured, Laſtly, if they partly agree, and partly diſagree, you are to begin with that, the cure whereof hinders not the cure of the other, and without removall whereof the other cannot be taken away; if a diſeaſe be joyned to a cauſe, the cauſe is firſt to be removed, but in the removing of cauſes it is to be obſerved, that they are to be taken away in that order wherein they follow one another, ſo that you are to be begin firſt with that which was firſt in generation and laſt in diſſolution, from thence you are to goe on to the next, and ſo to goe on forward in order untill we come to our deſired end, and that we may breifly comprehend all the matter, the preſence of the Indicant which overcomes the other Indicants, and the abſence of the prohibiting Indicant, ſhews when to act, and the order of performing; and moreover it teacheth whether the ſame remedie be to be repeated often, for ſo long and ſo often, it is to be repeated, as the Indicant remaines preſent, and no hindring Indicant happens.

The place, or ſubſtance of the Indicant ſheweth where, and the place of applying remedies, and the place is to be found out in which, by which, and to which as they commonly uſe to diſtinguiſh.

In all alterations the place in which is principally to be taken notice of, in evacuations the place from which, and by which, if the matter be carried out of one place into another, the place to which *Manner.*

As for what belongs to the place of applycation of matter fit for remedie, ſince a contact or touch of the matter and Indicant cannot allwayes be immediate, that is to be choſen by or through which the matter of cure may come to it, that there may be a touch, and action and paſſion thereof and of the Indicant.

As for Mode, if it regard the remedie it ſelfe without conſideration of matter, it ſeemes not to differ from quantity, time, and place, but rather to be a Summetry in meaſure, and equity to be obſerved in theſe; but if it be taken for the forme of a medicine, that is delivered in the doctrine of the compoſition of medicines. *How the matter medicinall anſwering to the Indicate may be found out.*

The helpe or Indicate being found out, that the Phyſitian may be carefull of the matter of cure tis very requi-

fite; which is taken from three heads, Chyrurgery, Ingredients, and Dyet, the ſame Indicate ſhews matter, circumſcribed and determinate with its conditions, quantity, time and place, for that matter is proper and fit, which can performe that, which the determinate Indicate requires by its rules, and which may have force, but if there be more Indicates, or matter to be ſought which have more faculties, or if theſe be wanting more ſhall becompounded together.

But becauſe allwayes as is ſaid, regard is to be had of the ſtrength alſo, and it is to be weighed, whether by the application of this matter, there may come more good or not, the nature of the whole body, and of the part to which the medicine ought to be applyed is to be conſidered, in which buſineſſe not only manifeſt, but alſo occult qualities ought to be weighed, and tis to be enquired by the Phyſitian whether the ſick have any peculiar hatred to any particular thing, which therefore is in no wiſe to be given in the cure, but in parts affected in their kind, the excellency of a part is to be weighed, the ſenſe, ſcituation, conformation, for if a part be a principall one or performes a publick Office, no Medicine is to be given which can much hurt it, and diſturbe its Office and Duty, for then loſſe would redound to the whole body, ſo to the mouth and chops poyſons and things ungratefull to the taſte and ſordid are not to be exhibited, nor ſtinking things to the Noſtrills, nor gnawing and biting things to the eyes, nor thoſe things to be applyed to nervous parts affected, that cauſe paine.

Quantity of matter. The ſame rules which we have now even propounded in the right uſe of remedies, are to be obſerved alſo in choice of matter, the quantity of matter regards the meaſure, & waight thereof, which was indicated by the Indicant, and is proper for the performing of the Indication; the quantity of the matter is found two wayes, firſt in what quantity any medicine whatſoever is to be given, and what are thoſe bounds betwixt which if it be given it performes that which itought, and no way hurteth, is manifeſt by experience only, but in what doſe, whether in the higheſt, loweſt, or middle, the medicine be to be given, to this or that ſick perſon, what the quantity is of the matter to be adminiſtred, that is known from the magnitude, or extent of the Indicant, and if the quantity of the Indicant be great, the quantity of the medicine ought to be great likewiſe, in which matter the condition is to be weighed and the ſtrength of the whole

whole and of every part, for if a part to be altered is more remote in place, a greater quantity of the remedie altering is required, namely that it may come with its full force to the part affected.

But the time of Adminiſtring of matter is taken not ſimply from the preſence of the Indicant, but is that when it can helpe, but this time is known, and the knowledge of the matter to be adminiſtred, and the nature of the part to which it ought to be Adminiſtered, for ſome things worke preſently, others after ſome ſpace between; the action of of ſome things continues long, of others it ceaſeth preſently. The part as it is open, or placed deepe, ſo it regards the action of the Agent preſently; the Adminiſtration of the matter is to be prohibited when it doth more hurt then good, but it may doe hurt, when it may preſerve any thing contrary to nature which ought to be taken away, or when it may take away that which ought to be preſerved. *Time.*

The place of Adminiſtration of matter, is that place where the matter is to be given, may helpe and performe that which tis required to do, for ſince every action is performed by contact, the Phyſitian ought allwayes to endeavour that the matter which he uſeth might penetrate to the place where the Indicant is, and may touch the Indicant, but ſome parts are Externall, others Internall, in Externall the matter is plaine, for there the matter of the medicine is to be applyed where it is to worke, or where the Indicant is, ſince the Externall parts may be immediatly touched with the medicines, but medicines cannot be ſo immediatly applyed to the Internall parts, and therefore when we are willing to evacuate, common wayes are to be choſen, and the next through which the matter may be evacuated; if we are to alter in the interior parts, either manifeſt wayes are to be found out or occult paſſages, through which the matter that is given may penetrate, and indeed as for manifeſt paſſages, the wideſt and neareſt are allwayes to be choſen.

But concerning the meaſure, or manner ſhall be ſhewn hereafter, part the 3 d. Sect. 3 d. where various formes of medicines, both ſimple and compound ſhall be propoſed. *Manner.*

CHAP.

Chap. V.

What Morbifique cauſes indicate, and peculiarly of purging of a juice in the body which cauſeth ill digeſtion.

FOraſmuch as hitherto we have explained the univerſall Method of healing, now peculiarly we will propound the Method of taking away of Morbifique cauſes, removing diſeaſes, and preſerving ſtrength, and will begin from the cauſes.

What the differences of cauſes are, is ſpoken before in the 2 d. Booke, part the 1. Chap. the 3 d. for of what kind ſoever they are, whether begotten in the body, or externally, or admitted into the body, and become as it were internall or ſtirring up, cheriſhing, and increaſing a diſeaſe without, they all require removall.

Cauſes what they ſhew.

But whereas cauſes offend either in the whole ſubſtance, or quantity, or quality, or motion, or place, firſt, all things which put on the nature, of a cauſe, as in their whole kind they are contrary to nature, they indicate, an abſolute ablation of them out of the body, or as latter Phyſitians ſay, an Eradication.

What things ſhew in their whole nature preternatural.

But that here we may treate only of humours, ſeverall wayes there are of rooting out and evacuating corrupt humours out of the body, for ſometimes they are purged through the paunch, ſometimes they are ejected by vomit, ſometimes diſcuſſed by ſweates, ſometimes caſt out by urine, of which we will now ſpeake in their order, and firſt of purgation.

What ſhews when to purge.

Purgation taken in the largeſt ſenſe is indicated from a *Cacochymie*, or juice which cauſeth ill digeſtion and bad nouriſhment, and a purging medicine taken in the largeſt ſignification is the matter of remedie, indicated for a *Cacochymie*; but that this doctrine of purgation may be more evident, in the firſt place tis to be obſerved, that Phyſitians in reſpect of purging medicines, divide the body into three common Regions, into the firſt, which is without the liver, and is extended from the ſtomach, through the middle part, home to the liver; the ſecond which is dilated from the middle of the liver, through the greater veines, to the outſide

outſide of the body; the third, which comprehends the habit of the body with the leſſer veines: private parts alſo have their excrements and peculiar wayes to void them, and hence one evacuation is called univerſall, another particular, univerſall is that which evacuates humours from the common Regions of the body, ſuch is evacuation of blood after what manner ſoever, purging by the paunch, vomitting, voiding of urine, ſweate, inſenſible tranſpiration; particular is that which evacuates ſome private part, as the braines, lungs, wombe. *Univerſall evacuation.* *Particular.*

As for univerſall purgation which evacuates the common Regions of the body, *Cacochymie* conſiſts of what Indicates it, either on this ſide, or beyond the liver; *Cacochymie* which conſiſts in the firſt Region of the body, by its ſelfe, and properly indicates thoſe medicines which have power without any manifeſt agitation of evacuating ſuperfluous humours through the paunch, which ſtick in the firſt Region of the body, although ſometimes if the matter have an inclination upwards, and the ſick can eaſily endure a vomit, by vomit alſo humours may be purged out of the firſt Region of the body, ſo that thoſe things which cauſe vomitting are not purging, and vehement, but gentle, ſuch like are as aboveſaid part the firſt, Sect the firſt Chap the ſecond: others are called *Encoproticks*, only ſuch as looſen, and mollify the belly; which evacuate only by ſoftning, and waſhing away, and drawing away, others by a ſingular propriety, purge peculiar humours, whoſe force notwithſtanding ſince it cannot be extended beyond the liver, by ſome are called Lenitives, by others, gentle purges; both of them and firſt the former, ſince they evacuate without much troubling the body, the ſtrength eaſily endures them, and therefore they may be ſecurely given in what age ſoever, ſex, or time of the yeare, ſo that the uſe thereof be lawfull, namely that they are given in their due quantity, and before meate a little, and in feavers not neere the fit. *Lenitives.*

But excrementicious humours, which conſiſt beyond the liver are to be evacuated by Cathartick medicines, ſo called peculiarly, or purgers, ſtronger, and ſtrongeſt, and *Catharſis* or purgation in particular ſo called is an evacuation of excrementitious humours abiding beyond the liver by *Cathartick* medicines through the paunch, and by vomit, and is indicated from excrementicious humours, and ſuch is *Purges properly ſo called.*

as are unprofitable for the nouriſhment of the body, and ſome of thoſe are naturall, others contrary to nature, the naturall are thoſe whichare generated by the purpoſe of nature, asſweet phlegme, Melancholy, choler, for theſe if they abound, and are generated in the body in greater plenty then they ought, conſtitute a *Cacochimy*, but preternaturall are thoſe which are generated contrary to nature, and unto which naturall humours degenerate, both of them, if they ſo offend that they can neither be taken away by dyet, nor any other milder kind of evacuation, as by ſweates or inſenſible tranſpiration Indicate purgation.

But as *Cacochimy* ſubſiſting beyond the firſt paſſages, and that being greater, Indicates purgation, ſo ſuch require ſuch kinds, as purge a definite humour; namely phlegme requires Phlegmagogues; Choler, Chologogues; Melancholy, Melanagogues; watry humours, Hydragogues; mixt humours require mixt.

Permiſſion of purgation. Yet it is to be weighed what the ſtrength permits, and prohibits in purgation appointed, by a Noble medicine, and whether the ſtrength can endure purging, and the ſick be apt, or unapt to purge, and whether more profit or hurt will enſue by purging.

All the reſt of the ſignes which are ſaid to forerun purgation, belong to the ſtrength, whether they are ſtrong or weak, of which kind are Temperament, habit of body, age, ſex, of which *Hippo.* 4. *Apho.* 1. ſpeaking of purging women with child ſaies: Thoſe that are pregnant are to be purged if the humour be un-bridled after foure months, and untill the ſeventh month, although theſe leſſe, for thoſe that have leſſer or greater young are more warily and religiouſly to be medled with, the kind of life, cuſtome, property of nature, conſtitution of Aire and ſuch like. As for the Temperament, hotter and dryer bodyes endure with more difficulty cold and moiſt indifferently, hot and moiſt eaſily: ſtrength of body admits of purgation, imbecility very little, a leane habit of body warily, a full body eaſily, a fat body hardly, of age it is principally to be noted that ſucking children are moſt conveniently purged by medicines given to the Nurſe: as to cuſtome, thoſe that are wont to be purged, more boldly; thoſe which are not accuſtomed are more ringly to be purged: of Aire you muſt know that neither the hotter, nor the colder; but purging is principally in the

the ſpring time to be appointed: concerning the nature of a diſeaſe it is firſt to be noted that in hot diſeaſes, if the diſeaſe will beare it, cooling things are to be adminiſtred before purging, moreover becauſe in them the ſtore of ill humours is rather to be taken away by looſning things then by true purgation. Thirdly becauſe thoſe which are apt to a *Diarrhœa*, *Crampe*, *&c.* are not eaſy to be purged. But principally you muſt obſerve whether the ſick be prepared and fitted for purging, namely whether the wayes through which the matter ought to be conveyed, are open, and the humours themſelves fit to be evacuated, of which it ſhall be ſpoken.

Chap. VI.

Of the time fit for purging of a diſeaſe.

Time of purging.

But although peccant, corrupt and putred humours allwayes Indicate their own taking away, and evacuation out of the body, yet becauſe they are not allwayes apt for purgation, you may not evacuate them at any time, but are to enquire of the time and occaſion of giving purges. The convenient time of purging is, when the humour Indicating purgation is preſent, and other Indicants permit it, and nothing hinders it.

But in the beginning you are to be admoniſhed here, that thoſe things which are to be purged either may ſtir up a feaver, or other diſeaſes without a feaver; if the feaver be abſent, the wayes open and the humours themſelfes prepared for motion, you may purge them at any time, ſo in the Scab, *Cachexie*, paine of the head, Palſie, Trembling, paine of the Teeth, you may purge during any time of the diſeaſe, when nothing prohibits it and that a concoction is not expected, when thoſe humours are not properly crud, the are ill drawn hither by ſome *Atho. Hippo. 22. Sect.* 1. things concocted, are to be purged not crude, but the whole diſputation of the fit time for purging of a diſeaſe is of Feavers, and that acute, eſpecially wherein the humours are properly crude, although the time of a diſeaſe ſhew not, yet there is a ſigne which ſhews either the prohibiting, or permitting vertue; for ſince that in the augmentation of a diſeaſe, nature begins a combate therewith, in the ſtate there is a great conflict between them, let him endeavour this one thing with all his induſtry

that

that he may overcome the morbifique cauſe, and having overcome it may drive it out of the body, and all the Symptomes if they are greater, nature is neither to be oppoſed any more with purging medicines then, nor to be called away from its good purpoſe, nor being debilitated enough by the Morbifique matter, and moſt greivous Symptomes, is it to be hindred; there remaines therefore two times, namely the beginning of a diſeaſe, and that after the ſtate, neither notwithſtanding is it equally profitable to purge in which you pleaſe of theſe in all diſeaſes, but allwayes to conſider whether more profit, or more inconveniency will enſue by purging, but what it is to be done here *Hippo.* teacheth in the 22. *Apho. Sect* 1. which *Galen*, in 4. of preſerving health Chap 5. calls an Oracle, he ſayes, concocted, and ripened humours are to be purged and moved, not crude.

Purging is the beſt in the declination of a diſeaſe.

Out of which it is manifeſt that the moſt convenient time of purgation is after the ſtate, and when the humours are concocted, for if we purge concocted humours, that is ſuch as are overcome and tamed by nature, and ſeperated from the profitable blood, we have nature our helper, and the humour more aptly followes the leading of the purging medicine, but if we endeavour by purges to evacuate crude, humours, that is ſuch as are not as yet Elaborated, and become benigne, nor as yet ſeperated from the profitable, the ſick will receive more dammage then benefit from thence; neither have we nature to aſſiſt us, nor are the humours apt for purgation, wherefore either the purge performes not its purpoſe and brings out nothing, or very little, or if the medicine be very ſtrong, it draws out not only the unprofitable, but profitable humours, (ſince they are hitherto mixt,) it melts, and conſumes the body, diſturbes the humours more, and confounds them, brings forth obſtructions in the firſt paſſages, the matter being ſtird and not ſufficiently evacuated, whence greivous Symptomes doe ariſe, but if any voluntary purge ſhall happen, and that ſufficient, or that any future looſneſs be expected, there will be no need of any purging; according to *Hippo.* 1. *Apho.* 20. thoſe things which are perfectly judged, and exquiſitely confirmed are in no ways to be removed, neither moved, neither with purging, medicines, nor other endeavours, but are to be let alone.

Sometimes you may purge in the beginning.

But although the beſt time for purging is after concoction, yet ſometimes you may purge in the beginning, by the command

command of *Hippo.* 2. *Apho.* 29. where hee ſayth, in the beginning of a diſeaſe, if any thing ſeeme fit to be moved, move it, but when you may, purge it in the beginning of a diſeaſe: It is variouſly diſputed amongſt Authors; *Galen* ſhews it clearely, whilſt 1. *Apho.* 24: he ſaith, that then onely purging is to be uſed, when greater profit may follow by the evacuation of offending humours, then the detriment is, which the body receives from purging medicines; or when any preſent danger doth more urge, then crudity of humours; but *Hippo.* ſhews the cauſe, and that danger, 1. *Apho.* 22. whilſt he writes. That purging is not to be uſed in the beginning of a diſeaſe, unleſſe the matter raiſe Tumours, or be angry: for if hot humours, acrid and biting wander up and down in the body, and it be doubted leaſt the ſtrength ſhould be debilitated by the agitation of the matter, or leaſt the matter being ſtird up ſhould ruſh into ſome principall part with violence, or into ſome part, which may draw a principall part with violence, or into ſome part, which may draw a principall part into conſent, or leaſt the native heat ſhould be extinguiſhed, you may purge them preſently in the beginning of a diſeaſe, eſpecially when they alſo of their owne accord are moveable, and eaſy to be evacuated, and nature wearied out by them, affords its aſſiſtance towards their expulſion. and indeed that ſhould be done in the very beginning, *Apho.* 10. *Sect.* 4. of *Hippo.* To purge in very acute diſeaſes if the humour ſwell, the very firſt day, for delay in diſeaſes of this kind is dangerous.

CHAP VII.

Of preparation and concoction of humours.

Concoction and preparation of humours differ.

AT another time, concoction of humours is to be expected before purging be appointed, and the Phyſitian ſhall ſtuddy to prepare thoſe things which further concoction, and cauſe more commodious evacuation, for we muſt diſtinguiſh betwixt concoction and preparation, and concoction is attributed to nature, preparation to Art, namely nature only concocts humours, and Elaborates them, and draws them to that perfection, and better ſtate by putrifying which they can receive, that they may the more conveniently and without prejudice or detriment to the ſick be evacuated, but it is not in the power of Art to concoct humours, yet it may be helpfull

Concoction of humours the work of nature.

helpfull to the native heate, concocting both by cherish-ing and ſtrengthning it.

Preparation of humours two-fold.

Beſides this true concoction which is the worke of nature only, there are yet other preparations of humours, which are appointed for the more happy concoction, and more profitable evacuation ſake, which the vulgar call concoctions alſo, and medicines effecting them, they call Concoquents, or as they commonly ſpeake Digeſtives.

Digeſtion.

The firſt prepation of humours.

Theſe preparations are of two kinds the one is that which preceds the concoction which is performed by nature, the other is that which followes it, the former is that which takes away all things which are impediments to nature whereby it may the leſſe begin, or happily perfect concoction, and commonly uſeth to be called concoction; the quality of humours beſides their quantity, hinder concoction; therefore what qualities ſoever hinder concoction are to be taken away by their contraries, and hot humours are to be cooled, cold to be heated, dry to be moiſtned, moiſt to be dryed, in like manner humours that are too thick are to be attenuated, thoſe that are to thin and ſharpe are too be thickned and allayed, and thoſe that are tough to be wiped away or purged.

Phlegme how to be prepared.

Namely phlegme which is cold, moiſt, thick, and dull, requires heating, drying, attenuating, cutting, and detergent medicines.

Choler.

Yellow choler ſince it is hot and dry, tis to be corrected with cooling and moiſtning things, but as it is thin, and by its too much tenuity may moleſt the body, it is to be thickned, the other kinds of choler which are produced by too much aduſtion, ſithence they are now thicker, require extenuation.

Melancholy.

Moreover the melancholy humour ſince it is cold, dry and thick, is prepared with things moderately heating and attenuating and moiſtning, but black choler, ſince tis a hot humour very dry and thick, requires cold things, much attenuating and moiſtning.

Another preparation of humours.

The other preparation is that which is appointed when putred humours allready concocted, or others alſo not putred, by reaſon of ſome impediment are not evacuated without difficulty, unleſſe that be taken away.

But ſithence humours which ought to be evacuated, ought to be moveable, and the wayes through which they ought to be moved open, hence it eaſily appeares that there are

two

two hinderances, which impead the happy purgation of humours, namely thickneſs of humours and obſtruction of paſſages. And therefore the Phyſitian which would purge as *Hippo.* commands 2. *Apho.* 9. muſt well prepare, as *Galen* explaines it, tis to extenuate the thick and dull humours, and open the paſſages through which they ought to be traduced, and drawn by the force of purging medicines.

CHAP VIII.

Of the quantity of purgation.

How much to purge.

THat we may purge as much as is convenient, and no leſſe, we are to uſe diligence, firſt to know the quantity of the peccant humour, that from thence the quantity of the purging medicine may be determined, for the quantity of the purging medicine ought to be ſuch that it may evacuate all the peccant humours, leaſt any part thereof remaine in the body, and corrupt the other humours, and afterwards cauſe a relapſe.

Whether the peccant humours are to be evacuated at once or ſeverall times.

But whether the peccant humours ought to be evacuated together, and at once, or at ſeverall times is to be known from the ſtore of humours, and ſtrength or weakneſſe of the Patient; for if the matter be much, and if the ſtrength be great, yet it is better to divide the purgings, nor by too large evacuation raſhly to debilitate the ſtrength, but if the matter be too little, and the ſtrength great, you may purge all the humour at once; if the ſtrength be weake, and many, or few humours are to be evacuated, tis more commodious to evacuate at ſeverall times, then to debilitate the ſtrength by one ſtrong purge.

Permitents and Probibents.

Moreover you muſt attentively conſider how the ſtrength will endure purging, and all thoſe things which may diſcover preſent ſtrength as well as that is to come, and all thoſe things are to be weighed which are numbred amongſt permitting things, and ſuch as prohibit purgation: amongſt which the firſt is the naturall propriety of body, for ſome having taken ſtronger, and greater doſes are ſcarce moved by purgers, others are purged very eaſily having taken any purging medicine, therefore if the propriety of natures be not ſuffi ently diſcerned, tis better to try with gentle things, then raſhly to meddle with the ſtrongeſt; cuſtome alſo and habit of body is to be known, and tis to be conſi-

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dered whether the ſick can beare ſtrong medicines or not.

Signes of perfect purgation. The perfect ſignes of purging *Hippo.* delivers 1. *Apho.* 23. he ſaith Excretions are not to be valued by their quantity, but if they are ſuch as they ought, and ſo goe out that the ſick can eaſily endure it; whereof the firſt is if ſuch as ought are evacuated. Secondly if the ſick can well beare it. Thirdly thirſt happens through evacuation, according to *Apho.* 19. *Sect.* 4. whoſoever are purged having taken a purge, and doe not thirſt, the purge hath not reached home to the marke before they doe thirſt.

More ſparing purgation how to be provoked. But if due evacuation be not made it ſhall be promoted ſparingly by moderate exerciſe of the body, as tis in *Hippo.* 4. *Apho.* 14. 15. but if it be too much, you muſt uſe ſleepe and reſt.

Overmuch how to be hindred. Too great evacuations are hindred by Ligatures, and rubbing of the extreame parts, by ſweates, Cupping-glaſſes applying to the navell, aſtringent Topicall Medicines put to the Region of the ſtomach, taking of new Treakle, or old, with a graine of *Opium*, as alſo with meate, drinke, and Medicines given, that have aſtringent qualities.

CHAP. IX

Of the place by which purgation ought to be made.

What ſhew the part to be purged. LAſtly the place, by which purgation ought to be made the reſidence, or as I may ſay the inclination of the humours ſhew, for a humour is to be evacuated through that place, through which, both in reſpect of the place wherein it reſides, and of its owne nature, it is fit to be evacuated ſo that the ſtrength will permit it, which *Hippo.* alſo admoniſheth 1. *Apho* 21. we ought to lead out humours that way which they are moſt inclined to goe, thither they are to be led through convenient places.

But the convenient places are thoſe through which nature at other times rightly acting, evacuates what is offenſive, and indeed there are two wayes by which purgation is to be appointed, the one is that by which we vomit,

By vomit. the other through the paunch, but by vomit thoſe humours are conveniently evacuated which are apt both in regard of the place where they reſide, and in reſpect of their own nature to be carried to the ſtomach, or ſuch as tend upward,

namely

namely ſuch as are generated, and reſide in the ſtomach, as thoſe alſo which are contained in the Spleen, Cavities of the Liver, and Pancreas, as alſo thin humours, hot and cholerick; but by the paunch thoſe which remaine in the inferior parts and tend downwards, as alſo thick and cold humours, hence *Hippo.* writes 4. *Apho.* 6. thoſe that are leane, and eaſie to vomit are to be evacuated upwards, being carefull of the Winter. As for example, thoſe which abound with choler which tends upwards; but on the contrary thoſe which are hard to vomit, and are ſomewhat thicker, and of an indifferent habit of body are to be purged downward being cautious in the Summer, becauſe they more abound with phlegme. *By the paunch.*

Moreover the time of the yeare ſhews the humour, and from thence alſo the place of purgation, hence *Hippo.* 4. *Apho.* 4. in the Summer the ſuperior ventricles, in the Winter the inferior are to be purged, for in the Summer yellow choler and hot humours abound, and by reaſon of the heate all things in our bodyes ſeeme to tend upwards, in Winter, phlegme rather abounds which is heavy, and by nature tends downwards. *Time of the yeare.*

Symptomes alſo ſhew the nature of humours, and whither they incline, as *Hippo.* teacheth 4. *Apho.* 17. the loathing of meat by one that is not in a feaver, the griping of the mouth of the ſtomach, a *Vertigo* with *Apparitions* of ſhadowes, and bitterneſſe of the mouth ſhew that there is need of purging upwards, all which Symptomes ſignifie that choler is willing to aſcend to the mouth of the ſtomach, and the ſame *Apho.* 18. paines above the Middriffe, whoever wants purging, they ſignify they are to be purged upwards, but thoſe which are beneath, downward, and the ſame *Hippo.* *Apho.* 20. if there be gripings, and frettings in the guts in feavers, and heavineſſe of the knees, and paine of the Loynes, they ſhew that you are to purge downward. *Symptomes.*

Yet in provoking vomit we muſt conſider whether the ſick be eaſie to vomit, or not, and whether the ſtomach or any of thoſe parts, which may be moved by vomit and to which the humours, or at leaſt the vapours ſtird by vomit may flow; be weake, and affected, for then you muſt abſtaine from giving a vomit.

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Chap. X.

Of the due Administration of Purgers.

Particular time.

As for the houre of giving a purge, purging medicines are to be given at the fourth, fifth or sixth houre in the morning, but if there be any thing which impeades purgation at that time, or requires a purge to be given sooner, it may also be taken at another houre, for fits hinder, which if they come in the morning, the medicine is to be exhibited in the Evening, but a violent disease forceth us to purge, since it threatens present danger, in which case purging is not to be deferred, but to be given, although in the Evening, the purge being taken, you must abstaine from meare foure, five or six hours, after the medicine is taken, those which are given to drink should be given, hot, not cold, nor luke-warme.

Whether purgers may be mixt with meate.

Some are wont to mingle purges amongst their meates, but they did not well, for the force of the medicine is hindred by the meate; and the meate is defiled and corrupted by the medicine, and the humours which are drawn; its concoction is hindred, and being uncocted, the medicine stimulating, it is expeld; and tis to be feared, least some excrements, mixt with the meate, should be distributed into the Liver and veines, or that the meate it selfe, being not enough concocted, or rather corrupted, should breed some inconveniency in them.

Chap. XI.

Whether it be lawfull to sleepe having taken a purge.

Whether we may sleep having taken a purge Physitians disagree, but there is need of a distinction; for if the purging medicine be gentle and benigne, having taken it we ought not to sleep, least the medicine should be carried away and overcome by nature, and its action hindred, but if the purging medicine be stronger, and requires greater heate that it may be brought into action, sleepe may be granted to the sick, yet moderate, which may only further the activity of the medicine, but not impead evacuation, but afterwards to abstaine from sleep untill perfect and sufficient purgation be

be made; moreover for the ſame reaſon, after taking ſtrong purges tis lawfull to ſleepe a little while, that the malignity of the medicine may be reſiſted by the more plentifull heat, occaſioned by ſleepe, and thoſe troubles which the medicine occaſioneth may leſſe be diſcerned in ſleepe, and ſo the medicine retayned without trouble or moleſtation, may rightly be reduced into action.

CHAP. XII.

Whether it is beſt after purging, to uſe cleanſing, and abſtergent medicines.

TIs the cuſtome at this day, ſome houres after taking purging medicines, to exhibit cleanſing broathes, and ſuch as wipe away, and that is righly done, for tis profitable before food be taken, that the remainders of the medicine, and the reſidue of its qualities, and if any vitious humours are drawn by the medicine, and remaine in the ſtomach, they are to be waſhed away, and drove downward, and the loathing, and diſdaining of meate, which is wont to be occaſioned by purging, may be freed and taken away.

CHAP XIII.

Of Evacuation by Urine

ALthough the watry humour is principally evacuated by Urine, which remains of the drinke, and is mingled with the blood, and the gibbous part of the Liver, Reines, Bladder, and Veſſells ſub-ſervient to theſe, are principally purged by it, yet the other humours attenuated, and principally the ſerous, thinner phlegme, the cholerick humour, and all the nerves and veines, may be purged by the ſame. But ſeeing thoſe things that cauſe Urine cleanſe the body by degrees, tis moſt profitable in thoſe diſeaſes, wherein tis convenient to evacuate matter by degrees, and ſparingly; but in thoſe where there is need of ſudden excretion, and of evacuation to be made on a ſudden, in ſuch evacuation of Urine is not ſo helpfull. *Evacuation by Urine.*

But what the difference is of medicines provoking Urine is ſpoken before, Diureticks properly ſo called are uſefull only as often as thick humours reſiding in the Reines, bladder

der and parts ſub-ſervient to them are to be evacuated, or if thick humours ſtay, or ſtick in the veines, but thoſe which move Urine only by affording aqueous matter, are convenient in thoſe diſeaſes which are bred of thick and aduſt humours, for by the mixture of aqueous ſubſtances, theſe are rendred more fluid.

Permitters and Prohibents. Thoſe things which permit, and prohibit alſo, are here to be conſidered, the ſtrength eaſily endures this evacuation ſo that it be ſo adminiſtred that more profit then dammage may redound to the ſick, for if either in the whole body or about the liver, many ill humours ſtick, there is danger, leaſt by their plenty and thickneſſe whilſt they get to the ſtraight paſſages, they ſhould obſtruct them; and therefore firſt a purge for the belly is to be appointed: Diureticks alſo are not ſo convenient for hot and dry diſeaſes, as feavers ariſing from hot humours, nor for ſuch as are leane and withered, as alſo if the Reines, bladder, and paſſages and veſſells appointed for this evacuation, are ulcerated, or

Time. inflamed or affected with ſome ſuch like diſeaſe,

The time of drinking medicines cauſing Urine is not not convenient in the beginning of a diſeaſe, ſince the matter is as yet more plentifull, and thicker, but in the declination when the matter is ſomewhat abated and thinner, but they are moſt profitably given before meate, and on an empty ſtomach.

CHAP. XIV.

Of evacuation by ſweate.

Sweate whence it evacuates. LAſtly vitious humours alſo may be expelled by ſweate, for although ſweate evacuate in the firſt place from the circumference, and habit of the body, yet it may evacuate humours alſo from the reſt of the body, and indeed firſt out of the greater veines and Arteries, and afterwards out of all other parts, namely from whence humours may be driven to the veines, and from thence to the ſuperficies of the body, for they are not conveniently thruſt out from the cavities of the ſtomach, guts, wombe, and ſuch like, to the extremities of the body, and there are other wayes by which they are far more eaſily evacuated, but the watry humour

What humours are evacuated by ſweate. is evacuated by ſweate, which alſo may be evacuated by Urine, and ſo may every thin humour and cholerick, as

others

others alſo if they are attenuated, but principally ſweates are profitably provoked by art in inveterate and cold diſeaſes, and diurnall diſtillations, in the Palſie, the *Sciatica*, and other paines of the joynts.

Things permitting.

Yet you muſt be careſull here what the ſtrength can permit, for this is a powerfull remedie, and requires great ſtrength, but principally hot and cholerick perſons endure ſweate leſſe, and not long, nor doe very hot things agree with them; much matter prohibits provocation to ſweate, for tis to be feared, leaſt being dilated to the skin, it ſhould ſhut its ſmall breathing holes, or pores, and ſo either generate, or increaſe putrifaction.

How much.

As for how much, we muſt be careſull that we doe not over much provoke ſweate, for ſweate, if it be too much, weakens the ſtrength exceedingly, reſolves the body, and makes it leane, wherefore tis more commodious to cauſe moderate ſweates often, then to debilitate the ſtrength with one that exceeds meaſure.

When.

But the fit time for provoking ſweates is the beginning of a diſeaſe, but after univerſall purging of the body, and in the declination of a diſeaſe, but the particular time, when the meate is concocted, and in the declination of diſeaſes, in thoſe which have paroxiſmes.

In what diſeaſes.

But medicines provoking ſweate are eſpecially to be exhibited with profit in peſtilentiall diſeaſes and in all malignant matter, by which the malignant matter, the peſtilent and venemous matter to the great benefit to the ſick is driven from the internall parts, and thoſe that are next the heart to the extremities of the body, and is evacuated by ſweate. But *Sudorifiques*, which are given in ſuch diſeaſes, ought to be of the number of thoſe that reſiſt poyſon, that they may together infringe and debilitate the venome. In Adminiſtring of which, there is no need of all thoſe rules or obſervations, which are neceſſary to be obſerved in provoking ſweates in other diſeaſes, but preſently in the beginning of a diſeaſe thoſe Sudorifique reſiſters of poyſon are to be given, neither is too much debilitating of ſtrength to be feared.

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CHAP. XV.

Of particular Evacuations.

Particular evacuation of the braine.

AS for particular Evacuations, if any vitious humours are collected in the braine, it may be evacuated two wayes, by the Nose, and the Palate.

Errhines.

By the Nose, first Errhines call out phlegme, which is spread about the braine, and filmes that cover it, and stirs up its faculty that it may strive to cast out superfluous humours.

Sneezing.

Moreover sternutatories, which ate stronger, and irritate the braine, and by the force thereof humours which lye deeper may be cast forth, of both of these this in generall is to be noted, that such remedies are not to be used, unlesse universalls have preceded, and that the whole body be purged, but or the matter and forme of Errhines, and those things that cause sneezing, see before part the 1. *Sect.* 1. Chap. 18. and hereafter part the 3 d. *Sect.* 3. Chap 30.

Apophlegmatisms.

But those things which evacuate by the Palate, are called Apophlegmatisms, and purge the more inward cavities and ventricles of the braine, they are not conveniently given to those, the inward part of whose mouth, throate, gullet or Larynx is exulcerated, and such as are obnoxious at other times to distillations to the Chops and breast.

Purging the breast.

Those which purge the Lungs are called expectorating things, and because humours cannot cast out from the lungs through the Wind-pipe, without a cough they are called *Bechica* of which kind for the most part are Arteriacks *i. e.* medicines for Rhumes all of them, especially those which cleanse, cut, or any way prepare the matter for expulsion, but that humours may the more easily be evacuated by cough, their consistence ought to be indifferent, neither too thin, nor too thick, but only so thick that they may be carried upward by Aire; not so viscide, as to stick in the mouth of the Lungs, and therefore if the humours are viscide they are to be moistned and cleansed with sowre things but if too thin, to be somewhat thickned.

Things purging stomach, Liver, Reines, Wombe.

The stomach is evacuated by vomit or by the paunch, the guts with glisters, and medicines purging the belly; the cavities of the liver, through the belly; the gibbous parts, by urine; the reines, and urinary passages, by urine, the wombe by the courses. Of which tis now spoken in universall evacuation.

CHAP.

CHAP. XVI.

Of the abating abundance of blood with Leaches, Cupping-glasses, Scarrifications &c.

THe other fault amongst morbifique causes is quantity and the common Indication which is taken from hence that that which aboundeth may be deminuished, and that which is diminuished, may be increased, but since nothing can be said to abound, unlesse that at other times it be naturally present; but in the body blood only and such excrements are contained which proceed from nature; blood and naturall excrements in this second manner may be the causes of diseases, as also milke and seed, and moreover the spirits and solid parts of the body, all which if they are deficient in quantity, ought to be increased, but if they exceed are to be deminuished; naturall excrements are seldome deficient in quantity, but they often exceed; but since the same reason is of evacuating naturall excrements, which there is of the humours, in their kind preternaturall, here only we will speak of taking away of blood when it abounds. *what shews the fault concerning quantity.* *what offends in quantity.*

Therefore if Plethory, be present and the blood abound, the blood is to be diminuished, and that which aboundeth to be taken away, and too great plenty of blood indicates diminution of the same. *Plethory what it shews.*

But concerning the manner how we abate the blood, some performe it more strongly, others more weakly; frications, Sweates, Bathes, Exercise, Fastings performe it more weakely; Leaches, opening of the Hemerhodes, provocation of courses, Cupping-glasses, and Scarrifications performe it more strongly; but the most generous, and powerfull remedie here, is opening of a veine. *The manner of abating blood.*

Frications, Sweates, Bathes, and Exercises, they diminuish the blood one way, because they stir up the heate in the body, which dissolves and dissipates the substance of our bodyes.

But fasting doth not evacuate by its selfe, but by reason that it takes away humours, and diminuisheth the body, because it puts nothing in the stead of that which is consumed by heate, and denyes necessary aliment to the body; but because fasting evacuates the whole body equally, tis then requisite when the humour abounding *Fasting.*

doth

doth abound not in one part but in the whole body; yet ſhorter faſting firſt evacuates humours out of the ſtomach and about the ſtomach; but becauſe faſting evacuates by degrees it is not profitable, nor ſufficient for an indication, when plenitude is ſuddenly to be abated. But tis endured when the ſtrength is powerfull, to which all other things, which prohibit faſting are to be referred, as temperature of body, hot and dry, hot and moiſt, a thin habit of body, griping or biting in the Orifice of the ſtomach, vomiting, flux of the belly.

Leaches. Leaches by opening the mouths of veines, and ſucking blood, evacuate blood by themſelves, and ſenſibly, yet by little, and little, in which reſpect they may diminuiſh the plenitude of the whole body and helpe diſeaſes of many parts to which they are applyed, and evacuate, ſometimes a greater, ſometimes a leſſer quantity of blood, as they are applyed to a greater, or leſſer veine, in the application therefore of them, you are to obſerve, whether they are placed for the evacuation of the whole body, or for a diſeaſe of ſome private part, for if they are applyed for the evacuation of the whole, they are to be put to the great and prominent veines, in the Legs and Armes or Hemerhodes, yet in women that are with child, they muſt be applyed only to the Armes; but in regard of peculiar diſeaſes they are to be applyed to divers parts, as this or that part is affected.

Hemerhodes. The Hemerhodes if they uſe to flow at other times, the opening of them may be inſtead of breathing a veine, but otherwiſe the Phyſitian in opening of them ſhall labour with little profit, unleſſe happily they are opened by leaches putting to them; but ſince the Hemerhodes are twofold, externall and internall, the externall are opened to abate a Plethory, as alſo for diſeaſes of the Reines, Wombe, Back, Hips, and other diſeaſes ariſing from the hollow veine with profit; as in diſeaſes which proceed from the *Hypocondries*, the Liver, Spleen, Meſentery, the internall may be conveniently opened; but the externall are opened with frications, the leaves of a Fig, courſe rags, Leaches applyed, the juice of an Onion, the juice of Century, or Sow-bread, the Gall of a Hog, or Bullock, or with rags wet in theſe, but the internall with ſuppoſiters and ſharpe Gliſters.

Courſes. The courſes whilſt they flow exacuate alſo and diminiſh perfluous blood; but nature appointed that flux, which

if

if it be ſuppreſt is to be opened; in which buſineſſe this is to be obſerved, that in provoking them, the Phyſitian ſhould make uſe of that time, when at other times they uſe to flow, for if he ſhould endeavour it at another time, he looſes his labour.

Cupping with ſcarrifying.

Cuppings, which Scarrification alſo, are matter of remedie, evacuating blood by themſelves, and ſenſibly, but by degrees; for which reaſon they are ſomething applyed for good reaſons, ſometimes inſtead of opening a veine; if they are applyed with good reaſon, they are indicated from no great fault of the blood. But when they are uſed inſtead of Phlebotomie they are applyed for ſome great fault in the blood, which indeed requires the breathing of a veine, which notwihſtanding weak ſtrength will not endure; but Cupping-glaſſes properly evacuate cutaneous blood, yet becauſe ſome of the blood which comes out of the skin is powred into the capillary veines from the great veines, in this reſpect alſo they are ſaid to evacuate the whole body: but if that evacuation be more ſparing it doth not reach the whole. And when Cupping-glaſſes evacuate by drawing, the uſe of them is moſt profitable if any revulſion be required at the ſame time: as for the place of applycation, if they are applyed in reſpect of the whole, they ſhould be put to the inferior parts; if in reſpect of any part, then to that part which requires this remedie; yet in thoſe that are pregnant, they are not to be exhibited to the inferior parts but rather to the Armes.

Scarrification.

Laſtly ſimple ſcarification alſo without cupping, may evacuate blood; which truly is uſed ſometimes inſtead of opening a veine; and tis appointed in the Legs eſpecially, by which meanes it may not only evacuate but alſo re-vell from the head, and ſuperior parts, yet ſometimes in the Arme and back alſo, but in its proper uſe tis exhibited, when there is a purpoſe to evacuate only out of ſome one part, but eſpecially when we would evacuate ſome acrid, malignant, and venemous matter, leaſt being retained, it ſhould caſt the ſick into danger, which is uſed alſo in a Gangrene, and by the aneients in a callous Ulcer.

CHAP.

Chap. XVII.

Of opening a veine.

What indicates a breathing of a veine.

But the moſt efficacious remedie for evacuation of blood is the breathing of a veine, which nevertheleſſe hath other uſes, whereof we will here ſpeake together, for tis a queſtion of great moment when the breathing of a veine, or evacuation of blood by opening of a veine is to be appointed, where firſt this is to be noted, that the opening of a veine is not ſome one Indicate, but the matter of remedie which is profitable in many Indicates.

The uſe of opening a veine.

There are two generall benefits in the opening of a veine, to evacuate, blood, and by accident, whilſt it draws away the blood, the vehicle of heate, to coole; againe in evacuating it performes two things, for it both takes blood out of the body, and allwayes the courſe, and violence of humours in the veines; firſt the way it both takes away the ill blood, and only diminuiſheth it offending in quantity, but the latter way it can revell, and draw back and derive the blood flowne into a part, and the blood which is flowne in whilſt it is yet moveable, can draw it to the parts neere thereunto; ſo that the opening of a veine may wholy performe five things, namely to evacuate corrupt blood, to diminuiſh blood, to revell, derive, and refrigerate.

Putred blood evacuated by the opening of a veine.

For firſt the vitious and putrifying blood may be evacuated by opening of a veine, as that which is contained in veines, and they being opened it flowes out, and indeed tis moſt profitably appointed in beginning of diſeaſes, ſince nature for the moſt part in feavers uſe to drive no ſmall portion of the peccant matter to the extreames, and thoſe greater veines under the skin.

The cutting of a veine diminiſheth blood and revells.

Secondly, breathing a veine is an excellent remedie to diminuiſh the blood.

Thirdly, the opening of a veine is uſed for revulſion, for a veine being opened, the violence of the blood is turned and drawne back to the contrary part, and therefore tis a very efficacious remedie to ſtop flowings of humours, contained in the veines.

It derives.

Fourthly, the opening of a veine may derive the blood, which newly flowed into the part, and is not yet ſetled there, but as yet fluid; a veine being opened nigh at hand it may, ſay drive the blood to a neighbouring part.

Cooles.

Fifthly, opening of a veine cooles by accident, but if diſ-

temper

temper only be present, which may be corrected by other remedies, and no other fault of the blood be joyned with it which requires breathing of a veine also, cooling medicines are ordered to be used; but if the blood be so exceeding hot that it requires sudden refrigeration, which other medicines perchance cannot performe, or some other fault of the blood be joyned, which by the same means, opening of a veine may helpe, for this cause also you may open a veine.

For which Indicants cutting of a veine serves.

From whence it is manifest, that the breathing of a veine may be profitable, whilst the blood either putrifyes, and is corrupted, or offends in quantity, or flowes to any part, with violence, or oppresseth a part, or burnes vehemently.

Yet it is not allwayes necessary to open a veine when these inconveniences are present, since we can take them away by other meanes, but then only breathing a veine is convenient, when there is a great corruption of the blood, and it requires sudden releasing, as being that which is the best and most efficacious remedy amongst the evacuations of blood, then presently blood may be evacuated.

The adequate Indicant of cutting a veine.

In short, the Indicant to which by mediation of the Indicate, as being the matter of helpe, opening of a veine agrees, it is a vehement fault of the flowing blood, which is corrupted either in its substance, or it offends in quantity, or rusheth into some part, or oppresseth some part, or growes exceeding hot; yet besides these principle faults, the blood also sometimes, as a cause without which it cannot, and as adjuvant, it may offend; and then also it requires opening of a veine.

Things permitting opening a veine.

Yet we may not allwayes open a veine when these Indicants are present, for since the opening of a veine evacuates blood together, and also exhausteth somewhat of the spirits, and so debilitates the strength, if the strength be great, it permits opening of a veine, if it be weake it prohibits it, and regard is to be had here not only of the present, but of the future strength, for when the strength is weake, either oppressed with store of humours, or loosed, in the latter imbecility only breathing of a veine is prohibited, but in the former it is profitable.

All other things which are said to permit, or prohibit the breathing of a veine, besides strength, they doe it only in this respect, namely as they are the tokens or signes of strength, or debility of nature, as Age, which flourishing admits of opening a veine, Child-hood and old Age prohibit

the

Sex. the ſame, the Sex, as to women with child, eſpecially in the laſt monthes, the opening of a veine is prohibited; unleſſe ſome diſeaſe inforce it and there be ſtore of blood, propertie of nature, cuſtome, habit of body, courſe of life, conſtitution of Aire, ſome Symptomes, as large evacuations, watchings and ſuch like, which diſſipate the ſpirits, and ſubſtance of our bodyes, and looſen our ſtrength, unleſſe they are taken away by opening of a veine.

How much blood to be evacuated. The quantity of letting blood is indicated from the greatneſſe of the fault depending on the blood, and according as that hath greater or leſſe force, ſo blood is to be evacuated more largely, or ſparingly, yet the ſtrength, as alſo things permitting are here to be weighed, and all thoſe things, which are the ſignes of ſtrength, and weakneſſe; and tis to be conſidered whether the ſtrength will beare that evacuation, which the magnitude of the diſeaſe requires.

But whether the quantity of blood which is indicated be to be taken away at once, or ſeverall times, the greatneſſe of the diſeaſe, and the ſtrength doe ſhew; in a moſt violent evill, tis convenient to evacuate the blood at once, in milder at ſeverall times; alſo ſtrong bodyes will beare one large evacuation of blood, but if they are weake, tis better to doe it at ſeverall times.

Time. The preſence of thoſe Indicants which ſerve for the letting blood, ſhews the time of letting blood, and the abſence of the prohibiting; therefore the moſt convenient time of letting blood for the moſt part is the beginning of a diſeaſe, yet it is not to be appointed whilſt crude juice, and unconcocted meates are in the firſt paſſages, and in diſeaſes wherein there are certaine intermiſſions, and wherein the fits returne at certaine times, the time when the fit is, is not convenient for letting blood, but the time of intermiſſion is more commodious, or if that be too ſhort, the declination of the fit, or the abating of a diſeaſe.

Houre. As for the houre, if a diſeaſe that is violent, provokes or urgeth, in what houre of the day ſoever, or even at midnight, no preparation being made before, and no delay being made, you may open a veine, at other times, one houre or two after ſleep is moſt convenient.

What veines to be opened. But where, or the place, and veine to be opened, although what veines ſoever be opened it may evacuate the whole body, yet the larger performe this beſt, and regard is to be had, to the fountaine of blood, and the riſe of the evill

evil, which are principally the liver and ſpleen, the veines therefore in the right or left cubit are to be opened, according as the diſeaſe requires, the internall, externall, or middle, and eſpecially the internall, but what veines are to be opened for Revulſion and Derivation ſake ſhall be ſhewne in there proper place.

Chap. XVIII.

Of Revulſion.

Default of humours according to qualities.

As for the third fault of humours, namely when humours recede from their naturall ſtate in reſpect of qualities, how that is to be amended, from thoſe things which were ſpoken before of the preparation of humours, and which ſhall be ſpoken hereafter of curing of diſeaſes of intemperature, is manifeſt enough.

In motion.

But the error in motion is various, and humours decline from their naturall ſtate, if either they are not rightly moved, that is, when they are moved thither whither they ought not, that is, when they ought to be quiet according to the Law of nature, they are moved at that time; or elſe are not moved, when they ſhould be moved; or are moved in parts or thither where they ought not to be moved; the firſt error is called the reſtraining motion, the ſecond the inciting, the third the helping, the fourth the correcting, and averting to another place.

Humours offending in motion what they indicate.

Firſt therefore humours as they offend in motion afford one indication only, of ſtopping of motion, of ſtaying the violence of a humour, or an averting of a humour from a place, to which it flowes contrary to nature, unleſſe happily nature unburthens it ſelfe conveniently by that meanes, or the body puts away humours that trouble it to ſome ignoble part of it, but we may ſatisfy this indication ſeverall wayes, namely if either we take away thoſe things from the humour, which are neceſſary for motion, or whether we draw back the ſame by force, namely, if out of what is thin and fluid we make it thick, if we ſtop the paſſages to it, and ſtraighten, and make narrow the wayes, through which it ought to flow, laſtly if we prohibit its comming, and bind the paſſages which are in the part, that it may not be conveniently received, but when we cannot hinder theſe often, or it is ſufficient to ſtay a flux, we call back and retract

track those humours by force: Humours are drawn back either by reason of vacuity, or heat, or paine: By reason of vacuity, or rather evacuation humours are drawn back, which power out and evacuate them out the body through other parts, as the opening of a veine, scarrifications, leaches, flowing of courses, Hemmerodes, purging by the Paunch, vomitings, urines, sweats,: By heat and paine they are drawn back, by those things which have power of inciting heat and paine, or have power of performing them both, as are frications, ligatures, lotions, fomentations, vesicatories, caustick, and such like.

How many waies the motion of humors may be hindered

Anso, although there is one Indicant, namely a fault of the humours in motion, so there is one Indicate, namely, remedy hindring motion, and averting the humour from the part to which it flowes, yet the manners of performing these are various, namely foure, Revulsion, Derivation, Interception, and repulsion.

Revulsion, what.

Revulsion, which the Greeks cal *Antispasis*, is an averting of a humour flowing into some part, into the contrary; But humours are Revelled, not those which are in the affected part (for these are properly evacuated out of the part affected, or nigh thereunto) but they are such as do flow to some part, or are about to flow. But since this is common to every Revulsion, that a contrary motion may be occasioned for the flowing humour, and may move it to a part, not to that whither it tends, but to a contrary; hence it followes, that Revulsion ought not to be to the next, but to the remote and opposite parts, and principally according to length, and breadth. As for the other oppositions some observe them also, whilest they make a twofold Revulsion, the one which is simple and absolutely such, or a universall Revulsion as it is called, which observes contrariety in respect of the whol body, & in it regards contrary termes, from whencesoever the humours flow, as when we revell from the head to the leggs and feet. But there is another particular Revulsion, or locall, which in one member onely regards contrary termes and opposition of the parts of the same member, and in the same member revels from the anterior parts to the posterior, or from the hinder to the former parts: Which nevertheless scarce deserve, the name of a Revulsion: And this former in the beginning of diseases, when the body is as yet very full, is most proper: But the latter is not convenient in the be-

Revulsion ought not to be to the next.

universall.

Particular.

ginning

ginning of diſeaſes; alſo whereas in revulſion the flowing humour ought to be drawne to the contrary part is manifeſt, flowings are to be drawn back together to the beginning; hence when humours flow from the whole body, or the beginnings of fluxes lye hid, the revulſion is fitly made to the remote parts, but when the beginning of the flux is certaine, to that the flux is to be re-called, although it be not the remoteſt part.

Revulſion by opening a veine.

In particular, as for the revulſion by opening of a veine, although that alſo is to be appointed in a diſtant, and remote place, yet not ſimply the moſt remote part is to be choſen for the opening of a veine, but that part which is exactly on the contrary, or which alſo hath communion of veines joyned to it, or Euthyory which is a certaine direction of veſſells, by which the reduction of humours may conveniently be made, and may eaſily flow from one part into another, and therefore veines, which are open for revulſion ſake, rather communicate with the part ſending, then receiving, as it is neceſſary; ſo we recall blood flowing to the place from whence it begins, and we cauſe a contrary motion for it; namely we ought here to chooſe veines which are remote to the part affected, and have communion with the part ſending, which are directly oppoſite to the part affected, either according to longitude, or latitude, hence an interior part being affected, a veine in the Arme of the ſame ſide, a ſuperiot part being affected a veine in the Arme of the contrary ſide: the liver affected the interior veine of the right cubit is to be opened.

The right Adminiſtration of revulſion.

As for the Adminiſtration of a Revulſion, the quantity of revulſion anſwers to the quantity of the flux, and ſtrength tollerating, but that is greater which is made with the letting out of a humour, then that which is without it, and there are certaine degrees and differences of magnitude in every kind, every one whereof anſwers to the certaine error in the motion of the peccant humour.

The time.

As for the time of flowing ſince revulſion ought to be of humours flowing, tis principally to be adminiſtred, when the flux begins, but if the flux be more laſting; it ought to be exhibited after the beginning alſo; but if the flux be leſſe ſo that it may be ſtopt by derivation, or repulſion, there is no need of revulſion.

Place.

The places, to which revulſorie remedies are applyed, are various, according to the variety of the parts affected.

CHAP. XIX

Of Derivation.

Derivation what. DErivation regards that matter which newly flowes into the part affected, but as yet is not ſpred abroad into the ſpace of the part without the veines; but as yet it flowes in its veines, and it is an averting or drawing away of the humour offending the part, to the adjacent parts, and an evacuaion of it through the ſame, and in this evacuation, namely that which is made by opening of a veine, the communion of the veines with the part affected is obſerved, whereof mention is ſo often made by Authors; alſo if the matter in the body be plentifull, derivation is not to be appointed unleſſe that plenitude be firſt abated.

Quantity. The quantity of Derivation of a humour which flowes into the part, anſwers to the quantity which ſo flowes, and to the ſtrength of the ſick, but in letting of blood the meaſure, and limits of Derivation in inflamations *Hippo.* commands us to learne by the changing of the colour: the ſecond of the reaſon of dyet in *ac.T.* 10. ſo that the ſtrength will beare it.

Time. The convenient time of Derivation is when the matter flowes into the part, and the ſtore of matter is taken away, and the flux is abated, yet it ought to be performed before the matter beſmeare the part.

Place. The ſcituation of the part ſhews the place; which in generall ought to be neere the part affected, and to communicate with the paſſages.

CHAP. XX.

Of Repulſion.

Repelling. REpelling things drive away the humour flowing, to another place, and hinders its comming to the part affected, and that which newly hath flowne, they free the part from by preſſing of it out.

Repellents not convenient for fluxes. But you may not exhibit Repelling things in all fluxes, for firſt they are not to be given in ignoble parts; Secondly, when the flux is nigh to a principall part, leaſt the matter repulſed be carried to the principall parts. Thirdly, to parts placed too deep. Fourthly, if the matter be malignant

nant, and venemous. Fifthly, when a wound is inflicted by the ſtroake, or biting of a venemous Creature. Sixtly, if nature rightly acting, drives any matter into a part critically. Seventhly, if the humour be much, and the body as yet full. Eighthly, if the humour be fixed in the part. Ninthly, if there be vehement paine.

The moſt convenient time for Adminiſtration of repelling things, is the beginning of the flux; but when the beginning proceeds towards the augmentation, Digerents are to be mixed. *Time.*

But ſince as is ſaid before, ſome repelling medicines are cold and moiſt, others cold and dry, and aſtringent, thoſe doe beſt agree when the humour ſhall be thin, and little, and is in the extremities of the body, or when fluctuations happen by reaſon of two great heate of the parts, or when they have great heat adjoyned, or if the paine be vehement, but theſe when paine doth not ſo provoke, and fluctuations are made through the debility of the parts.

The place to which repellents are to be exhibited is the ſame from whence we ought to repell. *Place.*

Chap. XXI.

Of Interceptings.

Such things as doe intercept, for the moſt part agree with thoſe things that doe repell, and they differ only in reſpect of place from them; for repellents are exhibited to the part affected; but intercipients to the wayes through which the humour flowes; ſuch like are Defenſitives, commonly ſo called, which being endued with a cold faculty, dry, earthly and aſtringent, ſtop the comming of the humours in their paſſages, and hinder them that they cannot come to the part affected, and ſince ſome are more powerfull, others more mild, the ſtrongeſt are to be uſed in a groſſer habit of body, when the veſſells are wider, and the condition of the Aire hotter, which looſens, and dilates the paſſages, and that there is greater violence of the humour flowing; if the matter be otherwiſe, the milder are to be applyed. *Intercipients.*

But they are moſt fitly applyed to places void of fleſh wherein the veſſells are more evident, and open. *Place.*

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Motion of humours taken away.

Tis contrary to the error of humours in motion, when thoſe things which ought to be moved, are not moved at all, as when the months, Hemerhodes, or other accuſtomed Evacuations are ſuppreſt, for then the humours which lye ſtill are to be attenuated, and heated, and the paſſages to be relaxed, and the ſtraightneſſe to be taken away, of which in their place, which if they helpe not, we muſt come to thoſe things, which can ſtir up humours by violence, which we have accounted before, namely which drawe humours into ſome part, by reaſon of heate, paine, and vacuity.

Chap. XXII.

Of diſcuſſing.

Humours offending in any part.

THe laſt fault of the humours, is according to the place where, namely when ſome humours abide in ſome part where they ought not, the humours therefore which cleave to that part are to be taken away, which is done either inſenſibly, by the ſecret pores, or by Evaporating, whilſt the humour being diſſolved into vapours is diſcuſſed, or the humour is plainly evacuated and under the forme of a humour is drawn out.

Diſcutients in what diſeaſes convenient.

Thoſe which take away the humour by inſenſible tranſpiration, are called Diſcutients, Reſolvents, and Digerents; but they are moſt profitably adminiſtred, when the humour is thin, ſticking under a ſoft skin, to which the force of the diſcuſſing medicines may penetrate; for you may not uſe Diaphoreticks if there be plenitude in the body, but rather muſt evacuate the body firſt,

Time.

The moſt convenient time for exhibiting Diſcutients is the ſtate, and the declination at hand, yet in the augmentation they may be uſed, but not alone, but mixt with ſuch as repell.

But ſince ſome Diaphoretick medicines are ſtronger, and hotter, ſome not ſuch, we uſe the gentleſt when the matter is in the ſuperficies of the body, the part affected ſoft and looſe, the ſtronger are given when the matter is ſcituated in a deeper place, under a thick and groſſe skin, and it ſelfe is colder and thicker.

CHAP.

CHAP. XXIII.

Of Softning and Ripening of matter.

EMollients are neceſſary as often as the matter is thick, and hard; for as often as the matter is thick and hardned, in vaine we exhibit Diaphoreticks, ſince that ſuch matter cannot be diſcuſſed by them, but they are forced to be ſoftned; of Emollient medicines tis ſpoken before. *Emollients.*

Yet if the matter cannot be diſſolved, and diſcuſſed, tis to be turned into quitture, whereof if the Phyſitian ſee that the humour cannot be diſcuſſed by Evaporation through pores, in this part he ought to helpe nature, and to exhibit ripening medicines, but if there be hope that the humours may be diſcuſſed, he muſt abſtaine from ſuppuration, tis to be noted alſo that all humours cannot equally and aright be turned into purulent matter; blood indeed is eaſily turned into quitture, but in diſeaſes ariſing from choler, and Melancholy ſuppuratives, or ripening medicines are ſcarce to be exhibited without danger, ſince by the uſe of theſe, thoſe humours often times do ſo degenerate, and are corrupted, that they may excite a cancer, and other malignant ulcers. *Suppuratives.*

Neither are they ſafely adminiſtred to every place; In the internall parts ſuppuration is not raſhly to be procured; amongſt the externall parts, ſuppuratives are not ſafely uſed about the joynts.

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THE FIFTH BOOK, PART II.

SECT. II.

Of ſhewing how to cure.

CHAP. I.

Of diſeaſes of Intemperature.

Diſtemper what it ſhewes.

AFter we have finiſhed the Indication Preſervatory, now we come to the Curatory, and are to ſhew the way of curing diſeaſes, and firſt diſeaſes of the ſimular parts, and indeed what belongs to diſeaſes of Intemperature. Of Intemperature there ought to be an alteration by contraries, namely a hot diſtemper, indicates medicines cooling, a cold heating, a moiſt drying, a dry, moiſtning, hot and moiſt requires a medicine cold and dry, hot and dry a medicine cold and moiſt; cold and moiſt require hot and dry, cold and dry Indicate hot and moiſt.

How a degree of contrariety is to be obſerved.

But not only in alteration is contrariety to be obſerved in generall, but alſo certaine degrees of contrariety, as much as may be; and therefore a diſeaſe which receds very much from the naturall ſtate, wants more vehement remedies, and on the contrary a diſeaſe which differs not much from the naturall ſtate, requires gentler remedies; hence a hot diſeaſe in a body by nature colder, then thoſe that are well, is to be reſiſted with cold things. And a cold diſeaſe in a body

body hot by nature, requires hotter remedies: A moist disease in a dry body, and hard by nature, requires exceeding drying Medicines: A dry disease in a moist body, and soft, requires things that moisten exceedingly. On the contrary, a hot disease in a body, hot by nature, requires milder cooling remedies: A cold disease in a colder body, requires weaker heating remedies. A moist disease, in a body moist by nature and soft, wants dryers not so powerfull: A dry disease in a body, dry and hard by nature, hath need of remedies moistning less.

Contraries appropriated.

Moreover in alterations, not onely a Medicine exactly answering to the present distemper, as neer as may be should be opposed; but it ought to be appropriated, and have a peculiar agreement to the nature of the part affected. Also we must beware least the Medicine have some other quality joyned with the quality which is necessary to correct the distemper which may hurt the part.

Simple

Also fith hence in the cure of simple distempers, contrary Medicines do best agree, if they are not alwaies in a readiness, that quality which doth not agree, or which is hurtfull may be taken away by the mixture of others; As on the contrary compound distempers, if we cannot have a Medicine which is convenient for the compound contrary qualities, that which is wanting must be supplied by the mixture of others.

Distemper of the brain.

From all these it is manifest, that in curing diseases of the head, tis not easily to be altered beyond mediocrity, least the native heat should be weakned and dissipated; yet tis more safe to heat then cool.

The Breast.

In diseases of the Breast and Lungs, you must alwaies beware that you dry not too much, least the matter should be thickned and unfit to draw out. But when there is need of cooling, first beware that cold astringents are not given, but moistning, for cold things are very hurtfull to the Breast, 5. *Apho.* 24. not onely applyed outwardly, but taken inwardly.

Heart.

In the cure of the heart Medicines are alwaies to be mixed which have a corroborating power, and therefore moderate astringents, and odoriferous, and *Bezoarticks* as they are called, should alwaies be mixed with the Medicines which are given to the heart: But alwaies beware of vehement coolers and heaters,

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Stomach. The ſtomach is eaſily hurt as well by too much heate, as by too much cold, and in a hot diſtemper tis to be warily cooled, by degrees, and by little and little, but in a cold you muſt take heed leaſt the innate heate, be too much diſſipated by hot things; and therefore ſomewhat aſtringent and ſtrengthning is allwayes to be added, which may hinder the diſſipation of the innate heate and Spirits.

Liver. In curing the Liver, theſe medicines are to be choſen, that have ſome binding and ſtrengthning faculty with tenuity of parts; ſuch like are thoſe that are aſtringent and are bitter; but you muſt abſtaine from ſweet things, by which the Liver, as alſo the ſpleen doe eaſily ſwell.

Spleen. The Spleeen requires, and endures the ſtrongeſt medicines, and therefore they may ſafely be applyed outward, yet ſo that the humours contained in it may not increaſe by ſudden cooling, or be hardned by drying; but they are ſcarce ſafely given inwardly, leaſt the other bowells be offended by them, and therefore what is wanting in vehemency, is to be be made good by dayly uſe of them.

Wombe. In a diſeaſe of the wombe, you muſt abſtaine from vinegar, for pleaſant things are more gratefull to the wombe, yet ſuch as are great muſt abſtaine from them.

The eye. The Eye ſince it is very ſenſibly it doth not endure ſharpe medicines, or ſuch as may bind, and exaſperate it.

But in the cure of diſtempers, not only contraries convenient are exhibited, but the uſe of likes are altogether to be avoided.

Diſtemper with matter. Yet if the diſtemper be with matter, alteration alone doth not ſuffice, but the cauſe from whence it is cheriſhed is firſt to be taken away; and therefore Indication in diſtempers of this nature, is evacuation and alteration, where notwithſtanding by the name of a cauſe are not only underſtood cauſes ſimply ſo called, but alſo diſeaſes and affects, ſome of which excite, and cheriſh other diſeaſes, for theſe in like manner are to be taken away in the firſt place.

CHAP. II.

Of curing diſeaſes of the whole ſubſtance.

IN curing diſeaſes of the whole ſubſtance, the occult malignant quality is to be driven out by its contrary, and a re-

a remedie againſt poyſon; and the venemous cauſe to be taken away, and rooted out of the body; and therefore poyſon which is drunke or taken in at the mouth, is to be caſt out by vomit, or preſently to be drawne out through the paunch; but if it be drawne in with Aire, or hath paſſed beyond the liver, tis to be expelled by ſweates; but thoſe which are communicated by the biting, or ſtriking of venemous animals, are brought by drawing after what manner ſoever to the body, firſt of all we muſt labour to draw back, and extract, and to hinder it all manner of wayes, leaſt it penetrate and creepe within the body; but principally, every ſort of poyſon is to be expelled by thoſe remedies, which experience teacheth to be moſt repugnant to them, and with thoſe the heart is to be ſtrengthned; yet to obſerve the manifeſt qualities alſo in poyſons, is a great part of the cure.

Chap III.

Of the cure of diſeaſes of Conformation.

Cure of figure in diſeaſes, what they ſhow.

As for the Errors of Conformation, if the bones are ſet awry, and ill ſhaped, in thoſe which are growing, the cure is poſſible; but in thoſe that are come to ripeneſſe of yeares, and which grow no more, they are incurable.

But tis a generall Indication which ſupplyes the fault of the figure, a changing of the part of the vitious figure to the contrary, untill it acquires the figure which naturally it ought to have, but this is performed two wayes, by faſhioning, and alligation or binding; by faſhioning that mending of the figure is to be taken, which by drawing and preſſing with the hands, by little and little and often, is perfected; by binding, that correction is underſtood which is performed by ſwathings, and Ferrules, or Canes, namely by which part of the vitious figure by ſwathings is drawne contrarywiſe, and retained by ſplintors, leaſt it ſhould bend back againe towards its erroneous figure.

How corrected.

The ſecond ſort of diſeaſes of Conformation are in the hollow places, which two generall indications doe helpe, namely to open that which contrary to nature is ſhut, and to ſhut that, which contrary to nature is opened.

The cure of diſeaſes in the channell or paſſages.

But

Of obſtruction. But amongſt diſeaſes in defect the moſt common is obſtruction of paſſages, whoſe common Indication is, apertion of obſtruction But ſith thence the cauſes of obſtruction may be various, particular indications are taken from them, and thoſe being taken away, the obſtructions are alſo opened: Therefore that obſtruction which is made by thick and viſcid humours, requires attenuating, cleanſing, and cutting medicines; amongſt which, ſometimes the weaker, ſometimes the ſtronger are uſed, according to the nature of the humour it ſelf, and the condition of the place wherein it reſides; But if obſtruction be made by many humours, and they contrary to nature in their whole kind, the cure thereof conſiſts altogether in evacuation. But if the humour be not contrary to nature in its whole kind, but onely offends in quantity, the Indication is *Apokenoſis*, *i.e.* That which abounds is to be abated, according to its abundancy: But although all the obſtructing cauſes ſhould be evacuated, yet they differ as well in other things, as alſo eſpecially in this, that each of them require their peculiar and convenient places: Thoſe which obſtruct the Breaſt and Lungs, are to be ejected by cough, nor can they eaſily be evacuated any other way: But thoſe which are contained in the Liver, or in Veines, or in Arteries, or in the Reines, are caſt out by Urine, the belly, or vomit.

Coaleſcenſe The other kinds of ſtraightneſs, when the cauſes are taken away, they are likewiſe taken away, things growing together, or Coaleſcents, ſince it comes to paſs by the growing together of parts and ſides of a paſſage Indicate a Medicine breaking and taking away that Siccatrizing again.

Preſſing & cloſing. Conſtipation Indicates the cauſe to be taken away, which make that ſtraightneſs.

Compreſſion. Compreſſion ſince it proceeds from externall cauſes, reſting upon the paſſages, the Indication is common, namely, to take away that cauſe of preſſing together, and ſhutting the paſſage, but the ſpeciall Indications are various, according to the variety of cauſes, and the whole cure conſiſts in the ablation of thoſe cauſes which ſhall be ſhewn in their owne place.

Laſtly, Subſidence, if it be cauſed by too much humidity, the part is to be dryed: If the part be wrung hard, and as it were contracted, with drying things, and too many Aſtringents, and cold, the contraries, namely, Relaxing and moiſtning things are to be exhibited.

On

On the other ſide, if the paſſages, and veſſels which ought to be ſhut are opened, and humours flow out from thence, the common Indication is, that the opened veſſell is to be ſhut, which may be performed in the externall parts, with convenient Medicines applyed, and bound: But if the opening be in the inward parts, the manner of performing that is various, according to the variety of cauſes: If it be an *Anaſtomaſis*, or opening of the mouth of a veſſell, the orifice of the opened veſſell is to be hardned and bound. If by a *Diapedeſis*, thickning and incraſſating Medicines are required: If by a Rupture, the broken veſſell is to be united, and ſhut: If from Eroſion, Sarcotticks firſt, afterwards conſolidating medicines are required. *Cure of the opening of Veſſels.*

Thirdly, If the part which naturally ought to be ſmooth, ſhould become rough, tis to be made ſmooth againe, which is performed in the Wind-pipe and Tongue: If that which is evacuated be filled up, or that which is extant be taken away; That is performed in ſoft parts by Medicines which moiſten, and have a clammy nature: But this with abſtergent Medicines; But in bones whether they are eroded, or have any ſuperfluity annexed to them, the roughneſs is conveniently taken away by ſhaving. *Cure of diſeaſes of the ſuperficies.* *Of roughneſs.*

Smoothneſs contrary to nature, requires a contrary way of cure, and the naturall roughneſs is to be brought againe, by abſtergent Medicines, and indeed ſuch as throughly cleanſe, namely, ſuch as can free the glutinous humours, tenaciouſly cleaving to the out-ſides of the parts, and reſtore the naturall roughneſs to the part. *Of ſmoothneſs.*

CHAP. IV.

Of the cure of Diſeaſes of number.

DIſeaſes in Number, ſince they are two-fold, in exceſs, and in defect, either of them require their Indication, and that which is wanting, and naturally ought to be preſent is to be reſtored: But that which abounds is to be taken away and removed; but ſince that which is wanting onely can be a naturall thing, tis the part of Nature onely to make up *Diſeaſes of number what they indicate.*

up and regenerate that which is wanting, but the Phyſitian is only the ſervant of nature in theſe things whilſt he defends the ſtrength of nature, Adminiſters fit matter, and removes impediments, but this generall indication is varied according to the variety of parts, and cannot allwayes be reduced into action: for it proceeds in one manner in the generation of fleſh, in another of a bone, in another of a nerve, and other parts, of which in the ſolution of unity.

Moreover ſince ſome parts are ſimple, others compound, if compound are loſt, neither the ſame in particular, nor any thing like unto them, can eaſily come in their ſtead; in which the third ſcope is to find out a certaine comelineſſe, or to make ſomething, which may ſome wayes doe the office of a loſt part, yet later Phyſitians have invented a way of curing imperfect parts, whereof above, part 2d: *Sect.* 1. *Chap.* 16.

On the contrary exceſſe requires its removall, but ſince thoſe things are various which ought to be taken away, each of them deſerves its peculiar cure, according to the ſubſtance, dignity, ſituation of the parts, and differing alſo in other reſpects, for we allwayes beware of this, that other parts may not be hurt, or at leaſt to doe our endeavour that they may receive very little hurt, and that there may come no greater loſſe to the body by the taking away, then that was which came by the thing abounding.

But the Inſtruments wherewith a Phyſitian may appoint the ablation of things which abound contrary to nature, are three, Iron, Fire, and medicines; by Iron all acute Inſtruments of every kind which are fit for the cutting off ſuperfluities, are underſtood: by fire, actuall cauteries are underſtood, whilſt that which abounds is burnt with Iron, Silver, or fired Gold. Medicines for this purpoſe moſt convenient, are thoſe which are called potentiall cauteries, Cathareticks, namely, Septicks and Eſcaroticks, all which are mentioned before.

Chap. V.

Of curing diſeaſes of magnitude.

Magnitude increaſed what it ſhews.

When either the whole body, or any member thereof is increaſed contrary to nature, ſo that the naturall actions

actions are thereby hindred, the Indication is that the magnitude increaſed may be diminiſhed; and indeed ſince the ſubſtance of the part is not ſound, when tis increaſed in magnitude, as in wounds, and ulcers, the ſame medicines are to be exhibited as to thoſe abounding in number; but if either the whole body or any part be equally increaſed, and it too much increaſeth through the whole, you may not uſe Iron, or Fire, nor corraſive medicines, but there are two ſpeciall aimes, namely, to draw away the too greate plenty of aliment from the parts, and to conſume it, or take it away by Digerents, and diſcutients, wherefore faſting and ſpare dyet, are then convenient; and ſuch uſe of the non-naturalls as may attenuate and diſcuſſe, and medicines of the ſame nature.

Tumours alſo have their peculiar aimes which that generall Indication ſatisfieth, which commands us to diminiſh that which is increaſed contrary to nature; of which in its owne place. *Cure of Tumours.*

The magnitude diminiſhed on the other ſide indicates its increaſe, but this is performed by new nouriſhing, or reſtoring, and by generation, by renutrition; that which is wanting is reſtored by good and plentifull aliment, and the part acquires a greater, and naturall bigneſſe, but generation is then neceſſary when any thing is loſt of the ſubſtance of the part: for there that is reſtored by the re-generation of fleſh which was loſt, and the cavity of the ulcer filled up. *Bigneſſe diminiſhed what it ſhewes*

Chap VI.

Of curing diſeaſes in ſcituation and connexion.

Moreover Organick diſeaſes, ſince there are diſeaſes in poſition, and connexion, that which hath loſt its naturall place, Indicates its repoſition into its naturall place, but that, which is not joyned to thoſe which it ought, Indicates its conjunction with them; the firſt indication performed, and bones out of joynt are cured by bending and forceing them from the oppoſite part to that from whence they were removed; which by what meanes it may be performed is ſhewne before part 1. *Sect.* 2. *Chap.* 4. ſo other parts are to be reduced into their owne places. *Diſeaſes in poſition and connexion without they ſhew.*

But

But if the parts which according to nature ought to be ſeparated, are joyned together, and grow together contrary to nature, they are to be freed and ſeparated: But that ſeparation is made either by Chirurgery, and the help of an Inciſion Knife, and Iron, or with a ſilken ſtring, or with a Horſe hair, or with cauſtick Medicines and Septicks.

Diſeaſes in connexion. But the other kind, when the part is not joyned with thoſe with which it ought, Indicates that, that which containes ſhould be rendred more firme and ſolid: And therefore thoſe parts ought to be ſtrengthned and contained.

CHAP. VII.

Of the cure of Solution of Continuity.

Unity diſſolved, what it ſhewes. THe firſt, and moſt uſuall Indication of Solution of Unity, is uniting, or unity diſſolved Indicates that the parts that are ſeparated ſhould be united; which thing although it be the work of nature, yet the Phyſitian is the Servant of nature in this matter: For theſe are the principall duties of the Phyſitian here. Firſt, he is to be carefull that nothing fall into the part affected, which may impede conglutination.

What to be done by the Phyſitian.

Secondly, That the extreams, or lips in the diſſolved unity are rightly joyned againe, and are mutually applyed to each other.

Thirdly, That the extreames ſo joyned may be kept together.

Fourthly, That the Temperament of the part it ſelf may be preſerved, and the help of nature is neceſſarily required in agglutination.

Fifthly, That the Symptomes which may enſue be prevented and corrected.

The cure of wounds. But theſe aimes are not alwaies performed in all parts alike: For in wounds, every extraneous thing is to be taken away out of the Wound, then the lips of the Wound are to be joyned together, and it is to be endeavoured that they may be kept united: As before *part* 1. *Sect.* 2. *cap.* 5. is ſpoken, the parts being joyned, the reſt of the work is to be committed to nature, tis the part of the Phyſitian onely to endeavour that the blood which comes out offends neither in quantity, nor quality, and to uſe Medicines that generate fleſh, of which

which *Galen* 3. of his Method of healing, *cap.* 3. And laſtly, to citatrize the wound: yet if certaine Symptomes which may hinder the cure, do follow, as Hemerodes, paine, convulſions, they are to be reſiſted, and principally care is to be taken that no inflamation enſue.

Of Fractures.

In the cure of Fractures, the Phyſitian propounds to himſelf two aimes. Firſt, that the broken bones may be rightly joyned together againe, and that the naturall Poſition and Figure may be reſtored to them: The other that being joyned they may be kept together and retained, and grow in their naturall figure: But in what manner that may be performed, is ſpoken before, *p.* 1. *S.* 2. *c.* 3.

Generation of hard fleſh.

But the generation of hard fleſh and skin, whereby the bones and skin may be conglutinated and grow together is the work of nature: But the Phyſitian ought to help nature, which he doth if he beware leaſt any inflamation or ſuch like accident which may hurt the ſubſtance and temperature of the member, ſhould follow, and the aliment is to be ſo diſpoſed through drying Medicines, that it may the ſooner be changed into callous, or hard fleſh, of which tis ſpoken before.

CHAP. VIII.

Of the cure of oppreſſing and urging Symptomes.

Symptomes urging, & how many.

THe third ſort of preternaturall things remaines, namely, Symptomes. Symptomes as they are preternatural Indicate in generall the ablation of themſelves: But that Indication for the moſt part is unprofitable: For ſince they depend on diſeaſes, and their cauſes, thoſe being taken away, theſe alſo are taken away: But becauſe it cannot alwaies be expected, or waited, untill the cauſe, or the diſeaſe be taken away, ſomethings neceſſary Indicate, vvhich require a peculiar cure different both from the cure of a diſeaſe and of the cauſe, and that they require to be done ſpeedily: Such Symptomes are thoſe which are ſaid to urge or enforce: All thoſe things provoke which threaten ſuch danger and miſchief, that the ablation of the diſeaſe, or of the cauſe on which it depends cannot be expected, but if it ſhould be expected, it would threaten the hazard of life, or ſome great hurt; But then the ablation of the diſeaſe is not to be expected,

cted when either it is uncurable, and the Symptomes belongs to an action hurt, that is necessary, not absolutely for life, but for amendment, or if it be cureable, the cure whereof is so tedious, that before it can be perfected, danger and hazard of life will be like to happen, by reason of the Symptome; those Symptomes are commonly accounted but few, principally paine, watchings, and immoderate Evacuations, yet there are some others.

Cure of paine. Paine indicates a medicine taking away or mittigating paine, but since paine is either a sad sensation, or else is not made without a sad perception by sense, and two things are necessary to sensation, perception of a thing Tangeable, or sense in the part which it meetes with, and advertency of the mind, if one of these be wanting neither sense nor paine is, and therefore those things which take away, and hinder one of these, are contrary to the paine: and as for what belongs to the sense in the part, we may resist paine two wayes, either by opposing a contrary object to the sad sensation, or by taking away the sense; sithhence therefore a sweet and pleasant sensation is contrary to a sad, that the sad sensation may be taken away, that is to be offered to it, which is endued with a mild and gentle heate, and brings forth a pleasant, and sweete sensation when touched, which *Anodines.* are *Anodines* (or medicines mittigating paine) properly so called, as a bath of fresh water, common Oyle, the fat of Animalls, Muscillages, and other things endued with a temperate and pleasing heate, of which above P. 1. S. 1. *Chap.* 7.

Stupefactives. Moreover Narcotticks mittigate paine, or Stupisactives, which stupifie the Spirits, and together provoke sleepe, and so doe it, that the Dolorifique subject is not perceived.

Secondly, Intentiveness of mind is hindred if it be averted to other objects.

Cure of over much watching. Overmuch watching indicates a medicine causing sleepe, sleepe may be occasioned foure wayes; first if all things may be removed which may excite any sense to operate. Secondly, if the mind be drawne away from the agitation of the externall senses, and the animall spirits are pleasantly invited, from motion to rest. Thirdly, if those things are exhibited, which allay hot, dry, and sharpe vapours, and send pleasant fancies into the braine, whereby it is moistned, and as it were stupifyed. Fourthly, if those things are exhibited which by a peculiar faculty make the animall

Spirits

Spirits dronzie, and unapt, or dull, which ſpecially are called, Hypnoticks, and Narcoticks.

Thirſt ſince it is the deſire of cold and moiſt, and is made through the defect of cold and moiſt, it Indicates cold and moiſt, as its contrary. *Cure of Thirſt.*

Too great a flux of the belly, as it is ſuch, is ſtopt by aſtringent things. *Of the flux of the belly.*

Blood flowing Indicates a remedie that ſtenches blood; but it is ſtopt two wayes, either by prohibiting, that the blood cannot returne to the place, out of which it came, or if the veſſells ſuffer it not to flow, which will be done, if they are ſhut, or cloſed, and ſometimes, one of them only ſufficeth, and ſometimes, when there is a great flux of blood both are neceſſary. That the blood may not flow back to the place out of which it came, is to be brought to paſſe if it be not drawn back by it, if it be repelled, if it be drawn to another place, tis not drawn back if the cauſes, by reaſon of which tis drawn back be taken away, as heat, pain, troubleſome thirſt: tis repelled by the uſe of the Refrigeratives, and aſtringents, tis drawne into another part by Revelling, or Derivation, but that the blood may not flow back, is prohibited when the end is ſhut, which is done, when the way is obſtructed, and ſtopped; through which it flowed. *Flux of blood.*

We cure a ſwooning by refreſhing the Spirits, although it cannot be done preſently by removing the cauſe, for this purpoſe the moſt fit things; are pure Aire, excellent and odoriferous Wine, and ſpirits diſtilled of it. *Fainting or ſwooning.*

But not only actions hurt, but other Symptomes alſo ſometimes trouble, if the Arme pits ſtink and ſmell ranke, that inconveniency is remided by the uſe of ſweet things, if the breath ſtinks, that imperfection is hid by the chewing of ſweet ſmelling things.

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THE FIFTH BOOK,

PART II.

SECT. III.

Of the vitall Indication.

CHAP. I.

What doth Indicate Dyet in those that are sick.

SEith hence, it is spoken by what means things preternaturall are to be taken away, now it remains that we speake, how that which remains in a sick man, according to nature may be kept, or preserved: but those things which are according to nature commonly come under the name of strength, or force, and Indication which is taken from thence, is called vitall, and Conservatory, because it preserves those things which are hitherto in the sick, according to nature, and those things which can preserve the strength of our body by themselves, and are according to nature, are called vitall and Preservatory Indicates.

But since as above in the 4. Booke, part 2. Chap. 1. it is said there are three vitall, or Preservatory Indicants, health, the cause of health, and sound actions, as we are to endeavour, that in a sound condition all these may be preserved, so it is to be aimed that as much as it is possible they may be kept

kept in ſuch as are ſick, and this is to preſerve ſtrength; namely to preſerve the native heat, in the whole, and in all the parts, and the right uſe and obſervation of things called non-naturalls.

The ſtrength what it ſhews.

Namely the ſtrength ſhews the Aliment, in this reſpect becauſe 'tis placed in ſpirituous, ſolid, and fleſhy parts, having a juſt quantity, and doth uſe them as an Inſtrument; and the vitall Indication is buſied only about keeping the ſubſtance of the ſpirituous, ſolid and fleſhy parts.

Things prohibiting.

But although the ſtrength only Indicate Aliment, yet it may be prohibited from others, for oftentimes the giving of meate increaſeth the morbifique conſtitution, and alſo to regard this, that 'tis not to Indicate Aliment, but to prohibit it, for when meate is given nature is called away from concoction, and evacuation of morbifique matter, and therefore when the powers Indicate their preſervation, which is performed by exhibiting nouriſhment in that quantity which the ſubſtance to be preſerved wanteth, but the morbifique cauſe Indicates its Evacuation, and therefore commands nature to be at leaſure for it ſelfe alone, and ſo prohibits Aliment, whereby nature would be called away, and hindred from its worke, you muſt be carefull, what urgeth more.

In breife: ſtrength only Indicates Aliment; the morbifique cauſe permits, or prohibits; the reſt, as age, cuſtome, Time of the year, the ſtate of Heaven, and ſuch like are the ſignes of firme ſtrength, or of weakneſſe, or ſuch as may ſhew the force, and greatneſſe of the morbifique cauſe.

Chap. II.

What things belongs to Dyet.

Things prohibiting to Dyet.

Although Dyet conſiſts principally of meate and drink, yet other things alſo called non-naturalls, as Aire, ſleep and watchings, exerciſe and reſt, and accidents of the mind, belong thereunto: but amongſt theſe there are ſome things out of which primarily, and by themſelves Aliment is generated; ſuch is Aire, meate and drink, but others, are accounted amongſt the matter of food, in this reſpect, not becauſe really out of thoſe as the matter, Aliment of the body is generated, but as they are the cauſes of Aliment by

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accident, and helpe that thoſe things which are the true materialls of Aliments, may be more commodiouſly turned into Aliment: ſuch are ſleep, and watchings, exerciſes, and reſt, Repletion and Inanition, and paſſions of the mind, of which is ſpoken above in the 4. Book.

Chap III.

How many ſorts there are of Dyet, and which agrees to which diſeaſes.

Dyet threefold, Thick. Indifferent. Thin

But Dyet is threefold, thick, thin, indifferent, or betwixt both, thick or full Dyet is that which can preſerve not only the ſtrength which is preſent, but alſo can increaſe it, indifferent is that which preſerves the ſtrength as it finds it, the thin is that which preſerves the ſtrength yet ſomewhat abated. Of thick and full Dyet again ſome is ſimple, which agrees to thoſe that are ſick, and is made by a ptiſan, with the Barley whole; another is fuller and thicker, which is made with fiſh and Eggs; another which is the fulleſt of all, which gives way to fleſh of creatures that are gelded. Simply thin is threefold; ſimply ſuch and is made by the juice of ptiſan, the thick juice or creame of ptiſan, or ptiſan ſtrained; the thinner is that wherein water and Honey is mixt; the thinneſt Dyet was that of *Hippo.* wherein nothing was put; the middle ſort was made with bread dipt in broath, or alſo with the fleſh of fowles.

But regard is to be had of cuſtome, places and Countries, ſince in ſome Countries, full Dyet is more in uſe, in others more ſparing, and according to that, the matter of thin Dyet is to be moderated.

What food is fit for what diſeaſes.

But what kind of Dyet agrees to what diſeaſes, the comparing of the ſtrength which Indicates food and the morbifique cauſes, which hinder the ſame, do ſhew; for by how much the more nature is buſied, in oppoſing the morbifique cauſe, by ſo much the more ſparing Dyet is convenient; but by how much the leſſe it is buſied, by ſo much the more plentifull Dyet may be given; but by ſo much the leſſe it is oppreſſed, by ſo much the ſtate of a diſeaſe is nigher, and therefore alſo, by how much the diſeaſe is more acute, by ſo much the Dyet is to be more ſparing, ſo that the ſtrength can endure with it, untill the ſtate, but tis known when the ſtrength can endure and ſubſiſt untill the height, but when it

it cannot, the nature of the ſick is to be conſidered: for if the body is made bitter with choler, hot and dry, abounding with choler, eſpecially about the ſtomach, he cannot endure thin Dyet, or faſting; for ſuch bodyes motion is eaſily hinderd. regard alſo is to be had of age, for as it is in *Hippo.* 1. *Apho.* 13. old men eaſily endure faſting. as alſo thoſe of middle age, young men leſſe, boyes leaſt of all, and amongſt them, eſpecially thoſe which have ſharper, and quicker wits.

Dyet in long diſeaſes.

But as for the nature of a diſeaſe, in long diſeaſes there is need of an indifferent or full Dyet, and ſo much the more plentifull, by how much the diſeaſes are ſlower, but in acute diſes, thinner is requiſite, leaſt if we ſhould give too much meat, we ſhould cheriſh the diſeaſe; but ſince there are degrees of acute diſeaſes, ſo much the thinner is to be given, by how much the diſeaſe is the more acute.

whether more error is committed in full or ſpare Dyet.

Yet it is allwayes ſafer, to give thicker Dyet then is fit, rather then thinner; as for the quantity you ought rather to ſtuddy ſubſtraction according to *Hippo.* 1. *Apho.* 5. In thin food the ſick doe faint; whence it comes to paſſe that they are hurt the more, for as much as every fault here, is greater then it uſeth to be in a little more plentifull Dyet.

CHAP. IV.

Of the right Adminiſtration of the Dyet of ſick perſons.

Quantity of meate.

IN the ſame manner as in medicines, ſo in vitalls, a threefold theſe may be obſerved; namely the higheſt, middle, and loweſt, which may be adminiſtred in all Dyet, whether thick, indifferent, or thin. But which doſe is to be given, and when, is collected, by comparing of the ſtrength, and morbifique cauſe one with another; for ſince the morbifique matter ſometimes urgeth more, ſometimes leſſe, and ſometimes the helpe of nature is more required in reſiſting the cauſe of a diſeaſe, the ſame forme of Dyet may be obſerved, ſometimes a greater, ſometimes a leſſer is to be given, according as nature is ſometimes buſied more, ſometimes leſſe in the combat with a diſeaſe.

Namely in the beginning of a diſeaſe, nature contends not much as yet with the morbifique cauſe, neither whilſt it is yet imployed in concoction, and Evacuation; wherefore

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you may exhibit victualls, which are convenient for the diſeaſe, then the higheſt doſe.

In the Augmentation. But in the Augmentation becauſe nature begins to contend with the diſeaſe, and is more buſied about the morbifique matter then in the beginning, then ſome of the quantity is to be abated, and Dyet is to be given in a middle doſe.

In the ſtate. But in the ſtate when the combat of nature, and the diſeaſe is moſt violent, and nature is moſt buſied in concoction and evacuation of matter, the victualls are to be adminiſtred in the ſmaleſt quantity, and nature not to be called away from its purpoſe.

The time of giving food to the ſick. The time, and when meate is to be given, as for that in continued diſeaſes, and ſuch as have no differences of fits, Dyet is to be adminiſtred according to cuſtome, principally at that time when the ſick uſe to eat before; But in diſeaſes which have fits, when meate is to be given *Hippo.* ſhews 1. *Apho.* 11. It behoveth to take away meat in the fits themſelves, for to give it is hurtfull, and when by circuit, diſeaſes returne, in the Paroxiſmes themſelves you muſt abſtaine, which nevertheleſſe is not ſimply to be taken, but if a feaver be from a ſharpe and biting humour kindled by the Sun, anger, faſting, labours, and the ſick be thin, and leane in body and in Temperament, and eſpecially in Summer time if he be hot and dry, either a little before the fit, or in the fit it ſelfe meate is to be taken, otherwiſe he eaſily falls into a burning feaver or Hectick, ſwooning, or convulſion, or ſuch like, and indangers the loſſe of his ſtrength.

THE

THE FIFTH BOOK,

PART III.

Of the Compositions of Medicines.

SECT. I.

Of preparing and compounding of Drugs in general.

CHAP. I.

Of the necessity and profit of preparing and Compounding simple Medicines.

THere remains now the Pharmaceuticall part of Physick, which prepares and compounds simple medicines, for the word Pharmacopia comprehends them both, namely the alteration of simple medicines by the helpe of Art without mixture of others, and the mixture of simple medicines.

Why it is necessary to compound medicines.

But this part of Physick is necessary, for many and great causes, for first the cause may be in the medicine it selfe namely if the substance of medicines be not so proper, and troublesome to the sick, by preparation and composition that which is wanting may be supplyed and that which is unprofitable, troublesome, and hurtfull may be taken away; sometimes a medicine hath a superfluous quality which we do not then want, therefore we ought to allay that by mixture of the contrary; some simple qualities are easily

corrupted, wherefore there needs digeſtion, diſtillation, concoction, to be uſed, or to preſerve, or pickle thoſe things with Honey, Sugar, Vinegar, Salt. The ſtrength of ſome medicines is eaſily taken away, whence we are to effect by the mixture of more viſcid things, that ſo it may not be eaſily diſſipated. moreover the cauſes in effect it ſelfe contrary to nature, for if ſimples are not to be found which have all thoſe faculties, which are requiſite, in one ſick perſon oftentimes, and in the mixture of diſeaſes contrary to nature, then one medicine is to be compounded of ſeverall ſimples, which may performe all the Indications; which kind of medicines the Greeks call, Polychreſton. Thirdly ſince that ſimples are not allways ſupplyed by nature which may agree to the Temperament, Sex, kind of life, and various conſtitution of the parts of every one, there is need of preparation and compoſition. Laſtly, for the ſeverall formes alſo whereof this is more pleaſing to this, that to that perſon, nay in regard of the diſeaſe alſo tis neceſſary to prepare and compound medicines.

Or that we may breifly contract theſe things, there is need of compounding medicines, for two reaſons, either for the ſtrength of the medicines ſake, or for its uſe and applycation ſake; for if the vertue of the medicine be weake tis to be ſtrengthned by mixture with more vehement, if any faculty be deficient, tis to be mixt, if a medicine be ſtronger then it is required, ſomething is to be added by which it is to be abated, or corrected. If a ſimple have any ſuperfluous quality or hurtfull, that is to be mixt, by which that hurtfull quality may be taken away.

But that the medicine may rightly be applyed and drawn into action, tis neceſſary that the medicine maybe preſerved, leaſt before adminiſtration it looſeth its ſtrength, by mixture of ſome preſervative, for example, with Sugar, or ſome orher. Moreover that it may come to the place, a vehicle is to be mixt, which leading it, it comes the eaſier thither, and leaſt it ſhould be weakened by the way, tis to be mixed with the ſtronger, that it may come to the part in that degree which it ought. Laſtly, tis neceſſary, that the medicine applyed to the part affected, may continue, whence are required medicines which may retaine thoſe things which goe away, or do not adhere to the part, in the part.

CHAP.

Chap. II.

What things are neceſſary for the artificiall preparation and Compoſition of Medicines.

ALL thoſe things which are requiſite for the compoſition of Medicines may be reduced to foure heads; firſt a medicine which may ſupply the Indication whereby a diſeaſe or the cauſes of a diſeaſe, or the Symptome it ſelfe which offends, may be oppoſed: and ſuch a medicine, in compoſition is called the baſis becauſe on that as on the foundation, the edifice is builded, the whole compoſition depends on it and al the reſt are referred to this, & are mixed together, for its ſake, and that its ſtrength be great in the compound tis neceſſary; But the baſis is ſometimes ſimple, ſometimes compound, and indeed not in one manner, for that is called a ſimple baſis, which ſatisfies one Indication, and brings forth one effect, although it doth not allwayes conſiſt of one, and a ſimple medicine, but oftentimes is compounded of more, but that is called a compound baſis, which can performe more uſes, but at other times that is called a ſimple baſis which conſiſts of one medicine, a compound which conſiſts of many, but a compound medicine takes its denomination, ſometimes from the baſis, ſometimes from the medicine, ſet downe in the firſt place in the preſcription. *What things are required for the compounding of medicines.* *The baſis of medicines two-fold.* *Simple.* *Compound.*

But that the baſis, or medicine, which is oppoſed to the diſeaſe contrary to nature, ſhould be accommodated in all reſpects, beſides preparation, oftentimes correcting and helping things are required; for ſince that ſometimes the baſis is weaker, thicker, or ſlower, or ſtronger, and more powerfull then it ought, or hath any malignant, and hurtfull, quality or is ungratefull to the ſmell or taſte, or any other way troubleſome, and have any ſtrange and unprofitable quality; the dull and idle are corrected by the mixture of whetting things, and ſuch as increaſe ſtrength: thick qualities, are to be amended by mixture of thin; ſharp, vehement, too hot or too cold, or malignant are to be corrected by the addition of their contraries: in unpleaſant ſavour, or taſte, by things having pleaſant ſavour; thoſe things which are *Correctors and Helpers.*

are indued with an ungratefull and unpleasant smell, by those things which have a fragrant and pleasant smell, and by all other pleasant things are to be corrected, and all hurtfull qualities or unprofitable, are to be amended and taken away, by the mixture of their contraries.

Directers. Thirdly, If medicines of their owne accord cannot conveniently come to the part affected, there is need of Directers, as they call them, namely such as either are familiar to the part affected, or open a way for the medicine.

Preservers. Lastly, To the composition of a Medicine those things are required which preserve from injury and corruption, and give it a certaine forme and consistence: Hence some are preserved with Honey, others with Sugar, others with Oyle, and receive from them the forme either of an Electuary or of a Sirrup, or a Conserve: But some are rendred fitter to endure, or keepe, by preparation only.

CHAP. III.

Of the weights of Medicines.

BUt before we come to the preparation and composition of medicines, by which two Pharmacopeia is finished, something is to be premised of the weights and measures of Physick, and of the dose of medicines, for things out of which the formes of medicines are prepared, are esteemed either by number, or a heap, or weight, or measure.

What things are accounted by number. Fruits and Pulse, and the greater seeds, are numbred, and when the number is equall, they are divided into paires, or couples, and tis written, Par. 2. 3.

By heape. But the quantity of medicines is described by heape, by little handfulls, by great handfulls, and little bundles: and Physitians use these principally in leaves, hearbs, flowers, barley, and certaine seeds, salt, and other things: *By pugill.* A Pugill is as much as can be comprehended by the extremities of the fingers joined together, and drawne together, and tis called by some a little handfull: *Little handfull.* A handfull is as much as can be held or comprehended in the hand: *Bundle.* A little bundle is as much as we can take between our armes.

By

By weights, as by the balance and ſcales, they weigh dry things for the moſt part, but liquid things they meaſure, although they alſo may be deſcribed by weights. And the meaſures are no other then ſuch as are deſcribed by pounds and ounces. *By weight*

But although there be great variety of weights, we will propound onely thoſe which Phiſitians uſe at this day every where up and downe, and are moſt neceſſary for the reading of Authors. *By meaſure.*

The leaſt of all weights is a Graine, which moreover is conſtant, and ought to be one and the ſame amongſt all Nations; for although without doubt, it tooke its name from a graine of Barley, or Wheate, yet ſince there is not the ſame weight of theſe in all places, not theſe but the ſmalleſt Money, which in all Nations is the ſame, and is kept unchanged, and is to be accounted for the foundation and beginning of all weights: But it is noted by Phyſitians in this manner, Gr. g. *A Graine.*

A *Chalcus* with the Greeks, conſiſts of two graines, which kinde of weight the Arabians named *Keſtuf*, commonly called *Æreolum*, or two graines. *Chalcus.*

Dicalcon makes foure graines, with which agrees *Cheration*: *Siliqua* or foure graines, which the Arabians call *Chirat*. *Siliqua.*

Hemiobolon, or Hemiobolion, a Semiobilon is ſix graines. *Semiobolus.*

Obolon, or Obulum conſiſts of twelve graines, the ſixth part of a drachme. *Obolus.*

Foure and twenty graines make a ſcruple, for a ſcruple conſiſts of two Obolacs. Whence with the Greeks a Diobolon, is the ſame with the ſcruple, whence it is alſo called by the Greeks *Gramma*, that is, a Letter, to wit becauſe an ounce containes ſo many in it, as the Greeks have Letters: and it is the four and twentieth part of an ounce. But amongſt later Writers, for the moſt part, thoſe which followed *Nicholaus*, and *Vetetous*, a ſcruple containes only twenty graines, and it is thus noted, ℥. *A Scruple.*

Thirty ſix graines make Hemidrachmon, or Triobolon, that is halfe a drachme, which they call an Egyptian bean, or an Alexandrian bean, ℨ ſ. *Semidrachma.*

Seventy

A Drachm. Seventy two graines make an Attique drachme, which is uſed by Phyſitians; but the drachm of *Nicholaus* and *Vetus*, which at this day, for the moſt part, is uſed every where, containes onely ſixty graines, *Drachmi*, and *Darchimie*, or *Darchimet*, with the Arabians, the word being corrupted, is called *Drachmes*, in Engliſh a Drachm. By *Serapio*, and the ſame Arabicks it is alſo called *Aureus*, and by the ſame theſe names, Drachme, and Aurei, are often confounded: But at other times, *Nummus Aureus*, or *Denarius* containes foure ſcruples, namely a whole Drachm, and the third part of a Drachm; eight Drachms make an ounce, and it is thus marked, ℥i.

Twelve ounces make a pound, *lb.*
Deunx makes eleven ounces, ℥XI.
Dextans hath ten ounces, ℥X
Dodrans hath nine ounces, ℥IX.
Bes hath eight ounces, ℥VIII.
Septunx hath ſeven ounces, ℥VII.
Semios or Selibra hath ſix ounces, ℥VI.
Quincunx hath five ounces, ℥V.
Quadrans hath foure ounces, ℥IV.
Triens hath three ounces, ℥III.
Hereunto belongs the Table ✳

Chap. IV.

Of Phyſicall meaſures.

A Deſcription of meaſures. AS dry things for the moſt part are weighed, ſo liquid things are meaſured, although the manner of meaſures be appointed by Phyſitians, according to the manner of weights: But meaſures may be explained two wayes, either greater by leſſe, or on the contrary, leſſe by greater; or by weights: For if it be asked, what a Pint or a Pound is, tis anſwered, to be the halfe of a Sextarie, or to containe ſix Cyathos, or Cupps, or its anſwered, it containe nine ounces of Oyle: For the former way of deſcribing meaſures, is certaine and ſtable, but the latter way of explaining them is not alwayes the ſame; for although the capacity of meaſures be not changed, yet the weight of the things

things that are meaſured by the ſame meaſure are not the ſame; whence Phyſitians at this day, ſince in liquid things they rather regard the weight then meaſure, and they uſe meaſures onely for to ſave the labour of weighing. Three kinds of meaſures of liquid things are uſed; namely, ſome for meaſuring of Wine and diſtilled Waters, others are appointed for Honey, others for meaſuring of Oile; all which meaſures, although they are diſtinguiſhed by the names of Ounces, yet the weight of liquid things varie in the diſtinction of ounces: for ſince Oile is light, more of it goes to an ounce, Wine ſince tis heavier then Oile, leſſe of it goes to an ounce; Honey ſince it is heavier, then both, a ſmall quantitie, in compariſon of the other, makes an ounce.

The firſt and leaſt of meaſures which are tryed, not by weight, but onely by quantitie, is a ſpoonfull, and the diviſion of meaſures doth not go beneath it: But a Cochlear, or a ſpoonfull, is four-fold; The leaſt, that a little bigger, a great, the greateſt; the leaſt containes halfe a drachm in weight, of a thing that is of a middle weight; that a little bigger, a whole drachm; a great, a drachm and halfe, or two drachms; the greateſt containes halfe an ounce in weight.

A common little Spoon is halfe a cup, and containes in weight of Oile, ſix drachms, of Wine or Water twentie ſcruples, of Honey nine drachms. *Muſtrum.*

A Cyathus or a Cup, is the ſixth part of a pint, by common obſervation, it holds in weight of Oile twelve drachms, of Wine or Water thirteen drachms and a ſcruple, of Honey eighteen drachms. *Cyathus.*

Acetabulum, which by the Greeks is called *Oxybaphum*, is a Cup and halfe, the common obſervation it holds in weight, is eighteen drachms of Oile, twentie drachms of Wine and Water, twentie ſeven drachms of Honey. *Acetabulum.*

Quartarius, or the fourth part of a Sextarie, containes three cups. *Quartarius.*

Hemina or Cotyla, is the twelfth part of a Congie, halfe a Sextarie, it contains ſix cups, but in weight nine ounces of Oile, ten ounces of wine and water, thirteen ounces and half of Honey, (this meaſure contains three quarters of a pint.) *Hemina or Cotyla.*

The Italian Sextarie is the ſixth part of a Congie, it containes two Heminaes (or a pint and halfe) twelve cups; but in weight it contains eighteen ounces of Oile, twenty ounces of wine and water, 27 ounces of Honey. *A Sextary.*

A Con-

A Congie. A congie is the eight part of Amphore, (which is a Tankerd, or Rundlet,) containing eight gallons;) it contains ſix Sextaries, twelve Heminaes, but in weight, nine pound of Oyle, ten pound of Wine and Water, thirteen pound and halfe of Honey.

Urna. Urna, is half the Italian Amphora, but the third part of the *Amphora.* Attick, for a Greek Amphora which is called, Cadus, and Metreta, is greater then an Italian, it containes 48. Sextaries, but in weight it holdes ſeventy two pound of Oyle, ninty pound of Wine and Water, one hundred and eight pound of Honey (this Urne of our meaſure contains foure gallons and halfe.)

Culeus. Culeus is a meaſure containing twenty Italian Amphoraes, tis the greateſt of meaſures, but of theſe things tis ſpoken more at large by others.

CHAP. V.

Of Doſes of Medicines.

ALthough in this darkneſſe of mans underſtanding, tis not ſo eaſy to define, by what Rule and proportion; Elements agree in mixture, yet by the moſt, the opinion of Alchindus is retained, and a Geometricall proportion is appointed in degrees, not an Arithmeticall, and that for this reaſon, becauſe betwixt the neereſt degrees, there is a far greater difference, and inequality, then there is between two numbers, immediatly following one another.

Hence from two ſcruples to two ounces is accounted a temperate doſe: the doſe of a medicine, in the firſt degree from a ſcruple to an ounce; in the ſecond from halfe a ſcruple to halfe an ounce; in the third from five graines to two drachms: in the fourth from two graines, and a halfe to a drachm: yet it is here to be obſerved that in every degree as appeares by the doſe, there is a certain latitude in the higheſt degrees, you may not allwayes aſcend to the higheſt doſe, nor may all thoſe things, which are in the fourth degree be given to a drachm, but according as ſome are in the beginning, others in the middle, and others in the end of the fourth, ſo the doſe is to be moderated.

Moreover 'tis here to be noted that regard ought to be had of occult qualities alſo, and therefore experience is eſpecially to be conſulted with

THE

The Doſes of Purgers.

AS for the doſes of purging Medicines, they may be limited according to degrees, but ſince that in every degree there are three manſions, tis not lawfull to give what medicine you pleaſe of what degree ſoever from the loweſt to the higheſt doſe of that manſion. But every manſion hath its higheſt and loweſt doſe. *The Doſe of purgers.*

The doſe in the firſt manſion of the firſt degree is from two ounces, or three to ſix or ſeven ounces; ſuch like are Syrup of Roſes ſolutive, and Honey of Violets ſolutive.

Thoſe which are in the third manſion of the ſecond degree are given from ℥2. to ℥3. or ℥4. to theſe belong juice of Roſes and Violets, Manna, Caſſia, Syrrup of the flowers of Peaches, juice of Flowredeluce.

Medicines in the firſt manſion of the ſecond degree are exhibited, from halfe an ounce, or five drachms, to an ounce and halfe, or two ounces; hitherto are referred Tamarinds, and Caſſia; in the ſecond manſion of the ſecond degree, they are given from halfe an ounce, to an ounce and halfe, as Turpentine. *Of the ſecond degree.*

In the third manſion of the ſecond degree they are adminiſtred from 3. Drachmes to 7. Drachmes, of this kind is Epythimum.

In the firſt manſion of the third degree the doſe is from a Drachm to halfe an ounce, hereunto are referred Myrobalans, Rhubarbe, Agrick. *Of the third degree.*

In the ſecond manſion of the third degree, purging medicines are exhibited from a ſcruple to two drachms, in this rank are Aloes, the ſeed of Fleabane, Polypodie, the leaves and powder of Sena, Mechoacan.

In the third manſion, the doſe is from halfe a drachm to a drachm, hitherto belongs Aſarabacca, Carthamums, or baſtard-ſafron, Soldinella, Hermodactiles, Turbith, *Lapis Armenus*, *Lapis Lazuli*, Opopanax, Sagapenum, black Helleborе, the roots of Jalap.

In the firſt of the fourth degree, Purgers are given from ten grains to halfe a drachm, hitherto belongs Mezereum, the ſeed of Thymelea, or Oneorum, or Granum Gnidium, *i. e.* Mountaine Widdow-waile, Coloquintida, Elaterium, Hyſop. *Of the fourth degree.*

The

The doſe in the ſecond manſion of the fourth degree is from five graines to fifteen graines, in the end of this manſion, is Scammony.

In the third manſion of the fourth degree, they are given from three graines to ten graines, of this kind is Euphorbium, Spurge, Antimony.

But of the doſe of theſe ſimple purgers, is ſpoken particularly, above, part. 1. Sect. 1. Chap. 11.

But as for the doſes of compound medicines they are firſt found out by the qualities of the ſimples which are mixt together; Secondly, from the degrees of their ſtrength; Thirdly, from their quantity, of which in the Inſtitutions.

The Doſes of compound medicines how they are to be found out.

In the finding out of the doſe therefore of compoſitions; firſt tis to be conſidered, how many doſes of purgers are in any compoſition, afterwards the weight is to be determined, of the whole compoſition, and hence by the rule of proportion you muſt enquire how great a part of the whole compound may be given for one doſe; as for example, if we examine, *Pillulæ Cochiæ*, there are in that compoſition of *Hierapicræ* ten drachms; which in its ſelfe containes ten high doſes of Aloes, of *Coloquintida* three drachms, and a ſcruple, which containes ſeven doſes, of Scammony two drachms and halfe, which hath ten doſes, Turbith five drachms; which for the moſt part make foure doſes, *Stechados* five drachms, Syrup of *Stechados*, for the moſt part ten or twelve drachms.

And ſo ſince the whole compoſition which containes twenty foure of the higheſt doſes, hath for the moſt part thirty ſix drachms, a drachm and halfe anſwers to one doſe, and the higheſt doſe of *Cochiæ* pills ſhall be a drachm and halfe.

The doſes are 24.
The compoſition 36. drachms.
Therefore the doſe is 1. drachm and halfe.

THE

THE FIFTH BOOK, PART III.

SECT. II.

Of Operations neceſſary for the preparation, and compoſition of Medicines.

CHAP. I.

Of the parts of Pharmacopœia.

THE whole art of an Apothecary may be divided into two parts, whereof the firſt handles the operations by which the Apothecary obtaines his deſired end, and whereof oftentimes in the preparation of one Medicine they are more, and the ſame are required in divers preparations; The other teacheth, to prepare certain remedies by thoſe operations, and to reduce them into a certain form, and when it is needful, to joyn and compound many of them. To the former part belongs Chymiſtry in ſome meaſure. But ſince, that is largely ſpoken of in the tract of conſent and diſſent of Chymicks, and Ariſtotelians, as alſo in the Inſtitutions, I am unwilling to repeat thoſe things here in this compendium. *The art of an Apothecary.*

CHAP. II.

Of the kinds of heate.

The degrees of heate.

AS for what belongs to operations, and performances, since all Apothecaries whatsoever have need of heat and fire, as being the most common and usefull Instrument, first let us treat of heate.

But in heate in the first place, the degrees thereof are to be considered and the manners, of adding of fire; the degrees of heate in generall and absolutly are accounted foure; The First is that which appears pleasing and milde or gentle; the Second is that which is quicker and allmost not to be endured by the hand; the Third destroyes, the Fourth is the higheſt: but every of theſe degrees have a great latitude, and therefore not undeſervedly every degree may be divided againe into its degrees, in rightly shewing whereof much diſcretion is required, but for the moſt part tis better to erre in defect, then in exceſſe, for if any thing be once corrupted by the violence of the fire, it cannot be reſtored to its ſelfe againe, and oftentimes glaſſes are corrupted, and other dangers are accumulated, but if there be any error in defect, by continnance and increaſing the degree of heate, it may be recompenced, although the time of operation be prolonged.

How they may be varied.

But the degrees of heate may be made up divers wayes, and depend on divers cauſes, the cheife whereof we will propound. For firſt fire may be uſed divers wayes and manners, for ſometimes the matter with a fit veſſell, or without a veſſell, naked and open, is put to the fire, which again is done ſeverall wayes, for either it is circular, which in plaine incompaſſeth the veſſells and is removed from a diſtant place by degrees neerer to the veſſell, untill at length, 'tis heaped up over the veſſell, or elſe the veſſells are put in a fit furnace or the fire is made above the veſſel *Reverberatory*, or ſtriking back when the flame is repercuſſed by the cover, or doore of the furnace, it ſtrikes as it were the matter, and ſo it flyes round every way.

A dry Bath.

At other times the matter with its veſſell is not expoſed to the open fire, but is ſet againſt another body intervening, and that divers wayes; for firſt, if a pot to put ſand or ſuch like

like matter into, put on a veſſell ſtanding on a Trivet containing the matter to be prepared, be empty, tis moſt conveniently called a dry Balneum or a dry Stupha, but if the veſſell be not empty, a various heate according to the variety of matter which is put in it, may be afforded, and may be called by ſeverall names; if it be filled with water and the veſſell together with the matter to be diſtilled, be ſet into the water; it is ſimply called *Balneum Maris* or *Mariæ*; a Bath alſo may be prepared not only of water but of the ſaw-duſt of ſawed wood or Hay filling the veſſell and then moiſtning it, and ſo cover it with a glaſſe, but if the veſſell with the matter to be elaborated be not ſet in water, but be ſo placed, that it may receive only the vapour of the heated water, it is called *Balneum Vaporoſum*, afterwards let the pot be filled with the duſt of Bricks, with Sand, Saw-duſt, the filings of Iron and ſuch like. Balneum Maris.

Secondly, the moderation or governing of the heate, depends on the ſtore of fuell, the quantity whereof in the kindled coales, the Artiſt can at pleaſure abate or increaſe, or make it how he pleaſe, and that either by the plenty or want of coales, or by the more free eventilation of Aire, and the ſhutting out interception of the ſame; for a greater quantity of coales make a greater and ſtronger heate, if they can by the fuming of the Aire, and by opening of breathing holes, be kindled, all which may be better ſhewne then deſcribed.

Thirdly, for the variation of the fire, the diſhes commonly called *Cappelle* do make it according to their various diſtance from the fier; for if they are moved neerer to the fier it is increaſed, but if further off, the heate is remitted.

Chap. III.

Of the first rank or forme of operations of Breaking, Sleeking, or making plaine, Shaving and Filing.

In the inſtitutions Chap. 3. 4. 5. 6. 7.

NOw for what belongs to Workemanſhip and operations, although all theſe may ſeeme to be referd to conjunction and ſeparation, yet it pleaſeth us in this place according to our purpoſe to reduce them into three formes, *The kindes of operations Pharmaceutical.* and *Chi-*

and to comprehend them in the three following Chapters, In the first we may contain those operations which pertain to the dissolution and corruption of a thing; In the second we will put in those things which are separated, and the detraction of any thing, In the third, we will explain those which are appointed for the alteration, immutation, perfection, and preserving of a thing.

In the the first rank are breaking, or grinding, shaving, sleeking, filing, melting, or dissolving, drayning, burning, turning into ashes, or incineration, calcination, praecipitations, fumigation, putrifaction and fermentation.

Tritura. As for breaking or grinding, the chief end thereof is, that things may reduced into their smallest parts; that afterwards they may the easier, and more exactly be mixt with others, and their vertue may be drawn our.

Levigatio. Sleeking, or levigation, is nothing else then a most exact breaking or grinding whereby some Medicine, red marble, or some other polite stone, a convenient liquor being powred in, or else without liquor, tis so long wrought with a little kind of Mil stone, by the turning of the hand, that it is reduced into the form of fine flower, and wonderful smal dust, in that manner painters use to prepare their colours.

Cutting Shaving Filing Next to these are Section, Shaving, and Filing: Leaves, Staulks and rootes of plants, are cut with Scizzers, or Knives, and by this means they are prepared, for boyling, infusion, or grinding, other things are shaved, or lessened by a turn, as woods, horns, hoofs, or nails, teeth of living creatures, for the same purposes. But those things which can neither be lessened by cutting or breaking, should be filed with an iron File, and reduced into the smallest parts, such like are most metals, as iron, and others, and also woods, horns, and bones of Animales.

Meltings Dissolving. Melting is a reduction of harder things, into a more liquid substance. Dissolving differs not from this, unless because that is done alwaies by the benefit of heat, and for the most part without adding of moisture; but this is alwayes done with moisture, and oftentimes without heat, so they melt fat, butter, marrow, wax, Pitch, rosin, certain kinds of gummes, as also mettals by a greater strength of fire, but for the most part with powder added that they may the better run; all kinds of salt, are dissolved teares, juices, many kinds of gummes, Rosins.

Dray-

Drayning or dissolving is a peculiar sort of solution when a body is made fluid, by moist aier, which insinuates it selfe into it, so salts, allome, nitre, and such like melt, all which turn into liquor, also lyme, or chaulke, of which the greatest part are dissolved into liquor, or some thing of them onely melt, according as they contain more or less salt. *Deliquium.*

To these belong burning, and torrifying, yet they differ in this, that these are performed with the lesse, they with the greater fire, whence in tosting things are rather dryed, then burnt, and if any thing be burnt, tis the out-side, but in burning as well the internal parts, as those on the outside are burnt together. This drying is performed in a Platter, or Frying pan, especially of iron, wherein medicines put to the fire may often be stirred about, that either the superfluous humiditie may be consumed, or the qualitie that abounds in the medicine may be taken away, but burning, when any medicine, as harts horn, mans skull, ivory, oils inclosed in a potters furnace, are burnt, and being burnt, and as yet hot are extinguished in a convenient liquor, and afterward rubbed, or crumbled to dust. *Burning.* *Toasting.*

Cinefaction, or a reduction into ashes, is so called when the moisture, which was in the combustible matter, by which the parts hung together, is consumed by the fire, which is performed, two wayes; First, the fire being opened the thing it self is cast in naked, and is reduced into ashes, moreover in a Vessel that is closed, matter is burnt and turned into ashes, which combustion differs from the former in this, for in the former, whatsoever is volitile flyes into the ayer, but in this some volitiles are retained, and fastned with the fixed. *Burning to ashes.*

Calcination is a pulverisation of a thing by fire caused by the privation of the moisture of the part joyned with it. This principally takes place in minerals, and mettals, and other things which of themselves do not burn, and are more firmely united, and tis appointed either that a thing may be made the fitter for solution, or to lose the acrimony, which it hath, although on the contrary some things become the sharper for burning whilst the aqueous humiditie, whereby the acrimony is occasioned is consumed by fire. But this is performed two wayes, either by actual fire, when things are fred, and the bond of continuitie is broken by actual fire; or by potential fire, when things to be calcined, are corroded, by strong and corrasive waters, and other causticks. *Calcining.*

That calcination, which is made by actuall fire is againe various, for some things are calcined by themselves, and without any addition, but other things, with additamentents, which either prohibit the fusion, or else burne and corrode.

Cementing. But that calcination in particular, which is made and corrasive powders mixt therewith, is called Cementing, and tis performed when a crucible is filled with thin plates of mettall, and corrasive powders, one ranke above another, First Plates, then Powders, then Plates, then powders, &c. As the manner is in doing, after the crucible is exposed to a circular fire or Reverberation by degrees, yet some things are extinguished first by certaine waters, before they are calcined, some are corroded first by their own waters and afterwards are Reverberated; on the contrary some things are Reverberated first, afterwards corroded.

Corroding. Calcination which is done by potentiall fire is finished by corroding, precipitating, or Fumigation. Corrosion is a solution of mettalls, or such like by waters and sharpe spirits

Precipitation. Precipitation is when a mettall descends to the bottome, in the likenesse of Chaulke, and is seperated from the water

Fumigation. that dissolves it; but Fumigation is when some body is corroded and brought into a body like chaulke, by the exhalation, or vapour of a corroding thing.

Corroding of mettalls by Quicksilver. Hitherto pertaines Amalgamation, which with the Chymists is an operation which is nothing else then a corroding of mettalls by Quick-silver and Mercury.

Putrifaction. Lastly putrifaction, which others call Fermentation, and digestion, is that operation whereby a mixt body is someway dissolved by a moist heate, and losing its naturall juncture, or Union, is rendred the more fit for artificial seperation.

CHAP. IV.

Of the second ranke or forme of operations.

In the Institutions Chap. the 8. 9. 10. 11. 12. 13. 14. the second forme of operations.

TO the second forme of operations we refer those things, which are imployed in seperation and detraction of any thing; and in seperation of *Homogenialls* from

Hetero-

Heterogenialls, of pure from impure, of profitable, from unprofitable, such are sifting, washing, infusing, boyling, straining, fumeing, Clarifying, Filtring, Digestion, Expression, Distillation, Sublimation, Exsiccation, Evaporation, Exhalation and Coagulation.

Sifting is not only a seperation of things beaten, and brought into powder, of the finer part from the thicker, by meanes of the seive, but also for the most part, a casting of moist and boyled things through a haire seive. *Sifting.*

Washing is not appointed for that end only, that medicines defiled may be cleansed, but that some superfluous quality may be taken away from the medicine, or a new, may be introduced. *Washing.*

Infusion is nothing else but a steeping of a medicine in some liquor, whereby the medicine may be moistned within and without, that its force or strength may be drawn out, or increased, or its malignity corrected, or that which is hard may be softned. *Infusion.*

Next to infusion, is boyling, or seething, which differ only in this, that medicines in infusion are moistned with longer time and lesse heate, but by boyling tis performed sooner and with greater heate. *Seething.*

Straining is that whereby moist things, either first heated, as the thicker and more viscid things, or lukewarme or cold, as those that are thinner, are cast through a thick, or thin strayner, the thicker parts and dregs being left behind in the strainer, they become the purer. *Straining.*

Scumming is when during the time of seething the froath swimming on the top, is often taken away with a spoon, for the most part perforated. *Scumming.*

Clarifying, although it may be taken in general for any sort of separation of filthy, and thick things, which may be performed many wayes, either by standing still whilst the feculent matter, descends of its selfe to the bottome, and settles or by straining, or by froathing, yet principall with the Apothecaries, Clarification is that purification of things boyled by despumation, having added the white of an egg, namely whilst the white of an egg is beate with a Spatula, or spoone, untill it come into froath, and afterwards is mingled with the Syrup or decoction hot to clarify it, and when it hath contracted any blacknesse tis taken away, and a new is put in so often till the liquor become cleare. *Clarifying.*

Filtring. By Filtration, or straining through a brown paper, that which is thick and fæculent, mixed or confused in any liquour is separated, namely whilest the pure liquour descends through the strainer, whether it be a linnen ragge or brown paper, into the Vessel that is under it, but the impuritie is left in the strainer.

Digestion. Digestion, although sometimes it signifie putrifaction, sometimes a certain exaltation, and circulation, since that in general, to distribute or dispose in order, is to concoct, and digestion is concoction, yet in this place, by digestion, we understand such a concoction only whereby that may be seperated, which is as yet foule in things, whilst the substance of the liquour is attenuated, and separated from its earthy impuritie.

Pressing. Hereunto belongs Expression, by the benefit whereof by a strong endeavour, either with the hand alone or with a presse, we separate the liquid and moist from that which is dry and earthy.

Distillation. Distillation is nothing else, but a collection of exhalations elevated by heat, out of something exhalable, by the help of a Vessel, and receptacle, thick, and cold into a liquour.

This is commonly accounted threefold, the one is that which is by ascent, the other is that which is made by the sides, the third is that which is made by descent.

Distillation by ascent. By ascent Distillation is said to be, when the exhalations and vapours ascend upward, from the Alembick, or the head of the Furnace. And the Vessels which contain the matter to be distilled, the head being put on in it, tis condensed into a liquour, which distills drop by drop through the beak or nose into the receiver, and it is gathered together. This is performed, either by the Sun beams or by fire, sometimes lying open, sometimes not manifest, namely some other body intervening, as sand, ashes, water, &c.

Distillation by a glass. Hitherto also may be referred conveniently Distillation by a Glasse like a ball so called, whereby oil of sulphure is prepared, namely when the brimstone is kindled, glasse, hammers receives the vapours, and condense them into oil.

Distillation to the sides. Distillation to the sides, or else it is called by inclination, when the exhalation, and spirits do not ascend straight upwards in the Alembick, but tend towards the receiver by the sides and obliquely, This is performed either when the fire is opened to it, or when some other body comes between, as sand, ashes, &c. By a Vessel which they call a Retort, or a

Straight-

Straight gourd, yet placed oblique in the furnace, that the Alembick may incline downwards.

Distillation by descent.

Distillation by descent is when a liquour, is not carried upwards, from the dissolved exhalations, nor to the sides; but tends downwards, and drops into the supposed Vessel. This again is performed, the Vessel lying immediatly on the fire, or sand, ashes, &c. intervening.

Rectification.

To distillations belongs Rectification, or Cohobation, whereof that is no other then a repeated distillation of a thing, to purifie and exalt it the more, the dreggs being left in the bottome, or to seperate the phlegme from oil, or the spirit from phlegme, but this is said, when the humour which was distilled, is powred off, and again, and again, is drawn, and distilled in the same Vessel, where the matter was left.

Sublimation.

Sublimation, which is performed sometimes by fire that is open, sometimes by some intervening body, as Sand, Ashes, &c. Tis the neareſt to distillation by ascent and differs from it only in this, that as in distillation vapours, which are exalted, come together into a liquour, so in sublimation exhalations ascend dry, and being carried up on high, stick to the sides of the Alembick like atomes.

Præcipitation.

Præcipitation seems to be contrary to this, which is done when bodies dissolved by waters and corroding liquours, are again seperated from the liquour, that the form of chaulk or dust may remain, which commeth to passe, when any thing is cast or powred into the solution, by whose force the dissolving liquour, or that which was the cause of solution in the liquor, is seperated from the dissolved body.

Drying.

By Exsiccation the superfluous moisture is taken away, whether in the shade, or in the Sun, or whether it be done in an Oven, or in a Frying-pan over Coales, both for that the Medicines may the better be preserved, and may not contract thirst by their superfluous humidity, and putrific, and be corrupted, and also, that they may the easier be contained, and made into powder.

Evaporation.

Exhalation.

By Evaporation the aqueous humidity expires, as by exhalation, dry exhalations are elevated by heat, as that which is superfluous in the thing being dissolved into vapours and exhalations may go out, and the more useful part only may be left.

Coagulation.

To these operations is added Coagulation, which is nothing else but a reduction of a liquid thing to a sollid substance by the privation of moisture.

CHAP.

Chap. V.

Of the third manner of Operations.

The third forme of operations.

THe third forme comprehends thoſe operations which are appointed them, for alteration, immutation, and perfection of a thing, and aime at this, that a thing may be reduced to a better ſtate and more noble degree. But although ſome do reckon more ſuch operations, and perhaps there are more, yet in this place all of them are properly

Digeſtion.

called by the name of Digeſtion, and as it is diſtinguiſhed from the two higher kinds of digeſtion, whereby a new quality of a thing newly elaborated, is introduced, ſo that if the thing containes any thing that is hurtfull, it puts away that, or if any thing is wanting to it, it begets that; and if there are any others to be here repeated, they ought to be accounted for certaine wayes of Digeſtion; For all of them for the moſt part, in the ſame manner by a gentle externall heat, exciting the internall force of a thing are performed, which here is the primary agent.

Inſtitution Chap. 15. and 16.

Circulation.

But amongſt the manners or kinds of digeſtion, the cheife is Circulation, tis called by ſome Pelicanation, from the veſſell wherein it is performed, where by a gentle externall heat being exhibited, the matter which is circulated, is exalted continually in the forme of vapours, and is againe condenſed, and ſo by that continuall concoction and this circular motion of reſolution and condenſation, it attaines to the higheſt degree of perfection in its kind.

Conditing.

Hitherto belongs conditing, preſerving, and confecting; fruits, flowers, roots, are condited or pickled with Honey, Sugar, Vinegar, Salt, not onely that they may be preſerved the longer, but that they may be the more pleaſant to the taſte.

Confecting.

In confecting, fruits, roots, ſeeds, ſweet ſmelling ſpices, are preſerved and candied with Sugar, more for the taſte ſake then preſervation, or augmentation of the ſtrength.

Nutrition.

Nutrition of medicines is a certaine humectation, but ſuch whereby the thing is preſently wet, or moyſtned, and immediately dryed againe by the Sun or fire, and is to be wet and moiſtened againe; which labour is to be repeated thrice, four times, or ſo often until the medicine hath ſufficienrly imbibed that humour which we deſire.

The

THE FIFTH BOOK, PART III.

SECT. III.

Of the Formes of Medicines.

CHAP. I.

The Diviſion of Medicines.

The Diviſion of Medicines.

AFter we have finiſhed the operations neceſſary for an Apothecary: It remaynes that we now come to the preperations themſelves of Medicines, which are perfected by thoſe operations. The differences of Medicines, are taken either from the ſubſtance or from the parts to which they are applyed. Medicines being conſidered the former of theſe wayes are, ſome full of Vapours, others Corpulent; Corpulent are either fluid, or having a conſiſtance; Fluid are various, as diſtilled waters, Spirits, Liquid tinctures, Vineger, Medicinal wine, Hydromel or Hony and Water, clarifies Juyces, Oyles, Emulſions, Decoctions, Infuſions, Julebs, Syrrups, Baths, Clyſters, &c. Again thoſe that have a conſiſtance, ſome of them are actually moyſt, others dry; Of the former ſort are Conſerves, Electuaries, Eclegmas, Juices, Extracts, Boles, Muſcillages, Fat Lineaments, Balſomes, Unguents, Cataplaſmes: Thoſe that are actually dry, are either continuous, and the parts cohære together, or elſe they are diſcontinued. Of the former kind are, Pills, Troches, Rotules, Morſels, Plaiſters, Cerates, Suppoſiters, Glaſſes, Regulus, and certain things ſublimed: Of the latter ſort are, ſeveral Species and Powders, Meal or brann, Flowers, & things præcipitated.

But

Internal. But in reſpect of the parts to which they are applyed, ſome are called internal, others external. The internal are thoſe which are taken into the body that common and uſual way as we take in meat and drink, all the reſt whether they are applyed to the body, or ſpread over the body, or any other way applyed to the bodie, or if they are caſt into the bo-

External. dy any other way, as, at the fundament, ears, noſtrils, wombe, we call them externals.

The difference of internal Medicines. The formes of Internal Medicines are various; for ſome are fluid, others not fluid, and theſe are either ſoft and liquid, or altogether dry, The fluid are, Decoctions, Infuſions, Medicinal VVines, Honey and VVater mixt and boiled together, wine mingled with honey, vineger, and honey, and barley-water, Juices, diſtilled waters, Spirits, tinctures, and Liquid extracts, Oils, Sirups, Julips, Emulſions; Soft and not fluid are, Extracts, Conſerves, Preſerves, Medicinal Juices thickned, Electuaries, Eclegmaes, or Medicines to be licked or ſupt, Boles, Not fluid, and plainly dry are, powders, Sweet meats, Salts; Saffron-flowers, Precipitates, Comfits, little round Cakes, Morſels, or little ſnips, march-paines, And thoſe which belong to theſe, as Troches, and Pills.

Of External. But externals are either ſent into certain parts of the bodie, or they are only applyed, or exhibited to the ſuperficies of the bodie, or they are only hung about, as Ammulets, and Periapticke medicines, or medicines to hang about ones bodie; Suppoſiters and Clyſters are injected, and caſt into the body; Clyſters, and peſſaries, are alſo injected into the womb, alſo certain Liquours are injected into the yard and bladder; into the mouth are put gargariſmes, to waſh the mouth, or throat with, Apophlegmatiſmes to draw away Phlegme, Dentifrices to rub and cleanſe the Teeth, To the noſe Erhines, Sneezing-wort; Odours, Suffumigations, peculiar injections into the Ears, Collyries, or medicines, applyed to the eyes. To the outſide of the bodie only are exhibited, and applyed, oiles, balſomes, ointments, linements, cerots, plaiſters, Cataplaſmes, Dropaſes, or ointments to take away hair, Sinapiſmes, Phænigmaes, or medicines cauſing the bodie to break out in bliſters, or Puſtules, Epithems, or medicines ſomewhat ſofter then plaiſters to be applied to the bodie, fomentations, or any thing applied plaiſter-waies to aſwage pain, little baggs, powders, embrocations, waſhings of the extream parts, baths, waſhbals, ſearing irons or cauteries.

Some

Some others do beſt agree with certain other parts; all external things for the moſt part, communicate their ſtrength to the head, as diſtilled waters and ſpirits, oils, extracts, decoctions, infuſions, ſyrups, conſerves, preſerves, comfits, electuaries, little round cakes, morſels, pills, powders. But external medicines applied to the head, in the form of powders, little baggs, round balles, oiles, balſoms, ointments, unguents, plaiſters, cerots, cataplaſmes, oxyrhods, that is medicines with vinegar and roſes, epithemes, or the ſofteſt plaiſters, embrocations, ſuffumigations, perfumes of divers ſorts, as alſo waſhings of the Feet are profitable for the Head. *What Medicines are applyed to the Head.*

Externally waters, and Collyries, ointments, fomentations, unguents, cataplaſmes, are convenient for the eyes. *To the eyes.*

Into the ears diſtilled waters, Juices, decoctions, oiles, and other liquours are infuſed and dropt, and other Medicines in the form of evaporation, and fumes are ſent into the ears, alſo liniments, ointments, fomentations, epithemes, Cataplaſmes are applied. *To the Ears.*

For the teeth are convenient, lotions for the mouth, liniments, ſmall pills to be put into hollow Teeth, unctions for the Jawes, powders for rubbing the Teeth, and alſo troches, and penſills made in the form of ſuppoſiters are convenient for the Teeth, and being dryed, and hardned, the Teeth are rubbed therewith. *To the Teeth.*

Medicines applied to the mouth, and Chopps are lotions, and gargariſmes, ointments made of hony, of ſyrups and juices, lohocks. *For the mouth and Chopps.*

Moſt internal things are good for the Breaſt, but eſpecially, lohocks, troches, and litle rolles, ſuch as they uſe to hold under their tongues, the thicker ſort of ſyrups, vapours, and fumes drawn in with aier, externally, the ſame medicines may be applied in the form of oiles, ointments, unguents, cataplaſmes, plaiſters, and cerots, little baggs, fomentations, and epithemes. *For the Breaſt.*

Medicines are applied to the Heart, for the moſt part after the ſame manner, and moreover fumes, or ſteames, which are profitable for the recreating and refreſhing of the ſpirits. *To the Heart.*

Internal Medicines may be conveyed to the Stomack in all formes, but principally thoſe which are taken in at the mouth, but externally, in the form of oils, unctions, fomentations, liniments, unguents, cataplaſmes, plaiſters, epithemes, baggs. *To the Stomack.*

More-

To the Liver. Moreover, all internall things may penetrate to the Liver. But externall in the forme of Ointments, Fomentations, Linements, Cataplasmes, Unguents, Plaisters, little bags, Epithems, are applyed.

To the Spleen Reines and Bladder. In the same manner Unctions are exhibited to the Spleen, Reines, and Bladder; Bathes also, and Tubs of waters to sit in, are usefull for the Reins, Bladder and spermatick Vessells; and Clysters injected are good for diseases of the Reines.

All the same things are convenient for the wombe, and moreover injections into the wombe, Pessaries, Errhines or medicines to put into the nose, fumes, and Evaporations, Lotions of the feet.

And all these sorts of medicines shall now be explained in their order, as far forth as this compendium will admit of.

Chap. II.

Of Decoctions.

Decoctions what. *How many fold.* Decoctions which the Greeks call Apozemes, are potulent medicines prepared by the boyling of plants and of their parts, seldome of Animalls; all Decoctions may conveniently be reduced into two formes; namely into Decoctions altering, and purging; under Decoctions altering, we will comprehend all those that have any other vertue besides purging, and do alter the body, whether they are given in regard of themselves only, or for some following purge; which Decoctions are then called Preparatives, Digestives, or Apperatives, that is opening things.

The matter of them. But the matter to be decocted is taken out of the rank of Vegetables, wherein are variety of parts of plants or herbs, seldome of living Creatures.

Quantity. But as for the quantity of the materialls to be decocted, if a weight be to be assigned generally to what ever is to be boyled, it begins from an ounce or two ounces for the most part, and ascends sometimes to halfe a pound, nay sometimes to a pound, a pound and halfe, and two pound; but as for the dose of the several kinds Decoctions are prepared.

Of the Roots and Barks ℥2. ℥3. and ℥4.

Of Leaves, 3. 4. 5. or 6. handfulls.

Of

Of seeds 3. 4. 5. 6. drachms
Of Fruites, in number 1. 2. 3. couples or paires 5. 6.
Of flowers, pugills 4. or 5.

Halfe an ounce, five drachms or six drachms answers to a little handfull, two drachms or three to a pugill, but it is not necessary to mixe all those together in every decoction, and to heape up a mixture of them all, but when a few will performe the intentions, tis in vaine to put in many, yet if the decoction be provided to be given at many severall times, such a quantity of materialls ought to be taken, as that the decoction made of them may be powerfull to performe the aime of the Physitian.

Preparation of the matter.

But in the seething, the preparation of the things to be boyled, and the manner of seething, is to be observed, for first if the materialls are too thick or hard, they are first to be cut or gently bruised, or fyled or beaten in a mortar.

Or of boyling.

In the manner of seething, order is to be observed in putting in the things to be decocted the fire and instruments and Liquor which is decocted; and time also is to be observed.

Order of boyling is to be observed, that all the things may not be put in together, but the Roots, Barkes, Woods, which are the more sollid things, and without smell, should be put in first, then the Leaves, and seeds, last of all flowers, and Aromatick things, and all those things which smell strongly, and those things which may disperse their strength by much boyling; but this cannot be observed except the vessell be opened, but if the decoction be made in a thing that is covered, it matters not much to put in all the things altogether, and if any of them are more difficult to be seethed, those should first of all be bruised by themselves.

The fire should be cleare and equall, but very gentle, since the vertue is easily called forth, but stronger when there is need of much boyleing.

But decoctions are made by the Apothecaries commonly when the vessell is open and the fire also, but tis more convenient, least the strength of the medicines should vanish in boyling, to make a decoction in a Biploma, as they call it, or a double vessell, the vessell being shut, or if a decoction be made the fire being open, tis convenient to set on it a close Alembick, or if it hath a beake, or snout, to fit it with a receiver to take the liquor, and to mixe it with the strained decoction.

The

Liquor for the Decoction. The Liquor in which the things are boyled ought to be ſuch as may performe the intentions of the Phyſitian, as water of the Fountaine, diſtilled water, Barly-water, Chalybeate, Water, Whey, water mixt with Honey called Hydromell, ſometimes Wine is taken, ſeldome ſtrong Beere is uſed, ſometimes ſome Vineger is put in, that the viſcid and tough humours may more powerfully be cut thereby, and the medicine may penetrate the more; ſometimes Roots alone, before the decoction is made, are brayed in Vineger. Diſtilled waters alſo are often uſed for decoctions with no great profit but with great charge, unleſſe the decoction be made in a cloſe veſſell, ſince ſo long boyling takes away all their ſtrength.

The quantity of Liquor. The quantity of the Liquor ought to be ſuch as may ſatisfie for the decoction, and ought to cover the medicines three or foure fingers breadth; which for the moſt part is left to the diſcretion of the Apothecarie. But if the proportion be appointed by the Phyſitian, the Liquor is for the moſt part foure-fold, ſix-fold, eight-fold, in proportion to the medicines, according as the Herbs are dry, or full of juice, thick, or thin, and may imbibe more or leſſe of the Liquor, and they ought to ſeeth a little, or long.

Sometimes before boyling, the medicines are ſomewhat cut, or bruiſed, and ſometimes they ſtand a while (after decoction) before they are ſtrained.

But they are boyled to the conſumption of halfe or of a third part, or of a fourth part only of Liquor, or till but a third part remaines, according as the medicines and the ſcope of the Phyſitian requires: for thoſe whoſe vertue eaſily vaniſh and are in a thin, and ſeperable ſubſtance are to be boyled the leſſe time: but thoſe whoſe ſubſtances are thicker, the ſtrength cannot be drawn forth without longer boyling, the decoction is ſtrained with, or without ſqueazing, according as there is need of the thinner parts only, or thicker, and ſuch as lye deeper.

A decoction is prepared either for one doſe or more; for one, three, four, or five ounces may ſuffice, if for more, the decoction ſhould be made that the remainder may be a Pint, or a Pint and an half, and afterwards of things making it pleaſant, for one Doſe an Ounce, or an Ounce and an half may be added, yet more than a Pint, or a Pint and an half of a decoction, at one time, is ſeldom made, (except the decoction of Guiacum and ſuch like) ſince that if more

ſhould

ſhould be prepared, it would eaſily be ſpoiled before it would be taken by the ſick; Unto three four or five ounces of the decoction ſtrained are added, of Sugar, which often is uſed or Honey, ſix drachms, or an ounce, or of ſome convenient Syrup in every doſe an ounce, or an ounce and halfe: Sometimes the juices that are moſt convenient of Herbs, or Fruits, and often other Liquors, as *Aqua vitæ*, Spirit of Vitrioyle, Copper, Salt-peter, ſome drops thereof are added, and indeed only one of theſe is added ſometimes to an Apozeme, but of lenitives more, as more Syrups, or juices & Syrups, or of juice and Sugar, when juices are adminiſtred, for the moſt part; Sugar or Syrup is mixed with them, and ſometimes pleaſant things; that they may be the better mingled, a gentle ebullition is appointed at a weak fire; if it be convenient, the white of an egg may be added, that the Sugar and Honey, and decoction alſo may be clarifyed; or if that clarification doth not ſuffice, the decoction is to be put into the *Balneum Mariæ*, till the thick dregs ſettle in the bottome, and they by ſetling in the bottome, and powring off of the cleare Liquor are ſeperated, and that is to be repeated ſometimes if it be needfull; ſometimes the decoction is to be made pleaſant either for the acquiring of a good taſte, or ſmell, or ſome other vertue, namely the Aromaticks a little before the end of boyling being reduced into into powder, or Aromatick ſpecies fitted for the diſeaſe, halfe a drachm, or a drachm thereof in each pint, is to be hung in a thin skin, or bladder in the decoction, and are often preſſed out, or elſe a little after, the decoction is removed from the fire, the decoction being as yet hot, they may be cut, or bruiſed more groſſely, and ſo injected, and after they have ſtood together ſome time in a veſſell well covered, it is ſtrained againe. Muske alſo, and Ambergreaze, if it be convenient, may be alſo given to the doſe of a graine of each; or a drachm or two of Cinamon water may be added. If Wine or Vinegar be neceſſary, tis more convenient to add them after the boyling, or a little before they have done boyling.

The time of giving.

They are given for the moſt part in the Morning, or Evening, or two or three hours before dinner, or ſupper, the ſtomach being empty and the decoction being firſt warmed, three foure or five ounces thereof is given at a time, and that is often performed two, three, foure or five dayes following, and either once only, or twice a day; if the decoction

coctions are prepared for many doſes, they are to be kept in cold places under ground, for they will ſcarce continue above a weeke although it be in the Winter: but in the Spring and Summer, for the moſt part they are renewed every way.

Reſtorative broaths. Hereunto belong reſtorative Broathes as they call them, which are made of Hens, or Capons, to which Veale, or Goates fleſh may be added, and there are of three ſorts; the

Jus Conſummatum. firſt they call a compleat, or a perfect broath, becauſe 'tis moſt abſolute, and fitteſt to nouriſh: it is prepared as ordinary broathes are, only that they boyle longer, and indeed ſo long untill the ſixth, eighth, or ſometimes the tenth

Gelatina. part only remaines; the ſecond is called Gelatina, which is made if theſe meates are boyled in a double veſſell without powring off the water, and the juice is preſſed out from

Contuſum. thence, from which after it is cooled, the fat ſwimming on the top is to be ſcummed off: the third is called Contuſum which is prepared when the meates firſt ſodden or roſted, afterwards are beaten in a morter, ſo long untill they may melt when broath is put to them, and afterwards are ſtrained.

Purging Decoctions.

The manner of preparing purging of decoctions. Purging decoctions differ not from other decoctions, unleſſe in reſpect of materialls; namely that ſimple purging medicines are mingled in purging decoctions, the manner of preparing is the ſame: for purging medicines convenient for the evacuation of the humours are taken, and that for one and more doſes, yet becauſe in ſeething their ſtrength will decay, or waſte they ought to be taken in a greater doſe, then in the ſubſtance, the ſtrongeſt for the moſt part double, but of the milder purgers, four-fold. Of which before in the doſes of medicines.

Other things are added to theſe, which may either reſiſt and correct the malignant, and noxious qualities of the purge, or may prevent the miſcheives which may befall nature by the uſe of ſtrong purgers or which may increaſe and ſtir up the dull faculty of a medicine, or extimulate them to worke more ſpeedily, or may bridle them if they worke too ſtrong and quick, or ſuch as have regard to ſome private parr, and may leade and direct the purging medi-

cine

cine thither; Aromatick powders or species are added to the decoction strained, for to please the palate, halfe an ounce or an ounce of Syrup is appointed and prepared.

2. Oftentimes something that purges is added to the decoction as Syrup and Honey of Roses and Violets solutive, also Caffia, Manna, which are dissolved in the decoction, which is againe strained.

3. Sometimes purging electuaries are mixt and dissolved in the concoction, in such quantity that they make one dose when they are mingled with many things that are boyled together.

4. But because decoction, by the mixture of electuaries become thicker; tis not inconvenient if they are strained againe, and also clarifyed, but then the Electuaries may be used in a larger quantity.

5. Sometimes, some of the purging powders are added to the Liquor or decoction.

6. Or some quantity of a purging extract is dissolved in it:

7. Lastly, decoctions are oftentimes made of purging and altering medicines together.

Hereunto belongs decoctions to cause vomits, sweates *Vomiting things &c.* Urine, examples whereof are extant every where.

Chap III.

Of Infusions and other purging Potions.

Infusions. INfusions are next unto decoctions, and differ only from decoctions simply so called, in that they are wont to be prepared only by boyling without macerating them before hand: but these are when the medicines are broken, or beaten before, and put into a convenient Liquor for some certain time that they may leave their vertue in it.

The manner of preparing. They are prepared of medicines of all sorts, but most commonly of Purgers, which should be given in somewhat a greater weight, then in the substance, namely halfe so much in the substance, and double in the infusion, with their correcters and directers being cast in also in a due quantity, (sometimes in a nodule or little bagg of fine linnen, shut) in a Liquor convenient for the purpose of the Physitian: the Chymists at this day, that the extract

may be made the easier, put to the menstruum or prepared matter some drops or spirit of Salt of Vitriol, or Oyle of Vitriol is added, which is made by draining, which they call *per deliquium.*

The quantity of the Liquor ought to be such as may cover those things that are macerated, and may be something higer then they, being infused in this manner, six, twelve, or twenty foure hours in a warme vessell stopt or shut, they being beaten or cut in peices should so long lye in it untill the Liquor hath extracted all their strength, which may be known by the taste and smell. But if, which often happens, there be urgent occasion, the medicines cannot be macerated for want of time, that defect may be supplyed by gentle boyling of them, afterwards that which is strained with or without squeazing is appointed for use, and indeed without squeazing or pressing that which is strained is more cleansing and pleasing to the taste, but weaker: but with expression tis more troubled and thicker, but more efficacious.

You may add to the infusion things that sweeten it or other purging things as tis said before of decoctions.

Sometimes Decoctions, and Infusions are given together; namely a Decoction is prepared in the same manner as is said before. In a sufficient quantity of that decoction are infused purgers with their correcters, and the rest of the things are afterwards mixt as in other infusions.

Another way also a Potion is made of infusion and decoction mixt, or an infusion with a decoction, namely the decoction is prepared by its selfe, and the infusion by it selfe, both of them according to the method formerly described, and these two Liquors are afterward mingled together.

A purging Potion. The manner. To these purging decoctions, and infusions, by reason of their similitude we add a purging Potion peculiarly so called by some, which is prepared in this manner, first a sufficient quantity is taken of any sort of Liquor, decoction, distilled water, Whey, water and Honey mixt, Broath, Wine, Juleps of Violets, sufficient for a draught, namely two 3. or 4. ounces, in the Liquor a sufficient quantity of Cassia, Manna, or a sufficient quantity of any one purging electuary, or more, is to be dissolved for one dose; sometimes of some Syrup half an ounce, or 6. drachms, or some of the Aromatick powders are added, and these potions are taken as the rest, which we have spoken of heretofore, hot in the morning fasting.

Secondly

2. Secondly, as tis ſpoken of purging things, ſo here alſo ſtraining, and Clarifying may be appointed, but then the electuaries are to be taken in a greater quantity, then if they are given without ſtraining.

3. Thirdly, purging Potions may be prepared of purging extracts, but ſeeing that extracts are wont to be given in a ſmaller doſe, they require leſſe quantity of Liquor, and therefore are more gratefull to the affected: ſometimes two or three ounces of other Liquors are taken inſtead of Muskadine, and the extract is diſſolved in them, and if there be danger of being too hot, ſome Sorrell, or Lemons, or ſome other convenient things may be added.

4. Laſtly, purging Potions are prepared of powders as well ſimples, as of compound purging medicines, as alſo with purging Roles, but the doſe of ſuch powders, ought not to be much more then a drachm, otherwiſe the Potion will be too thick, and ungratefull: and ſometimes ſome powder is mingled with diſſolved electuaries.

In the ſame manner alſo, Infuſions and Potions for vomits, ſweates, and medicines provoking of Urine may be prepared. *Potions and infuſions for vomits.*

CHAP. IV.

Of Medicinal Wines, drinks of honey and Water ſodden together, of Wine mingled with Honey, of Oxymel, of Medicinal Vinegar, Decoction or Barley-water, alſo of Clarified Juices.

OUT of thoſe things which have bin hitherto ſpoken of Infuſions and Decoctions, it will eaſily appear how medicinal wines are prepared, and they are either altering, or purging and altering together. *Medicinall Wines.*

They are prepared, either of Muſt; or of Wine that is refined, thoſe that are prepared of Muſt, have a more pleaſant taſte, and they are thus done; The dry Medicines are put into little woodden Caskes; when the Muſt is ſomewhat abated, and the Wine cleanſed, and made clear, it ſhould be drawn out into another Veſſel, and kept for your uſe.

In the ſame manner Phyſical drink may be prepared, of *Phyſicall Worm-drinkes.*

Wormwood, Harts tongue, Bittony, Sage, Roſemary, and other herbs, and alſo of purging things: but for the moſt part, the herbs are firſt bruiſed in the drink, after tis brewed, being as yet warm, and afterwards in due ſeaſon things to make it work, being put in, they are ſuffered to cool.

Of Wines ſo cleanſed, Medicinal Wines are prepared; Dry medicines are cleanſed, cut, and broken, and are put into a glaſſe, or earthen Veſſel, ſometimes into a Nodule, or little Bagge of fine linnen, or thin linnen ſewed up; a ſufficient quantity of good white Wine is powred in, ſo they ſtand in infuſion, in a Veſſel that is ſhut, afterwards ſtrained, unleſſe they are incloſed in a little Bagge.

But this proportion for the moſt part is obſerved, that to a pound of medicines, there is taken of Muſt, or Wine eight Pints, twelve, nay, to twenty five, nay thirty, or thirty ſix, ſo that an ounce may anſwer to the proportion of two or three Pints.

Medicinall Wines alſo that alter, are prepared if diſtilled Oyles are added to them being firſt mixt with Sugar, or Spirits, or tinctures, ſpirit of Wine drawne out of ſimple medicines, or moiſt extracts.

Claretum. Sometimes medicinall Wines are ſweetned with Sugar or Honey, and are called Clarets, and Hippocratick Wine, they are profitable in cold durable diſeaſes, they are made in this manner: Aromatick things or roots alſo and ſeeds gratefull to the ſmell and taſte, principally are groſely beaten, or cut, and ſuch as have great efficacy, are infuſed in ſweet Wine, ſo they are to ſtand ſometime in the Infuſion, in a warme place for ſome hours, or let them ſimper in *Balneum Mariæ*, for halfe an houre, eſpecially if you may accelerate the worke, or to prepare Wine mingled with Honey; afterwards there is added a ſufficient quantity of Sugar to make it pleaſant to the taſte, ſo that to two, three or foure parts of Wine, one part of Sugar may be taken, and oftentimes Wine is drained through Hippocrates ſleeve, that it may become cleare, ſome of the diſtilled waters that are convenient, may be mixt with the Wine.

Some infuſe the Aromaticks in ſpirit of wine, about eight or ten parts whereof is uſed to one part of the Aromaticks, and when the ſpirit of wine hath drawne out the tincture, they ſeperate it by declination, and ſtraining or filtring and keepe it for their uſe, but when tis convenient to make Hippocraticall wine, they power ſome drachms, and withall an

an ounce or two ounces, to one measure of Wine, a sufficient quantity of Sugar to sweeten it.

But such Wines and Clarets, may be prepared not only to alter, but also to purge, with the same dose for the more choice sort of persons, namely with purgers, principally the Leaves of *Sena*, *Mecoacam*, Agrick, Turbith, with their correcters are put into a sufficient quantity of Rhenish Wine, and being heated in water luke-warme in a glasse afterwards must stand in a warme place, six hours in Infusion, afterwards add of Julep of Violets, or Roses halfe an ounce, or let them be sweetned with halfe an ounce of white Sugar and be strained, and filtred through a browne paper, let three ounces of that which is strained be perfumed with two drops of Oyle of Cinamon; Manna also may be taken instead of Sugar.

Wine mingled with Honey.

If the Wine be sweetned with Honey instead of Sugar, this called Oinomell. Mulsum, or Wine mingled with Honey, is prepared of one part of Honey, and two or three parts of Wine mixt and boyled together: and Aromaticks of every sort may be added, and it may be prepared at the time of gathering of Grapes, namely if one part of Honey be taken and two of Must: of water if it be convenient three parts or five parts in quantity, and let them heate together.

Hydromell. *Mulsum.* *Melicratum.*

Hydromell, and Mulsum, and Melicratum, are names of medicinall Potions of the same nature, namely made of water, and Honey, and sometimes of other things boyled therewith, or if there be any difference amongst those, 'tis only in comelinesse, for Melicratum is made suddenly for present use of a mixture of Honey and water; but Hydromell is prepared to keep longer, and is neater made; of Mulsum some is more cleanseing, others purer, so that there is a severall proportion of Honey to the water, according to the various scope of the Physitian, and temperature of him that takes it. To prepare it eight, ten or twelve times the quantity of Fountaine water is to be taken: but this is made of one part of Honey and five or six of water, boyled till the fourth or fifth part be consumed.

Meade.

Amongst the kindes of Mulsum, which can keepe, the most noted at this day, is that drinke which is called Meade. and the best indeed is prepared in Lituania.

But Hydromell is prepared not only of water and Honey but also of severall Aromaticks, Herbs and Roores, as

Clary, Hyſop, Bettony, and others, both kindes are made, that which is for preſent uſe, and that which is more durable, and will keepe longer, it is prepared for preſent uſe, if in a pint of the water of Plants, a drachm, or at moſt two drachms are boyled, the 10 th. or 12 th. part of the beſt Honey be added, to every pint of the decoction. Hydromell is made after the uſuall manner; But ſometimes Hydromell is compounded, when the ſimple Hydromell is ſented with theſe only, although no other thing be boyled in it.

Beſides the compound Hydromell which doth alter, a purging Hydromell is alſo prepared, which is nothing elſe but a purging decoction made with ſimple Hydromell.

Oxymell. The next to Mulſum, is Oxymell, which differs from it, only by the mixture of Vinegar, a drinke very uſuall amongſt the Ancients; but the old Phyſitians did not make Oxymell alike, but ſeverally and added Vinegar according to the nature of a diſeaſe and of the diſeaſed and other circumſtances, and they gave it not only mingled with other medicines, but alone to quench thirſt, and other purpoſes to drinke, but that which is moſt cleanſing, and may alſo be uſed in feavers was made of twelve parts of water two of Honey and one of Vinegar; they were gently boyled and ſcummed, and the fire not being fierce, and by the addition of the white of an egg were clarified, and afterwards ſtrained through a woollen cloath, till it become cleare and pure.

There are prepared by the Phyſitians other kindes of Oxymells compounded of more medicines; ſuch is the Oxymell Helleborated of Geſner or rather of Iulian.

Barly water. To this head we referr the water, or decoction of Barly which is made of whole Barley boyled in the water till it comes to a Piſan, and ſome is ſimple when nothing is boyled beſides Barley; another is compound when certaine other things alſo are added to the Barley, namely Raiſons, Licoriſh, Anni-ſeed, Fennell-ſeed, Cinamon, Sugar: of Licoriſh is added, from two drachms to half an ounce or ſix drachms, Raiſons from an ounce to two ounces of ſuch as are ſtoned, halfe or a whole drachm, Cinamon to one drachm, or 2. drachms, for a pint and halfe or 2, pints of Liquor.

Medicinall Vinegar. Sometimes a ſowre medicine is prepared, as with Squills, Roſes, the rindes of Scordium, the Flowres of Elder and many others, and not only of one, but more ſimples by infuſion and macerations of them in the ſame manner, as in medicinall wines.

More-

Moreover to this Head we may refer clarified juices, which being pressed out of new gathered Plants are purified, either by the white of an Egg, or by straining, often repeated, principally by filtring, or by separation. *Clarified juices.*

Chap. V.

Of distilled Waters and Spirits.

THose things which are prepared by distillation are called distilled things, which are of divers kindes, yet all of them may be reduced to two formes, for either the things distilled are in the forme of waters, or Oyles; those that are of the same consistence with water are again two-fold, for either they come neere the nature of water, and are plainly called waters, or else they are spirituous, and are called Spirits, yet these names are often confounded, for oftentimes that which is spirituous is called a water. *Things distilled.* *Water.* *Spirits.*

1. First distilled waters are prepared of divers things: of herbs and Flowers, all for the most part are distilled by ascent; and principally of fragrant flowers, and other thinner and colder things, whose force easily vanisheth, for the most part, waters good enough are distilled in a crooked glasse, by the *Balneum Mariæ*. *Manner of distilled waters.*

2. Others bruise the flowers, and herbs that are to be distilled, and presse the juice out of them, and out of that juice by distillation through an Alembick they draw out water into the *Balneum Mariæ*.

Some cut in small peices the Plants to be distilled, or bruise them, and being bruised they they fill the Gourd having a narrow mouth allmost full, and the patelli the glasses being put on with the powder of the glasse of Copper and borax Hermeticall, they shut and afterwards they put the glasse ful of water into a Cauldron, and boyle it sixor seven hours, afterwards they put the glasse when tis taken out of the water, into a warme place to cleanse it, untill the drops cease to stick to the sides of the glasse, and the digestion be absolute: they distill the matter digested in *Balneo Ræris*, they seperate the Oile from the water they power out the water with the reliques againe and repeate the distillation.

But

4. But the hotter, and Aromatick Herbs, and those whose ſtrength doe not ſo eaſily vaniſh and lyes deeper, are not ſo conveniently diſtilled by *Balneum Mariæ*, but in veſica, but in this diſtillation by a veſſell of water, ſome diverſity alſo is obſerved, for ſome bruiſe the herbs, or cut them into ſmal peices, and fill the fourth part of the Veſica beſides for them, then they poure of the pure water that three parts of the Veſica may be filled therewith, and one quarter for the moſt part remaines empty, and a Refrigeratory veſſell, being applyed and the worme alſo (if you deſire meerely a ſpirituous water) or with an Alembick with a Refrigitory, and their conjunctions or joynts ſhut, and a convenient fire being kindled and placed under the Veſica they diſtill water gently and by drops.

5. Others having powred in hot water into a veſſell cloſe ſhut, firſt they bruiſe the herbs, twenty foure hours for the moſt part, they think it moſt profitable if the herbs are not only macerated in warme water a day and night ſpace, but being bruiſed, or beaten, they ſhould ſtand in digeſtion, and putrifaction in Horſe dung, or *Balneo Roris*, or *Mariæ*, for ten or fourteen dayes, afterwards they ſhould be diſtilled. That water which firſt drops out is the beſt; but that which comes out laſt is like water it ſelfe; diſtilled water, if it be convenient, may be poured off, with new herbs to be digeſted, and diſtilled againe.

6. But ſince that water and ſpirit aſcend together, they muſt be ſeperated, which is moſt conveniently done by the Balneum, namely all the water is to be powred into a crooked glaſſe or Violl, and by a gentle heat only the ſpirituous part is to be diſtilled, by which diſtillation if the heat be rightly governed, the ſeparation happily may be made at once, yet if it ſhall not ſo happen the firſt time, the diſtillation is to be repeated, and that rectification which was firſt made by a Gourd, afterwards rectification is appointed by a Phyoll. Examples may be ſeene in the Inſtitutions.

CHAP. VI.

Of Oyles.

Oyles.

FOr the moſt part it comes to paſſe that with the water in diſtillation of hot herbs, and Aromatick ſeeds, Oyle comes

comes forth together, which is to be seperated from the water; but this is performed first by a kind of tunnell which they call a Separater or Tritorium, afterwards through a filter or a course woollen cloath, thirdly through browne paper: the Precepts of which operations are to be soughs out of the Institutions.

Yet certaine Oyles are distilled also without waters; so Oyles are drawn by distillation from Amber, Mastick, Frankinsense; Of which in the Institutions.

CHAP VII

Of Syrups and Juleps.

The name of Syrups.

SYrups, and Seraps, derive their names from the Arabicks, and therefore are not to be written with a y, which the Arabicks want, and 'tis drawne from the roote Schareba, which signifies to sup, and therefore it signifies a Liquor to be Supt; Syrups therefore are fluid medicines prepared of a convenient Liquor, whether it be boyled, or infused, or a juice made up with Sugar or Honey, and boyled for the most part to the consistence of Honey: Syrups are invented both for delight to the taste, and for durability, that convenient medicines may be in a readinesse at any time of the yeare.

Differences.

Some of them are simple, which are made of one simple medicine only, and with Sugar, or Honey; compound which are prepared of more; both kindes are appointed for severall uses, of them are some altering and strengthning, others purging, and the liquour is taken from decoctions, infusions, clarified juices and Vinegar.

Manner of preparing Syrups.

This is the manner of preparing, First the decoctions art taken; to the Decoctions are added Sugar or Honey, according as the use and scope of the Medicine requires; namely, two pounds of Sugar or Honey to a pound, or a pound and halfe of the decoction, as it is desired to be thicker or thinner, and ought to be kept more or lesse time: Then afterwards it is to be clarified by adding of the white of an Egge, that the decoction by a gentle Fire may seeth to the consistence of a Syrup: If Honey be added, it ought to bee boyled lesse, because being cooled it easily becomes thick: Syrups also, like as concoctions, may be made with Aromaticks, or Aromaticke Powders.

Secondly,

2. Secondly, they are prepared of clarifyed Juices, to which is added half the quantity of Sugar, and boiled to the conſiſtence of a Syrup.

3. Theſe Syrups are better if freſh flowers are infuſed 24. hours in the expreſſed juice in *Bal. Mariæ*, and are again expreſſed, and that repeated as often as it is fit. Then the juice is to be clarified by digeſtion, and half the quantity of Sugar to be mixt with it.

4. Others boil the juice till half be conſumed, then they ſtrain it, and ſuffer the decoction to ſtand and ſettle, that the juice may be the purer, the which when Sugar is added, they ſettle to the conſiſtence of the Syrup.

5. Sometimes the juice preſſed out is poured into hot clarifyed Sugar, and expoſed to the heat of the Sun, to conſume its aqueous humidity. But if the heat of the Sun be not ſufficient, it may be performed by gentle boiling.

6. Syrups are alſo made of Infuſions, Sugar being added in the ſame manner as of Decoctions.

7. And ſometimes other things are infuſed in juices, and afterwards when 'tis ſtrained, Sugar is put to it, and the Syrup is made according to art.

8. Syrups may be made of extracts alſo, if a little Sugar be added to the extract being thickned by abſtraction of the *Menſtruum*.

9. Syrups may alſo be made of ſoft Electuaries, if the Electuary be diſſolved in ſix times or eight times the quantity of warm liquour, and ſtrained, and half ſo much Sugar added thereto, by a gentle heat without boiling, the liquour ſhould evaporate to the conſumption of the third part.

10. Alſo Syrup is prepared of Sugar and Vineger onely, namely four pound of Sugar, and two of Vineger, and according to ſome five Pints of water, and 'tis called Syrup of Vineger ſimple.

11. Moreover, Syrrups are made much more artificially, eſpecially of hot and dry Plants, if onely ſo much water is poured off as that ſo much of the liquour may be left after ſtraining without concoction, as otherwiſe uſeth to be left after concoction is made, and the matter infuſed on this manner in a Glaſs or other convenient veſſel, ſuch as Fire-

veſſels

veſſels, or earthen veſſels, whoſe orifices may be fitted with a cover made for it, that is round and channelled, which ſhould be put into the *Balneum*, three or four days to digeſt, and afterwards ſhould be ſtrained, and that which is ſtrained ſhould again be put alone in *Balneo*, or becauſe of ſtraightneſs of time, it ſhould be clarifyed with the white of an Egg, what ever is feculent in it. Afterwards Sugar ſhould be taken and clarifyed, and boiled to ſuch a conſiſtence, as is obſerved in the Confection of *Penides*, and it ſhould be mingled with the clarifyed infuſion.

Oxymel. The neareſt to this is Oxymel, which is to be had in the Shops, which is prepared of one part of Water, one of Vineger, and two parts of Honey, whereof divers compoſitions may be made alſo.

The manner of adminiſtration. Syrups are ſeldom given alone in Diſeaſes of the Breaſt and Stomack; but oftentimes are mixt with double the quantity of diſtilled waters, or decoctions; and an Ounce or an Ounce and an half of Syrups may be drank with two or three Ounces of Water or Decoction at one time.

A Potion of Roſes and water. To Syrups and Juleps belong Roſated water, which is a Potion compounded of Roſes, and Water, and Honey or Sugar: *Oribacius* put into ſixty Pints of warm water, ten pound of Roſe-leafs, he ſhut the Veſſel till they were perfectly boiled, afterwards the Roſes being taken out, he infuſed of boiled and clarifyed Honey thirty pound, and put it into a Cellar. *Actuarius* took ten Pints of water, and five pound of Sugar and boiled them together to a convenient thickneſs, afterwards he infuſed a pound of the juice of Roſes.

Juleps. The likeſt to Syrups are Juleps and Zulaps, as they are called, from the Arabick word *Sialaba*, which is to heal or make ſound, without doubt it is derived from thence, ſo that indeed Phyſicians often times take them for the ſame Medicine, and Potions that are mixt of Water and Syrups called Juleps, but the name of Juleb is often extended farther now than with the *Arabians*, who invented this Medicine to be made; for the name of Juleb was abſolutely given by them, when Sugar onely is diſſolved in Roſe-water, and boiled, as Julep of Roſes is; otherwiſe called *Alexander's* Julep.

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But a Julep, if there be any difference betwixt it and a Syrup, is a Medicine clearer than a Syrup, and therefore more delicate and gratefull, and it is made of diſtilled waters, clarified Juices and Sugar.

The manner of preparing of Juleps.

They are made with, and without boiling; without boiling on this manner, Common or diſtilled water is taken, or a decoction of Barley, to the which ſome Juice alſo of Citrons, Limmons, Pomegranates, Quinces, or Vineger may be added, and white and clarified Sugar is poured in, or inſtead thereof common Juleps of Roſes and Violets, which being boiled to the coſiſtence of a Syrup, are kept for uſe, and are diligently mixt together, and if there be need, are drained through *Hippocrates*'s ſleeve. But the proportion of Sugar, or uſual Juleps, which is obſerved to the waters and juices is various, as the preſent occaſion requires it. For the moſt part the Palate of the ſick is their guide, and ſometimes the proportion of water and Juices to Syrups and Sugar is threefold, ſometimes fourfold, ſixfold, eightfold, or twelvefold. Sometimes Juleps are made with Aromatick Powders, or convenient little Tabulets are diſſolved in them. 'Tis moſt convenient alſo in ſome Diſeaſes to add Spirit of Vitriol.

2. Moreover, Juleps are prepared of Conſerves and medicinal Juices, if diſtilled waters that are proper, or a Decoction of Barley be poured into them in a ſufficient quantity, and are ſtirred with a Peſtle in a Morter, or are mingled together over a gentle fire, and ſtrained.

3. But thoſe Juleps which are ſaid to be prepared with decoction, are nothing elſe but the pure and finer decoctions of Syrups, and the ſame manner of preparing of them which is of decoctions and Syrups, onely that they are removed from the fire before they receive a thicker conſiſtence.

CHAP. VIII.

Of Emulſions and other Mixtures, bringing or cauſing milk, and of ſtrengthning things.

Emulſion.

AN Emulſion is ſo called, becauſe it is like Milk, and is prepared as it were by milking; for 'tis a potulent Medicine prepared of the pith and ſtrength of ſeeds and certain fruits,

fruits, eſpecially of ſweet Almonds (Which Emulſion in particular by ſome is called *Amygdalatum*) by the affuſion of convenient waters, or of ſome other liquour, and by pounding and preſſing of them, to which the Pulpe of a Capon or Pullet may alſo be added, if you have a deſire to nouriſh.

The uſe. They are prepared for ſeverall purpoſes or uſes, according to the variety of the matter, namely, to quench thirſt, to cauſe ſleep, to provoke ſweats, and other things; and ſometimes externally in ſtead of Epythems, and may be exhibited for the heat of the braine, and to mitigate paine, and cauſe ſleep.

Manner of preparing. They are prepared in this manner, Sweet Almonds are blanched, ſo are the foure great cold Seeds, and other things, the Kernels alſo are beaten in a ſtone or marble Morter, pouring in by degrees ſome fountaine water, or of Roſes and other convenient diſtilled waters, or clarifyed with a convenient decoction that is pleaſant to the taſte: The proportion of the liquour is uncertaine, ſometimes more, ſometimes leſſe, according to the ſtrength of the ſeeds and fruits, and according as the Emulſion is required to be thicker or thinner: But at the leaſt a threefold, oftentimes a ſix-fold, eight-fold, ten-fold, *&c.* quantity of the liquour is required; being beaten they are ſtrained, and if convenient, Syrups or Julips that are proper, as of Violets or Roſes are added: The Emulſion being made ſometimes it is to be ſweetned with Sugar, or Rowles of *Diamarg. frig. manus Chriſti perlati*, or the Juleps lately mentioned: Sometimes there may be added ſome Cinamon water, if the diſeaſe will ſuffer it; and ſometimes conſerves, Comfits, and liquid Electuaries may be added, from halfe a drachm to a drachm, two drachms or more.

Pearles alſo, Corall, Harts horne burnt, and other powders and Spices, may be added to Emulſions.

Sometimes potulent Medicines may be made of Pearles onely, Corall, Harts horne, and ſuch like, with convenient waters, which alſo by reaſon of the colour of Milke, which they have, are called Emulſions, and are very frequent, with moderne Phyſitians.

Oftentimes Juices alſo that are drawne out by expreſſion, as of Pomegranates, Lemmons, or other liquours alſo are mixt with thoſe waters (yet ſo that the diſtilled waters for the moſt part exceed the reſt in quantity) ſometimes, but

but ſeldome, ſome convenient Syrup. But becauſe Phyſitians for the moſt part deſire a white colour in this water, for the moſt part they omit all thoſe things that may diſcolour it.

CHAP. IX.

Of Tinctures, and Extracts, and liquid diſſolutions.

An Extract.

AN Extract is nothing elſe but the pure eſſence of a thing ſeparated from its groſſer body by a fit *menſtruum* (whence they are alſo called Eſſences by many) which whilſt it is as yet in a more liquid ſubſtance, and joyned with the *menſtruum*, it hath alſo the colour of the thing, and therefore is called a Tincture; although ſometimes they are called Tinctures alſo, when the eſſence of a thing is now ſeparated from its *menſtruum* which extracted it.

Eſſences.

Eſſences or Tinctures that are liquid, are prepared either of green Plants, or of Juices: when they are prepared of green things, the Hearbs are bruiſed, and a little ſpirit of Wine is put in for the preſervation of them, and the juice is preſſed out, which being cleanſed is called an Eſſence.

Thoſe that are properly called Extracts are prepared of dryed Plants, from whence if the whole *menſtruum* be not ſeparated it is called a Tincture, or liquid extract: But *menſtruums*, that is, Liquours exhibited for the drawing out of the eſſence of a thing are various, according to the diverſity of the matter, and uſe; they of ſpirit of Wine, diſtilled Waters, Whey, Vinegar, and ſuch like, are exhibited.

In chooſing a *menſtruum*, firſt you are to conſider whether you deſire a liquid tincture, or an extract, or a thicker or groſſer body: For if a liquid tincture be deſired, a *menſtruum* is to be taken, which is of the ſame kind and faculty: But if the *menſtruum* ought to be ſeparated, it is no matter, although it be of another kinde then the Tincture is of.

But ſince it is required in a *menſtruum* that by the ſubtility of its ſubſtance it may penetrate the matter, and by its familiarity intice out the purer parts, and without ſpoyling and corrupting of the Extract it ſelfe, may againe be ſepa-

rated

rated from it: Spirit of Wine may eaſily be eſteemed the beſt amongſt them, and take the firſt place; but May-dew, diſtilled Vineger, Spirit of Salt, of Turpentine, *&c.* are uſed alſo according as ſome preſent occaſion may require.

The manner of preparing Extracts.

If compound Extracts are prepared, and the ſimples be of divers natures, each of them ſeverally, or thoſe which are neareſt one to the other, are drawn off by their *Menſtruum*, and afterwards the Extracts are mingled.

The way of preparing Extracts is plain of it ſelf, namely, the *Menſtruum* is poured into the matter, that is beaten and poudred, which ſometimes by the help of an external heat, when the eſſence of a thing is drawn out, and the *Menſtruum* coloured enough, 'tis poured out, and another is put in, and that ſo often repeated, till all the ſtrength and virtue is extracted; afterwards the *Menſtruum* is ſeparated by heat; which if it be not ſeparated whole, 'tis called a Tincture or liquid Extract; but if almoſt whole, and of the conſiſtence of Honey, 'tis called a ſimple extract; examples may be ſeen in the Inſtitutions.

Nor are ſuch Extracts as well liquid as thicker prepared ſimply alone, but alſo compounded: to theſe belong *Elixir*, of propriety, purging Extracts, and univerſal purgers, *Laudanum* opiated.

To Extracts belong thoſe Roſins alſo which are prepared of Scammony, Mechoacam, Jalep, and ſuch like, containing in them a kinde of gummy ſubſtance.

Of Tinctures, of Gemms, Coralls, Metalls, as of Balſum of *Venus*, may be ſeen in the Inſtitutions.

CHAP. X.

Of Conſerves, Preſerves, and medicinal Juices.

The manner of making Conſerves.

THe name of Conſerve is given principally to Flowers, and ſometimes to Herbs, and certain ſoft and tender Roots, which being made up with Sugar are kept many years: they are prepared in this manner, the Flowers or Herbs newly picked or cleanſed, and (if they abound with too much humidity) firſt a little dried in the ſhade, let them be mingled and brayed in a ſtone-morter, with a woodden Peſtle, with twice or thrice the quantity of Sugar, and afterwards

wards the mixture is to be put up in a Glaſs or glaſed veſſel. If the Plants are moiſter, 'tis profitable to heat the Conſerves when they are made, by a gentle Fire.

2. Others take a Glaſs, and cover the bottom of it with Sugar, then they put in the Flowers to be condited, the depth of three Fingers breadth, and then they put in Sugar again, and in this manner heap upon a heap, and the Glaſs cloſe ſhut they expoſe it to the Sun ſome certain weeks.

3. Sometimes the Roots are boiled untill they can be pounded, or without boiling, are waſhed and cleanſed, and are beaten very ſmall, to them ſo pounded, or to the Decoction ſtrained through a Hair-ſieve, the Sugar is added as it uſe to be for Syrups.

Things condited. The name of Condite although it may be taken for a compound medicine alſo, as well as for a ſimple Plant mixt onely with Honey or Sugar, ſo that Conſerves alſo may be comprehended under the notion of Condites, yet in particular the name of Condite here, is given onely to medicines which are not pounded, but whole for the moſt part, Preſerved with Sugar or Honey, both that they may be kept longer, and rendred more gratefull to the taſte.

Manner of Preſerving Fruits in the firſt place are preſerved, Roots, Barks, Stalks, and ſome Flowers, as of Citrons or Lemmons, and Oranges: this is the Preparation, the ſofter Fruits, as Cherries, Black-berries, Barberies, Apricocks, Peaches, Pears, Moſhcattellina, and the like, which are ſoft, being put into Sugar or Honey, that is hot, they are boiled, untill the humidity of the Fruits is conſumed and the Sugar or Honey receive their former conſiſtence; or if there be danger leſt being boiled they ſhould decay and loſe their colour, the Sugar onely being hot, they are poured out, and when the Sugar hath drawn their aqueous humidity, the Sugar alone is again to be boiled, till that aqueous moiſture is conſumed, and afterwards to be poured out again to the Fruits, to be preſerved: but thoſe which are more ſolid ſhould firſt be bruiſed in Water, or boiled, untill the bitterneſs and ungratefull taſte be drawn out, and they become ſofter; yet you muſt obſerve that whileſt we do ſtrive to pleaſe the Palate, we muſt not loſe the ſtrength of the Preſerve by too much maceration or boiling; afterwards we diſſolve and clarifie the Sugar, either in fair water, or in the water where the Medicine is macerated, unleſs it hath an ill taſte, we pour out the clarified Sugar upon the Fruits or Roots, and

then

then we ſeethe them again, untill the aqueous humidity which remains be conſumed.

Laſtly, being ſo prepared, they are kept in a Glaſs or earthen Veſſel covered with a round woodden Cover, and clean ſtones being put upon the Lid, the Lid is depreſt ſo as that it covers the Liquour.

Thickned juices.

Next to theſe are thickned juices, and ſuch as are fit for medicinal uſes, which the *Arabicks* call *Rob*: They are prepared for the moſt part of the juices of Fruits, ſometimes of Flowers alſo, that they may be uſefull in the Winter, when we want freſh Herbs and Fruits; and in this manner they are prepared, the juice being drawn out is boiled over a gentle Fire to the conſumption of half, or the third part, then whileſt as it is yet hot, the thickeſt is ſtrained: that which is ſtrained is permitted to be clarified by ſettling in the bottome, or it is clarified with the white of an Egg; that which is clear is boiled again, untill it acquire its due conſiſtence. But becauſe the juices of themſelves will not eaſily keep, unleſs they are boiled to a thicker conſiſtence and all the watrineſs be taken away, for the moſt part leſs than half ſo much of Sugar or Honey, or a little quantity of one of them is added.

Gelatinæ.

Thoſe pureſt, cleareſt, fineſt juices, like icicles in froſty weather, as they call them, being poured out uſe to be kept, which commonly are called *Gelatinæ*, or frozen juices, and they are prepared principally of juices that are made without expreſſion, the purer and more delicate juice of Quinces, Apples, Pears, Goosberries, (or Currans.)

Diacydonium.

That compoſition called *Diacydonium*, which uſe to be prepared for the moſt part in the form of a ſolid Paſte, unleſs you would rather refer it to the Electuaries.

And Purgers may be mingled with thoſe Juices, and of them pleaſant Medicines are made for infants and more delicate Perſons.

CHAP. XI.

Of Electuaries.

An Electuary what.

THe name of an Electuary, although it be ſeverally uſed by ſeveral, yet we think that it is to be attributed to Medicines, which are reduced with Honey, or Syrup, or plain Sugar,

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ſugar, or ſome other convenient thing, being uſed to a thicker conſiſtence then a ſyrrup, and not ſo fluid, yet ſomewhat moiſt, this word is derived, or rather corrupted from the word in Greek *Eleickton*, or *Elleickton*, by which name they call a Medicine which may be taken as it were by licking, by ſome they are improperly called *Opiats*, not becauſe they have *Opium* in them, but becauſe they are of the like conſiſtence, with thoſe Medecines of the Ancients which had *Opium* in them, ſuch as Treakle, and from hence they are called *Opiats*.

Whence ſo called Opiats.

Electuaries may be for ſeverall uſes, according to the nature of the ſimples whereof they are compounded, for ſome are to alter, and ſtrengthen, others againſt poyſons, which becauſe for the moſt part they have *opium* in them, they are called *Opiats*, as Treakle, Mithridate, Aurea Alexandrina, others are fit to purge, which are called *Cathartick*.

Difference of Electuaries.

Electuaries are twofold, the preparation of the former is thus,

Aromaticks, and other ſimples being beaten into a fine powder. In the firſt place clarified honey is put into it, or ſugar, or ſome convenient waters, or ſyrups, or proper decoctions of proper ſimples in faire water, or a ſufficient quantity of another liquor, or infuſions, or juyces preſt out of other Medecines ſtrained and boyled with clarifyed ſugar, or honey, to the conſiſtence of a ſyrup, or of many of theſe together, whileſt they are as yet warme by the fire. A third part is ſprinkled in by little and little, which may conveniently be done through a Sieve, and is to be ſtirred about with a woodden Peſtle in a Morter, and ſhould be exactly mingled and kept in a convenient Veſſell.

The other manner is thus, Conſerves they are convenient for your preſent purpoſe, to which are added powders, and Aromatick Species, Troches, Conſerves alſo, and medicionall juyces, or Robs muſt be exactly mixt together in a Morter, with a ſufficient quantity of diſſolved ſugar, or a convenient ſyrup, or honey: But the proportion betwixt the Conſerves and Powders, and Species are not ſo exact, as ſome do determine, but ſeverall times they may be three fold, foure fold, ſix fold, eight fold, twelve fold: For a ſufficient quantity of a convenient ſyrup being poured in, whatſoever the proportion be betwixt it and the Powders, they may be all reduced eaſily into the conſiſtence of an Electuary, which is alſo to be held of Conſerves. Sometimes alſo ſpirit of

Roſes

Roſes, of Salt, of Vitrioll, diſtilled waters compounded, or of diſtilled Oyles, ſome drops are to be put in. And theſe kinds of Electuaries were called by ſome Condites, as is ſaid before, tis ſo called by ſome from the mixture. Purging Electuaries for the moſt part are ſo made. *Mixture.*

There is another manner like to this: Fruits, ſeeds, or roots are put in, or ere boiled in wine or water, to the form of a Poultice. Afterwards they are ſtrained through a haire Sieve, ſugar, or clarified honey is added, or Syrups, or Manna, and if it be needfull are boiled to the conſiſtence of honey, ſometimes the Species, and Powders alſo. Spirits alſo of Vitrioll, and Salt, and diſtilled Oyles.

Of Rayſins and Pruants that are laxative, you may ſee the Inſtitutions.

CHAP. XII.

Of Eclegmaes, and Lohochs.

ECclegmaes, or Eclectaes, from the Greek word *Ecleico*, that is to take up with ones tongue, or lick of, the Arabicks called *Lohoch*, or *Linctus*, and things that are to be licked, as they are commonly called, are like unto Electuaries, nor do they differ from Electuaries, only in that they are of a moiſter conſiſtence, and as it were the middle betwixt Syrups and Electuaries, and are appointed peculiarly for divers diſeaſes of the Breaſt and Lungs. *Eclegma.* *Lohoch.*

Species and Powders, Conſerves, thickned juices, Honey, Sugar, Extracts, Muſcellages, Syrups, Juleps, Oxymell, diſtilled Oyles, the manner of preparing is the ſame alſo with that of Electuaries. The Powders are taken, which are moſt convenient, Gums of Arabick, Tragacanth, Juice of Liquoriſh, Rice, and all things are incorporated in a ſufficient quantity of honey, or Syrups, or Juleps, or Muſcellages, or Juices, or Infuſions, or of ſome decoction for this purpoſe, prepared of roots, herbes, ſeeds, fruits, But principally of Muſcellages, and viſcid things being ſtrained and expreſſed and boiled with honey, or ſugar, to the conſiſtence of a ſyrup, or any one, or more of theſe, and all of them are to be wrought ſo long in a Morter with a woodden Peſtle, untill they are exactly mingled, and come to be of the conſiſtence of honey, or rather the middle betwixt Honey and Electuaries. *Manner of preparing.*

Eclegmaes may be prepared without the addition of Powders, and Species, if a juice, or Muſcellage be boiled with honey, or ſugar, to the conſiſtence of an Eclegma.

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3. Eclegmaes alſo may be made according to that manner which is explained laſt of all amongſt the Electuaries, ſo that if it ought to be licked, the conſiſtence ought to be the moiſter.

4. And ſuch things are often adminiſtred alone to be ſupt up by the ſick, or elſe they are prepared of them other things being mixt, a new Eclegma is made for the preſent occaſion; for you may take as much as you pleaſe of the uſuall Eclegma; Conſerves alſo are added, and convenient Powders, Sugar, and an Eclegma may be reduced into the forme of a Syrup, with a ſufficient quantity of Syrup, or Juleps or clarified Honey, or Sugar diſſolved; To which ſometimes ſome drops of diſtilled Oyles are added.

5. Sometimes an Eclegma is prepared of Syrups alone, Sugar-canded, or Penedies being added.

Saponea. Hereunto belong medicines which by ſome are called Saponea, from the ſimilitude of white Soape not yet made hard, by others tis called Linctus, from a Liniment made of Almonds. Sweete Almonds are taken being blanched, and are pounded; to thoſe that are pounded, clarified Sugar, or Penedies, or Sugar-Candy is added; being firſt diſſolved in a convenient Liquor, they are boyled to the conſiſtence of Honey; a little before they have done boyling a pound of Rice is added, to wit, unto two ounces of Sugar, an ounce of Rice, and another of Almonds, and a ſufficient quantity of Roſe water, and a little before it be ended ſome Ginger alſo, or Aromatick may be added. Others draw a milke out of Almonds with Roſe water, or ſome other convenient Liquor, with ſome portion of milke; Sugar is diſſolved, the Rice is caſt in afterwards, and the other part alſo of the mulſion being poured in they are ſtirred with a gentle fire.

Leucophagum. The compoſition which is called Leucophagum, is ſo named from its colour, and therefore may be referred to this, or the precedent head; tis prepared of ſweet Almonds macerated in Roſe water, and the fleſh of a Capon, or Partridge boyled with it, being very much wrought in a Marble Morter, and ſtrained through a haire ſeive, with a little of the beaten blanched Almonds, and Sugar, boyled to a due conſiſtence, to which according to the ſeverall aimes of the Phyſitians, Aromaticks, Corralls, and other things may be added.

CHAP.

Chap XIII.

Of Boles.

A Bolus hath that name becauſe it is a gobbet of Phyſick in a round figure, allmoſt as much as ones mouth will hold, whence it is called Buccilla; but the name of Bolus agrees not only to purging, but altering Phyſick. *A Bole.*

Purging Boles are thus prepared; purging Electuaries are taken, and a convenient quantity of Sugar being added, they are made up in the forme of a Pyramid, not much unlike an Olive, leſt they ſhould be loathſome, they ought not to be made of Electuaries that are ungratefull, and for that reaſon Hiera is ſcarce ever given in Boles; the quantity ought not to exceed an ounce. *The way to prepare purging Boles.*

2. Sometimes ſome of the Powders or ſpecies are added.

3. You may add conſerves.

4 Or inſtead of Sugar Conſerves either alone, or with a little Sugar may be uſed.

5. Inſtead of Sugar, or ſometimes with Sugar, eſpecially in diſeaſes of the reines, Licoriſh-Powder; or ſome other may be added, ſo may Turpentine alſo.

6 Moreover in the ſtead of purging Electuaries, Powders of ſimples that purge uſe to be taken, wherein ſomething alſo which alters, or corrects the violence of purgers, or that give a pleaſant ſmell or taſte to them; or elſe they may be added for ſome other cauſe, or ſpecies of purging Confections, or Extracts purging, both ſimple and compound, which are taken and incorporated with the pulpe of Caſſia, the pulpe of Tamarines, or Pruants, or ſome Conſerve or Rob, or ſome convenient Syrup, and with a ſufficient quantity of Sugar are made into the forme of a Bolus.

7. Sometimes diſtilled Oyles are mingled with a Bolus to corroborate, namely of Anniſeed, Mace, Cinamon, Cloves, ſome few drops, and ſometimes the Bolus is covered with Gould.

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Vomiting boles. Boles to cauſe vomiting, and they are prepared after th ſame manner, and are made of ſome Emettick powder, ſim ple, or compound, to which ſometimes is added ſome of the things that alter or correct, ſome certaine grains, or ſome E- mittick extract, with a conſerve or ſome confection of the like conſiſtence, and with ſyrups.

Altering. Boles alſo may be exhibited for other uſes, to alter, ſtrengthen, and provoke ſleep; but the compoſition differs not from the former.

CHAP. XIV.

Of Powders, and Trageis, or Comfits.

Powders, and Tra- geis. BUt as for the formes of dry Medecines, Powders, are the plaineſt way of compounding amongſt them, com- monly called Trageas, without doubt corruptly derived from the word *Tragema*, which conſiſts of one, or more Medecines compounded, if the taſt be ungratefull, an equall part of ſu- gar, or half ſo much ſugar is to be added.

But Powders are either thin, and ſubtile, which if they con- ſiſt of pure Aromaticks, and Sugar, they are wont to be cal- led generally *Tragemata*, or *Trageæ*, or elſe more thick, and not ſo ſubtile; nay ſometimes Aromaticks are not pulveriſed, but onely cut aſunder, and ſeeds hardned with ſugar, or candied, called Comfits, are added to them, and Species that are cut, are alſo called groſſe Trageæs.

They are uſed for ſeverall purpoſes, according to the vari- ous nature of the ſimples whereof they are compoſed, ſome of them reſiſt poyſon, others purge the belly, others by vomit.

To thoſe that purge, ſimples which have in them a faculty of purging are taken, and correctors are added, ſometimes al- ſo a grain of diſtilled Oyles is mixt with a drachm of Pow- der.

CHAP.

CHAP. XV.

Of Salts.

Salt two-fold.

ALl things almoſt containe two kinds of Salts, the one volatile, which endures not the fire and heat, but flies away and is diſperſed, and vaniſheth by burning, the other is fixed, which endures the fire, and is left in the aſhes.

Volatile Salt.

Volatile Salt is collected in diſtillations, ſo of ſtale Urine, Salt diſtilled by an Alimbeck in the firſt place, and by a Phiola or the bottome of a Glaſſe-Still; in the ſecond place Volatile ſalt of Urine is collected, the ſame may be drawne out of other things. In the juices of Plants alſo, ſalt ſometimes coagulates to the thickneſſe of boiled honey, in a cold place. But fixed ſalt is prepared of the aſhes of plants and woods, whileſt a Lye is prepared out of them, and that is boiled till all the water exhals, for then the ſalt is left behind, which is purifyed firſt by often diſſolving, and coagulating. Secondly, If it be diſſolved into a liquor by drayning in a moiſt place, tis filtered, and afterward coagulated.

Fixed.

Cream, &c.

Hereunto belongs the cream, or thick juice, and Chriſtall of Vitrioll, and of Tartar, which are nothing elſe but ſalt of Tartar ſeparated from the dregs that were mixt. Alſo Tartar vitriolated, ſalt of Tartar. To theſe belong Magiſters, or diſſolvings of Pearle, Corall, Crabs clawes, precious ſtones, *Saccharum Saturni*, which takes place ſo far, if ſalt that is volantile, of the menſtruum that diſſolves doth as yet ſtick in them: For then according to the manner of ſalts they are diſſolved in waters and other liquors; but if they are precipitated by oyle of Tartar, or Vitrioll, and the ſalt that diſſolves be ſeparated from them, they rather belong to powders.

Of Tartar.

Magiſters.

CHAP. XVI.

Of Croces.

Croci what.

TO powders and ſalts we may well joyne thoſe things which the Chymiſts call *Crocos*, flours, ſublimates, precipitates: The name of *Crocos* is given to ſome Medecines from the colour of Saffron, for *Croci* are nothing elſe but fine powders, or tinctures reduced into the forme of a powder of Saffron-colour: But principally they are called *Crocos* of Mettals, and *Crocos* of *Mars*.

Crocos

Crocus mettalorum.

Crocus mettalorum is nothing elſe but Antimony burnt with nitre, and reduced into powder of Saffron colour, next to this is that of Venus of Antimony Gouden as it is called. Of which the Inſtitutions may be ſeene.

Crocus of Mars is prepared ſeverall wayes, which may alſo be ſeen in the Inſtitutions.

To theſe we may well referr that which is called earth of vitrioll, whoſe preparation is taught in the Inſtitutions.

Flowres.

CHAP. XVII.

Of flours and Sublimates.

THoſe are called Flours by the Chymiſts, for the moſt part, which are the thinner, and more ſubtill parts of a body, ſeperated from the thicker by ſublimation, the moſt common flours are of Copper and of Antimony, as alſo Benzoes; the reaſon of preparing whereof is to be had in the Inſtitutions.

Hereunto belong the other Sublimates, amongſt which the cheife is Mercury Sublimate ſimple, and Mercury Sublimate ſweete;

CHAP. XVIII.

Of Precipitates.

Of precipitates.

ALthough thoſe things in generall are rightly ſaid to be precipitated, which are diſſolved in ſome Liquor by a peculiar Art, and ſeperated from the Liquor, deſcend to the bottome in the forme of a Powder or like Chaulk, yet the name of precipitating principally belongs to Mercury, which after it is diſſolved in *Aqua Forti*, and is ſeperated from the water that diſſolves it, and ſettles in the bottome, 'tis called Mercury precipitated.

Turbith.

Mercury precipitate

The name alſo of Turbith, or Turpeth, is in uſe amongſt moſt Chymiſts, which from whence ſoever it had its origi-nall, it ſignifies nothing but Mercury precipitated.

Gold of life.

The way of precipitating Mercury is ſhewne in the Inſtitutions: to which if any Gold be added, tis called Gold of life; of which in the Inſtitutions.

Bezoarticum Minerale

To theſe belong alſo Bezoarticum Minerale, as it is called: tis there alſo deſcribed, as alſo Mercury of life and ſome others.

Mercurius Vitæ.

CHAP.

CHAP. XIX.

Of Glaſſes, Regalls and certain Chymicall Powders.

THoſe chymicall Medecines which remaine, Glaſſes, Regulus-chaulks, and certain Powders, we will annex in this Chapter.

Glaſſe. First, Glaſſe is prepared from the chaulks of things; and vitrification, for the moſt part, is the laſt reſolution of things: for Aſhes, or Chaulk is to be poured into a very ſtrong fire, and ſometimes Borax is added to ripen the fuſion, or other fuſill Powders, but fuſill matter is poured into a Baſin made hot, or upon ſome table.

Of Antimony and Mercury. Glaſſe of Antimony is predared in this manner; alſo Amber of Antimony, or as others would have it, of Mercury. Purging cups may be made of theſe Glaſſes, alſo Rings, Money: If glaſſe of Jupiter, or glaſſes, or Amber of Antimony, if they are ſet into the bottome of a cup, or into a Ring, or any Coyne: Of Glaſſe of Antimony golden; ſee the inſtitutions, as alſo of Regulus of Antimony.

Rings purging, Regulus of Antimony. Antimony, Diaphoretick. Lac Veneris. Moreover, the next to theſe are chymicall Powders and Chaulks; as for them, the firſt that is referred to them, is called Antimony fixt, or Diaphoretick, which is made if Antimony be burnt ſo often with Nitre, till it become white and fixt. Milk of *Venus*, how tis prepared, the Inſtitutions ſhew.

Faeculæ. To theſe belong Dreges, or Feculæ, as they are called by later Chymiſts, which are certaine Farinaceus Powders prepared of the juice of certaine roots beaten, or expreſſed or extracted by ſome liquor, namely, if a juice, or liquor be put into a cold place, the Fæces of their owne accord ſettle in the bottome, which when the moiſture is poured off, are dryed and kept; the chiefeſt that are in uſe are the Feces of Briony, Wake Robin, Piony, and Orrice, as alſo of Dragon.

CHAP. XX.

Of Comfits, little round Cakes, and Morſells, and ſuch like.

THat the palate and taſte may firſt be pleaſed, certaine Medecines are found out by Phyſitians, preſerved with ſu[illegible]r, and are made up into a dry body: Amongſt which the firſt

firſt are thoſe which are called Comfits, as we may ſpeake in the manner of an Apothecary, with whom, Comfits are nothing elſe but Conſerves dryed, Seeds, Kernells, skind or blanched Roots, and Pills or Rindes.

Of purging Comfits. Purging confections alſo are prepared, and that two wayes, firſt if the Sugar be poured in before it be cooled, the purging things are mingled, and ſtird about together that they may ſtick to the Sugar; Secondly, which is more convenient, if the ſeeds, or Rindes, are macerated in a purging infuſion, untill they ſwell, and then being gently dryed are hardned with Sugar.

The manner of preparing little Cakes. Moreover, there are little Cakes which are prepared in this manner, take of the powders or ſpecies of medicines, of Sugar, either plaine white, or of Roſes or Violets, ſix times ſo much, ſometimes eight-fold, to which ſimple or compound *Manus Chriſti* pearled, may be mingled, or added; in purging Rolles, alſo double, treble, or a four-fold, quantity is diſſolved, according to the taſte of the purgers, which is diſſolved in a ſufficient quantity of Fountaine water, or of ſome convenient diſtilled water, or juice, ſeldome of a decoction, or infuſion; to this Sugar, Powders, and Species, are throwne in by degrees, and ſtirring are exactly mingled together: and are powred out by drops upon marble ſtone, or on a Cypreſſe or other table of wood, that being cooled they may concreate in round Cakes and Rolles.

Sometimes inſtead of Powders, Oyles or extracts are taken, and of altering extracts, five, ſix, ſeven, eight, nine, or ten graines are taken, for an ounce of Sugar, ſo of diſtilled Oyles three, foure, five, or ſix dreps, for an ounce of Sugar, ſometimes Powders, Extracts, and Oyles are taken together.

Purging Manus Chriſti. *Manus Chriſti* purging are made two wayes, for either to every pound of Sugar, an ounce of Roſin of Scammory prepared is taken, and ſo 'its made up in the forme of a Tabulet, or the faeces of Mechoacam inſtead of Roſin may be mingled in a three or foure-fold quantity of Sugar.

Morſells. There is the ſame way for the moſt part of preparing morſells. only that medicines for the moſt part, in morſells are not beaten ſo fine, but in a groſſer manner: to which others may be added which are not made eaſily into Rowles, or at leaſt in a leſſe quantity, as Fruits, and ſeeds, namely Almonds, Pine-nuts, Piſtack-nuts, ſeeds of Melons, Citrons,

(or

(or Pompions) Conſerves, Preſerves; the proportion is to be obſerved betwixt them which is moſt agreeable to the intention of the Phyſitian: and all of them as tis ſaid of Rowles in a ſufficient quantity, that is for the moſt part ſix or eight-fold, ſometimes alſo ten or twelve fold; but in purgers a three or four-fold quantity of Sugar diſſolved in a convenient Liquor is taken.

2. Sometimes Fruits themſelves are not taken in their ſubſtance; but an Emulſion is made of them with convenient waters wherein the Sugar is diſſolved.

3. Beſides theſe Extracts, and diſtilled Oyles may be mingled in the ſame manner as Rowles.

4. Sometimes inſtead of Sugar, Manna may be uſed in purging things.

When all things have been exactly mingled over the fire before they are cooled, the whole maſſe is laid on a marble ſtone, or Cypreſſe Table, and is dilated, and folded, or is powred into a woodden Box made for this purpoſe, and are cut into Tables that are foure-ſquare, or into what ſhape you pleaſe.

5. When the Tables or Morſells are prepared they may be moiſtned with diſtilled Oyles, or with muske and Amber diſſolved in Roſe-water, namely when we feare leaſt the ſtrength of them in boyling ſhould flye into the aire.

6. Purging morſells may be made after another manner a due quantity of the purging extracts are taken, or ſome of the purging Powders are joyned with them, to theſe are added Aromatick powders, or Aromatick Extracts, and with Manna or Sugar little Cakes are made, the proportion of Sugar is double, or treble to that of the Extract, and the proportion of Manna is the ſame, but theſe Cakes are not made of Fruits and ſeeds alone, but ſometimes, the fleſh of Capons or Partridges, or Cockes-ſtones are joyned with them, namely when we intend to nouriſh, and eſpecially in thoſe which can eate no meate, whence ſuch morſells, are called nouriſhers, or nutritives. *Nouriſhing Morſells.*

To theſe may be added the medicine, which junior Phyſicians call Pandalæum, which in matter and in the end (for which is uſed) agrees with an Eclegma, and is appointed for diſeaſes of the breaſts and lungs, but in forme it differs not from Rowles, Tables or morſells only in that Rowles and Tables are framed into a certaine figure either round, or ſquare, but Pandalæum, remaines without Pandalæum.

without being formed, and Pouders are permitted to condenſe with Sugar in a Box in that which is called *Pandalæon*, and when it is uſed a Lump of it is cut with a Knife, or taken up with a Spoon, and held in the mouth till it be conſumed.

Diamygdalatum. Moreover, to this rank pertain ſeveral Comfits which are principally prepared to reſtore health, and from the *Baſis* they are commonly named, ſuch are *Diamygdalatum* or Marchpane, *Diateſtudinatum*, a compoſition whereof Snails is the *Baſis*, *Pineatum* where Kernels of Pine-nuts are the *Baſis*, and Sugar-bread.

Marchpane is compounded of ſweet Almonds wrought with Sugar and Roſe-water well mingled and boiled according to art; but for Phyſical uſe, Fruits, Seeds, and Aromatick Conſerves are added.

Teſtudinatum is made almoſt in the ſame manner, Snails being onely added.

As *Pineatum* alſo of Kernels of Pine-nuts mixt with Sugar in the ſame manner.

Sugar-bread is made of the whiteſt Flour, Sugar and Eggs being added, and ſometimes mixt with other Medicines, and boiled in a Pot, or Furnace; of which ſee the Inſtitutions.

Chap. XXI.

Of Trochees.

Trochees. Trochees, that is, Rolls and *Cycliſcoi* & *Artiſcoi* in Greek, that is, Pills or little round Balls are ſolid Medicines, cohering and conſiſting of convenient things, taken in a Liquour made commonly in the form of Lupine-ſeeds, their circumference ſometimes round, ſometimes with a corner, both of them ſmooth without-ſide, invented principally for that end, that Medicines reduced into Pouder may be kept the ſafer in this ſolid figure from the injuries of the air.

The way of preparing them. There are a ſort of Trochees amongſt the univerſal Medicines, and ſuch as are for all uſes almoſt, and may be exhibited according to the nature of the Medicines whereof they are compounded, and afford convenient matter for many

many other compoſitions, for ſome purge, ſome open obſtructions of the Liver and Spleen, others provoke Courſes, others open the obſtructions of the Reins, ſome mitigate heat, ſome are appointed for the Breaſt and Lungs, ſome ſtrengthen the Brain, ſome ſtop Fluxes, and ſtench Bloud, ſome are exhibited externally, or that may repreſs humours that are flowing, or take away proud fleſh, ſuch like are Pills or Lozenges, of *Polyidæ* and *Andronis*; or to cauſe fumes and ſuffumigations.

The materials whereof they are made, are Medicines of every ſort, which being macerated in a convenient Liquour, or made into ſome muſſellage are reduced into one maſs, which are divided into many Lozenges and Pills, wherein for the moſt part ſome impreſſion is made; they are made either by a gentle fire, or rather are dried in the ſhade, and kept for uſe; not onely Pouders and *Species*, but thickned Juices alſo, Conſerves, Extracts, Freſh-flowers, Eclegmaes, and diſtilled Oyls, are made into Trochees.

Chap. XXII.

Of Pills.

Pills.

Pills are ſo called from their ſimilitude to little Balls by the Latins, and from the ſolid form, the Greeks call them *Catapotia* from *Catapinein*, that is, Drinking or ſwallowing down: Pills are Medicines made into the form of a Globe or Ball, principally for this end, that they may be ſwallowed whole, and the unſavorineſs of the Medicine may the leſs be perceived by the taſte.

They are made of Pouders, the matter whereof they are made are Electuaries, Trochees, Flours, Salts, and whatſoever things are dry do afford: but Pills, ſince they ought to have great efficacy in a ſmall quantity, the Medicines out of which they are compounded ought to be powerfull, and therefore thoſe things which have but ſmall ſtrength in a great maſs are not to be put into them, ſuch as are Flours for the moſt part. They are reduced into a maſs with Syrups, thickned Juices, Extracts, and ſuch like Liquours.

But although all Pills for the moſt part do purge, and by Pills a Purging Medicine is underſtood, yet other Medicines may be reduced into this form.

Pills

The manner of preparing them. Pills are prepared in this manner, convenient Medicines are to be taken, and reduced into a Pouder, and mixt in a Morter with ſome Liquour ſomewhat viſcid, as with a convenient Syrup or Julcb, ſeldome with Honey alone, by the benefit whereof both the maſs may ſtick together; and if they are to be kept long they may be preſerved, ſo that the faculty of Medicines cannot eaſily expire and vaniſh; but the Aloes which commonly is given in Pills ſerves to incoporate.

1. If they are prepared for many Doſes and daily uſe, the maſs is to be kept in the form of a Pyramid, (which they commonly call *Magdalias* and *Magdaleons*) and in the beginning they ſhould be ſofter, that they may ferment, and the virtue of the Medicines may be the more exactly mingled; then after two or three days tis wiped over with Oyl of ſweet Almonds, and covered with a Bladder or a Skin, and kept in a Box.

2. Of the uſual Pills, and thoſe which are kept in a readineſs for daily uſe, the manner of the Preparation is thus, Take of the maſs of uſual Pills more or leſs, as much as is need, to which inſtead of a Goad are added ſome *Diagrydium* or Trochees of Alhandale, or elſe ſome other Purgers, that all together may make one Doſe, and let them be mingled with ſome diſtilled Water, or with white Wine, or ſome other convenient Liquour, and brought into one maſs, and let it be reduced into 10,15,20,25,30. Pills more or leſs.

3. Pills when they are made ſometimes uſe to be covered with Gold, or Pouder of Cynamon, Nutmeg, Fennel, Licoris, as is convenient.

4. You may mingle Extracts with the other uſual Pills or Pouders.

5. Nay, Pills may be made of Extracts alone, if they are a little thickned, or, which is more convenient, if ſome of the Purging Pouders be added.

6. You may alſo prepare Extracts out of the maſſe, particulars of uſual Pills, and make Pills of them.

7. There may be added alſo for to correct, a drop or two of diſtilled Oyls, as alſo of Spirit of Copper, Common Salt, Vitriol.

8. There is another manner alſo of making Pills, The Simples whether Altering or Purging are macerated for two days in Wine or ſome other Liquour, or elſe they are boiled in it, or a certain juice is taken out of convenient things and

and one of these things are taken, or two or more of these Liquours severally prepared are intermingled, or being newdone they are poured again into some of these, or they are boiled, and afterwards strained: to the Wine or Liquour strained, or expressed, purging, or altering *Species*, and Pouders, or Compositions of the Shops which may be poudred, as Trochees and Tabulets, somewhat less than the eighth part in quantity to the Liquour, or thereabouts, or cathartick or not cathartick Extracts; to which distilled Oyls also, some drops, or half a scruple, according as the bigness of the mass for Pills, is more or less, may be powred. Afterwards all of them by often stirring may be dried over warm Embers, or in a Stove; till they are brought into a mass, if it be convenient, the mass being dried, it may again be imbibed and wrought in the same Expression or Liquour, and dried; and you may repeat that the third time: but that they may continue the longer, some Aloes is to be added to them.

Manner of using Pills.

But left that Pills should cause loathing in swallowing, the whole Dose ought not to exceed a Drachme, or four Scruples; and that the same loathing may be prevented in taking them, we have said, they are to be rolled in Aromatick Pouders, or Licoris Pouder; there are some who can easily swallow them alone; but others to take away the taste, and avoid the unpleasantness, and facilitate the swallowing, use divers means, Wines, Syrups, Pulp of rosted Apples, and other things please others, they are conveniently taken in a little Pulp of Bread in Beer. After the altering Pills, and those whose force can penetrate from the Stomack to the remote parts are taken, some liquid thing ought to be taken after them, to carry them to the Veins.

Hypoglottides.

There is another kinde of Pills which are called *Hypoglottides*, because they are retained under the Tongue, till they melt by degrees, principally for the Cough, and Diseases of the Breast, simple Medicines are taken: to an Ounce, and half, more or less, and are beaten, and with a convenient Liquour, as with a Muscellage of Tragacanth, Quince-seed, Fleawort, Wine boiled to the third part with Honey or any pectoral Syrup they are taken and made into Pills; sometimes they are prepared of a Decoction, namely, to that which is strained, somewhat less than the eighth part of Tragacanth is added, the weight of

Sugar, and Penides equal to that of the Decoction.

Sometimes theſe *Hypoglottides* are prepared for preſervation from peſtilent air, and to corroborate the Brain, and cheriſh the animal ſpirits, as alſo for delight and pleaſantneſs of ſmell, to correct the ſtink of the external air, or of the mouth within, the filth offending the noſtrils, let them be made of ſweet-ſented things, with Muſcellage of Tragacanth.

CHAP. XXIII.

Of Suppoſiters.

External Medicines. EXternal Medicines are twofold, ſome are injected and put into certain parts, others are applied onely to the *Superficies* of the body; of the former kinde are Suppoſiters, and Clyſters, both thoſe which are injected into the Paunch, as thoſe which are injected into the Womb; and Peſſaries, Injections, which are made into the Yard and Bladder, Gargariſms which are in Mouth and Chops, Aphophlegmatiſms, Dentifrices, Errhines, Sternutatories, Odoraments, and Fumes; Injections into the Ears, Collyries, which we ſhall ſpeak of in the firſt place.

Glandes or Suppoſiters In the firſt place, *Glandes*, with the Greeks, *Ballanoi*, commonly Suppoſiters, are ſolid Medicines, which are put into the Fundament, in figure ſomewhat long and round, like to an Akorn or Wax-candle, four or five fingers breadth in length.

Uſe. But Suppoſiters are not always prepared for the ſame uſe, for they are often exhibited, that they may looſen the Belly, and ſtimulate the expulſive faculty; ſometimes for other affects alſo, namely, when an Ulcer is in the Gut *rectum*, that it may cleanſe, conſolidate and dry; when pain is preſent, it may allay it, and draw it away; when the humours flow towards the upper part, that it may draw them back, and cauſe revulſion; when there are little Worms called *Aſcarides*, to kill them.

Suppoſiters irritating the expulſive faculty are exhibited, firſt, when the ſick is ſo weak that he cannot take Clyſters; moreover when the Seige clings in the Paunch, there is need of a Suppoſiter to be uſed before a Clyſter, that it may make way for the Clyſter. Thirdly, if Clyſters injected do

not

not work, or operate ſlowly, 'tis needfull to ſtimulate nature to expulſion. Fourthly, when by reaſon of ſtraightneſs of time we cannot prepare a Clyſter.

There are three ſorts of theſe Suppoſiters, Gentle ones which are ſufficient for infants, and are made of Lard, a Fig the in-ſide being turned outward, Bullocks fat, the ſtalks and roots of Beets, Cabbage, Spinach, the Herb Mercury, indifferent ſtrong, are prepared of Honey, boiled till it be thick, a Mouſes turd being ſometimes added, the White of an Egg, Salt, and a little Saffron and Honey, with white Soap; the ſtronger are compoſed of Honey, Salt, and the Pouder of purging *Species*, as with a ſufficient quantity of Hiera, with Agrick, Hiera, Logadii, Aloes; the ſtrongeſt of all are prepared with *Species*, convenient for Suppoſiters, the Pouder of white Hellebore, Euphorbium, Scammony, Turbith, Cõlloquintida, Indian Salt, Amoniack, Salt-Peter, a Bulls Gall, which we uſe onely when the faculty is ſtupified, and we endeavour to draw back from remote parts. *The kindes of Suppoſiters cauſing ſtool.*

They are prepared in this manner, Honey is boiled to ſpiſſitude, that is, ſo long till you can take it up with your fingers; into which other things are ſprinkled which are needfull, namely, half a Drachm or a Drachm of common Salt, Salt-*Gemmæ* a Scruple, of the gentler purging *Species* a Drachm, of the ſtronger half a Scruple, of Juices half a Scruple, (or a Drachm,) of ſharp Salts ſix Grains, or half a Scruple to an Ounce of Honey. Hence they are made out of the maſs in form of a Pyramid, as big as ones little finger, and dipt in or anointed with freſh Butter or Oyl; ſometimes a Thread is tied to it, that it may be drawn out at pleaſure. *Manner of preparing them.*

Theſe Suppoſiters are properly applied to thoſe who have Ulcers, Clefts, Inflammations, and other Tumours in the Fundament. But when they are troubled with pain of the Hemerhoids they are not convenient to be uſed, for they exaſperate pain.

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CHAP. XXIV.

Of Clyſters.

Clyſter. CLyſters which the Greeks call *Clyſter, Clyſmos, Clyſma,* and *Enclyſma,* is ſo called from purging or cleanſing, although it ſignifies every ſort of Medicine in general, which pours in that which is liquid into any part, yet in particular, as alſo *Enema* from injecting, for the moſt part is taken onely for a Medicine which is injected by the Fundament into the Guts.

Differences of Clyſters. A Clyſter is injected for ſeveral ends, whence there ariſeth various differences of Clyſters; for ſome looſen the belly, and of theſe ſome do it by Emolliating, which are made of Emollients, propoſed before, *p.* 1. *S.* 1. *c.* 6.

Others purge, to which purging Medicines are added. Some cleanſe, namely, thoſe which are compounded of Barley, the herb Mercury, Pellitory, Wormwood, Agrimony, Century the leſs, Peaſe, Parſnibs, Lupines, Flour, Honey with Roſes, Hiera. Some are compoſed for the diſcuſſing and breaking of winde, and are made of thoſe Medicines that expell winde, above mentioned, *pag.* 1. *ſect.* 1. *cap.* 15.

Some binde and are prepared of Aſtringents, propoſed in the ſame, *cap.* 6. Some glutinate, and are prepared of glutinating things, ſpoken of in the ſame part and *ſect. cap* 9. Sometimes Clyſters are made of Anodyns, or Medicines that mitigate pain, for pains of the Guts and Reins.

But Clyſters are compounded in this manner, there are taken of Roots and Rindes an ounce or two, of Leafs three, four or five handfuls, of Seeds three, four or five Drachms: of Flowers ſome Pugils, of Fruits, Pears ten, that is, twenty; to which if a purging Clyſter ought to be made, Purgers are added, Agrick, Colloquintida, Seeds of Carthamons, (all which leaſt they ſhould ſtick to the Guts, and offend them, are tied in a Linnen-cloath) the Leafs of Senna; but there is no need of ſuch variety always, but oftentimes a few ſimples ſuffice. All the ſimple Medicines are boiled in a ſufficient quantity of water; of the Decoction take three, four to fifteen Ounces, according to the age, for infants three Ounces, hence thoſe that are a little riper four, five or ſix may ſuffice; for one that is come to ripeneſs of years, for the moſt

moſt part they take a Pint, ſometimes alſo fifteen Ounces; yet ſometimes, namely, when we would retain the Clyſter long, and leſt the too great quantity ſhould oppreſs the other parts, onely eight or ten Ounces is taken in the Stone. In the Decoction ſtrained thoſe things which agree to our preſent purpoſe, we diſſolve, as Oyls from an Ounce to two or three. When we onely are to emolliate, we put in Oyls onely or Butter, but indeed in greater quantity: thoſe which have a purging faculty are then wholly to be omitted, leſt by reaſon of the hard ordure ſticking in the Guts, nature ſhould be ſtimulated in vain, and humours being drawn greater evils do enſue. On the contrary, when you are to purge, to repell, and a ſharp Clyſter is required, the Oyls whereby the force of ſharp and purging things is reſiſted, are to be omitted, and purging Electuaries are to be added for the moſt part double the weight, which at other times they uſe to be taken in at the mouth, or Pills are to be diſſolved, Salt alſo is to be added from a Scruple to a Drachm; alſo Abſtergents, as Honey of Roſes, or Sugar, in weight an Ounce or an Ounce and half; all of them being mixt, and moderately heated by a convenient and known inſtrument, they are to be injected into the Paunch an hour or two before meat.

Thoſe who are unwilling to have it done by others may give a Clyſter, as they call it, to themſelves by inſtruments deſcribed in many places, the moſt convenient whereof *Guil. Fabricius* propounds in his Chyrurgical Operations, *Cent.* 1. *Obſ.* 78.

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CHAP. XXV.

Of Injections into the Wombe, and of Peſſaries

Injections into the Wombe.

TO Clyſters which are injected into the Guts, we may well joyne thoſe which are caſt into the Womb, and are therefore called Uterine Clyſters; The Inſtrument, or Squirt, by which the liquor is caſt into the Womb, is called by the Greeks, *Metrencytes*, but the Medecines which are injected they call *Metrencyta*.

Way of preparing.

A due quantity is taken of ſimples agreeable to every one's diſeaſe, tis boiled, and three or foure ounces of the decoction, or inſtead thereof diſtilled water is taken, and two or three ounces of Oyle are added, and powders, to the quantity of three drachms; and of thoſe mixt together, three ounces are injected into the Womb.

Peſſaries.

For the ſame cauſes, for the moſt part, for which Clyſters as they call them, are injected into the Womb, Peſſes, and Peſſaries, barbarouſly called *Naſcalia*, are put in.

The manner of preparing.

1. There are many waies of preparing Peſſaries, the firſt is cotten, or wooll that is ſhore and well carded, and are mixt with a juice, or ſome liquor, either alone, or with ſome convenient powders mixt, twiſted, or wreathed, about the bigniſſe and length of a finger, tis wet in it, and applied to the generative parts of women, the quantity of Medecines that are pounded for the moſt part is an ounce.

2. Moreover Medecines that are pounded are taken in convenient liquors, as with oyl, fat, wax, Galbanum, Storax, honey, and are made up and mingled into a maſſe, and faſhioned in the figure of a Peſſary, to which a thred is tied, which alſo may be covered with fine linnen, or a thin peece of ſilk.

3. Sometimes green herbs, and ſuch as are full of juice, are a little bruiſed, and tied about with a thred, and bound in the form of a Peſſary.

4. There is a time alſo when Powders onely being taken in fine wooll, or cotten, being made round, are put into a thin bagg made of a fine ragg.

Naſcalia.

Naſcalies, as they are barbarouſly called, are compounded of the ſame Medecines, which are taken with cotton, or

or ſoft wooll, and applied to the externall orifice of the womb, eſpecially in Virgins, to whom you may not give Peſſaries.

CHAP. XVI.

Of thoſe things which are injected into the Yard, and Bladder.

INjections into the Bladder, are liquid Medecines which are injected into it through the urinary paſſage; in the uſe whereof, the whole art conſiſts in injecting, for ſometimes tis ſufficient to caſt in this Clyſter by a Squirt, ſometimes a Catheter which opens the way, as it were, and tis neceſſary to precede. *Injection into the Bladder.*

It happens alſo ſometimes that there is need of injection into the Yard, namely, when it is either hurt by the ſtone, or troubled with paine, or the paſſage within is ulcerated; tis prepared of thoſe things which are agreeable to the ſcope of the Phyſitian. *Into the Yard.*

But not onely fluid Medecines are injected, but Unguents are caſt in in this manner: Take a wax Candle, to which ſome Turpentine may be added, of that thickneſſe and length which may anſwer to this paſſage and chanell, this Candle is bedaubed with an Oyntment, and is thruſt in, but you muſt be carefull that the candle may be ſo prepared, and ſtick ſo long, that it may not melt with the heat of the yard; you may boyle alſo ſome convenient Plaiſter, and put the wax candle, or a little Inſtrument made of lead, into it.

CHAP. XXVII.

Of waſhings of the mouth, and Gargariſmes

COllutions of the mouth with the Greeks, *Diaclyſmata*, they are fluid Medecines, which are contained in the mouth, and without ſwallowing, by the help of the tongue are agitated up and down, being principally appointed for paines of the teeth, and diſeaſes of the Gumms. *Mouth-waters.*

Gargarisms. Next unto these are Gargarisms, to wit liquid Medicines, by which the Chaps are washed without swallowing, namely, whilest the humour contained in the mouth, flowes towards the top of the Wind-pipe by its gravity, the head leaning backward, the breath breaking out is repelled, and is agitated by a reciprocall motion.

Use of gargarisms. Gargarisms are administred for divers purposes, some to repell, others to resolve, and discusse, others to ripen, others to absterge, or wipe off, others to consolidate: But of all medicines for what purpose soever they are intended, those are to be chosen which are not ungratefull to the smell or taste, nor have any venemous and malignant qualitie, since it may easily come to passe, that any thing may be swallowed contrary to the will.

Manner of preparing. Some are prepared with distilled waters, others with decoctions, wherein Juices, or Syrups are dissolved, under a three-fold, foure-fold, or six-fold quantitie, so that to a pinte of distilled waters, or of a decoction, two, three, or foure ounces are taken, to which sometimes some of the Aromatick Species are added, and being mixt all are exhibited together luke-warme.

CHAP. XXVIII.

Of Medicines that draw away Phlegme.

Apophlegmatisms. APophlegmatisms, are Medicines also, which are held in the mouth, and draw out Phlegme from the head, and neighbouring-parts, from whence they have their name, for the most part they are called Diamasmata, or Masticatories.

Manner of preparing. But they are not all made alike, for first Apophlegmatisms are used in the forme of Gargarisms, which how they are made is newly shewn.

Moreover, Medicines may be made by beating, and with a convenient liquor, reduced into the forme of an Electuarie, wherewith the Palate should be annointed.

Masticatories. The third are called Masticatories, which are retained and masticated longer in the mouth, partly by their heat, they dissolve Phlegme, draw it out, and intice it forth,

forth, partly by the ſtrength wherewith they are endued, of ſtimulating the expulſive facultie of the braine, they irritate it, to eject what ever troubles it, which againe may be done three waies.

For firſt ſimple Medicines, either whole, or a little cut onely are detained and chewed in the mouth. *The way of making.*

Secondly, The ſame medicines pounded, and with a ſufficient quantitie of Honey, or Wax, which is taken, are made into Troches, like Lupine ſeeds, or Hazel-nuts, being in weight a ſcruple.

Thirdly, The ſame medcines ſtamped, being put in a linnen cloath, which may be bruiſed and chewed with the Teeth.

CHAP. XXIX.

Of Medicines to rub, and cleanſe the Teeth.

Dentifrices, which the Greeks call *Odontrimmata*, and *Smegmata Odonton*, are principally prepared to whiten, cleanſe, and ſtrengthen the teeth, and faſten the Gumms when they are looſe; But there is not one ſort of them onely, for firſt they may be waſhed with convenient liquors, or rubbed with cotton, or a linnen ragg, wet in a convenient liquor. *Dentifrices* *The way of making.*

2. Moreover the forme of an Oyntment may be uſed, if the powders are taken in honey, ſimple Oxymell, with Squills, honey of Roſes, or ſyrup of Roſes.

3. The Teeth may be rubbed with powders.

4. Troches, or Penſills may be made in the forme of ſuppoſiters, which being dried and hardned, the Teeth may be rubbed.

5. After Dentifrices, tis convenient that the mouth be waſhed, principally with Wine wherein Orice roots, or ſome other convenient thing is firſt macerated.

CHAP.

Chap. XXX.

Of Medicines put into the Nose, and to provoke sneezing.

Errhines. Errhines, as the name shews, are medicines which are put into the nostrills, which is done for severall ends; either for calling out Excrements from the braine, and to *Ptarmica.* provoke sneezing, those that performe which in particular, are called Ptarmica, or such as cause sneezing; or to open the obstructions of the passages, or to heale an Ulcer, or stench blood; whence the matter of Errhines, is not allwayes the same but various according to the various intentions, which is shewne before in the faculties of medicines.

Way to make them. They are prepared also in severall formes; for some are moist, and Liquid, others hard and dry; againe, the Liquid are twofold, either they are powred into the nostrills, or the nostrills are anointed with them only expressed juices are powred into the nostrills, and are drawne in by and clarified them.

2. Or distilled waters are added to the clarified juices, Wine, Oyle, Honey, somewhat lesse then double, or somewhat lesse then foure times the weight, according as thicker, or more fluid Errhines are required, or convenient powders may be added, about a drachm in weight.

3. Or decoctions are prepared which are mixt with somewhat lesse then double, or somewhat lesse then foure times so much Honey, and are put into the nostrills.

But those things wherewith the nostrills are anointed, are most conveniently made of Oyles and Powders, to which belongs Balsoms, which the Nostrills are anointed with.

Besides these, to the moist there seemes to belong, those things which are put into the Nostrills in the forme of a tent.

Dry Errhines. But dry Errhines are made first of convenient Roores, or Staulkes, as of Beetes, Flowre-deluce, Sow-bread, which are fashioned in the forme of a Pyramid, and afterwards macerated in the water of sweet Marjerom, or some other fit

aſit water, or Oyle, a thred being firſt tyed about them, they re put in.

2. Moreover dry Errhines are made when ſimple medicines are reduced into a thin powder, and a graine or two or two of them is blowne into the Noſtrils, and ſo they uſe to call Errhines in particular Prarmaca, or Sternutatories.

3. Thirdly, Errhines and Sneezings may be made of the ſame powders, if with a linnen or woollen cloath, or a Linnen bagg, that is round, they are wrapt up in it, and either with juice, or convenient diſtilled waters; for example of Marjerom, the Sternutatorie powder be dipt in it or ſprinkled with it, and put into the Noſtrills.

4 Fourthly, medicines for the noſe being reduced into a powder, are taken in a Muſcellage, or Gumm, or Turpentine, or Oyle and wax, and diligently mixt, are made up into Peſſaries, in the forme of a Pyramid, as it were in that bigneſſe that they may be put into the Noſe, to the end whereof a thred is tyed, that it may be drawne out at pleaſure.

CHAP. XXXI.

Of ſweet Smells, Perfumes, and Odoriferous, Balſomes.

Things cauſing ſweete Odours.

SWeet Smells alſo are taken in at the Noſtrills, but principally they are exhibited for altering of the braine, and recreation of the Spirits and are exhibited for the reſiſting of filthy and Peſtilentiall ſmells.

Simples Odoriferous.

The materialls of theſe things are all ſuch as breath a ſweete Odour out of themſelves, as Muske, Amber, Civit, Benzoin, liquid Storax and Ladanum, wood of Aloes, Roſe-mary, Lavender, Marjerom, Spike, wild Baſill, Stechados of Arabia, Mace, Cloves, Cinamon, Frankinſenſe, Myrrh, graines of Juniper, Gallia Moſchata, Camphir, and thoſe things which are given cold, as Roſes, Violets, Flowers, of Nimphea, ſantalls.

Kindes of Odoriferous things.

But they are exhibited ſeverall wayes, and ſeverall kinde of ſweet ſmells, are made of thoſe ſimples, for firſt they uſe to be reduced into powders, and are kept either in a Box, or woodden veſſell, and as often as neceſſary, are put to the Noſtrills, or elſe are included in a little bagg, or nodule of ſilke.

2. Secondly,

2. Secondly, the ſame reduced into powder are taken with Ladanum, Wax, Liquid Storax, to which ſome Turpentine may be added alſo, and made into one maſſe in a hot Morter, by powring in of Roſe-watar, of which little balls are made commonly called Pomanders.

Balſomes. 3. Thirdly Unguents and Linements, uſe to be made of ſweete things, which they call Balſomes at this day, they are prepared of diſtilled Oyles, to which is added Amber, Muske, Civit, Indian Balſom, whereof the whole force of them depends, which are mixed with a certaine body which affords a convenient conſiſtence, inſtead whereof although ſome take other things, yet extract of Plantine is conveniently taken, or Oyle drawne out of Nutmegs, by which all the ſmell for the moſt part, colour, and taſte is extracted by the Spirit of Wine, or which is moſt convenient, an extract and Oyle of Nutmegs, together to this mixture a colour agreeable to the Balſom, ſhall be made of a juice or tincture of the medicines.

4. Fourthly, perfumed waters uſe to be prepared, wherewith the Garments uſe to be ſprinkled, or the noſe, hands, and other parts of the body uſe to be wet, the ſame waters being put in a convenient veſſell upon the coales, are diſſolved into an Odoriferous Vapour.

5. Fifthly, waſh-balls are alſo prepared, or ſweet balls to waſh the hands, and feete, of which hereafter Chap. 42.

Fumes. 6. Moreover, ſweet Vapours, or fumes, belong to Odoriferous ſmells the Greeks Thymiamata, which although they are taken for the ſweetneſſe and pleaſantneſſe of ſmell, or for ſtrengthning the braine, yet they may be appointed for other ends alſo, namely to ſtop diſtillations, for drying ulcers of the lungs, when they are ſtuffed with thick matter, peculiar ſuffumigations, alſo are prepared for the wombe, and to provoke and ſtop courſes, the falling down, and ſuffocation of the mother, & the coming out of the Fundament.

How prepared. 1. But ſuffumigations are prepared, firſt of ſweet medicines, that are cut, or powred, being throwne upon live coales, or hot aſhes.

2. Moreover, the ſame powders are made into Cakes or Trochees, with a convenient Liquor, and with a Gumme or Roſin.

3 Thirdly, the coales of Lime or Teile-tree or of Willow being mixt, Pyramids and Candles as it were are made of the ſame matter, which is kindled, when there is uſe for them.

CHAP.

Chap. XXXII.

Of those things which are put into the Eares.

Things to be injected into the Eares.

Those things which are put into the Eares to asswage their pains, for inflammations, Ulcers, Singings, Hummings, and other infirmities, are exhibited, either in a Liquid forme, and first dropt into the Eares.

1. Secondly, a hot Vapour of Decoctions, or convenient Liquors are injected into the Eares, (which they commonly call Embotum) or simples that are convenient are included in a bagg, and boyled, and put into the Eares.

3. Thirdly, they are exhibited in the forme of a Liniment.

4. Fourthly, simple medicines may be reduced into powder, and blowne into the Eares, or sent in, in the manner of a fume, or Vapour.

Chap. XXXIII.

Of Liquid medicines for the eyes.

Collyrium.

Collyrion, and Collurion, as much as to say Collurion, that is *Colobon ten Ouran*, or *Colobee Oura*, it is so called because it is like mutilatæ caudæ, in which forme although various medicines appointed for various uses, were heretofore prepared: yet at this day by the name Collyries, are understood only externall medicines proper for the Eyes.

Way of preparing.

But medicines which are exhibited to the Eyes, and in generall have borrowed their name from those dry ones, are named Collyries, and are commonly divided into dry and moist, dry ones are made when medicines pounded very small, are made fine in a Morter, and with a sufficient quantity of Whites of Eggs, or of some Muscellage, are made into the forme of a Pyramid, or Trochees, and are dryed in the shade when

when there is need of them, they are beaten againe, in a marble, or Stone Morter, ſome convenient Liquor being powred in, and the Liquor, afterwards, which is then prepared, is dropt into the eyes.

2. Moiſt Collyries are twofold, for either they are dropt into the Eyes, in the forme of a Liquor, which is made of juices, diſtilled waters, Decoctions, or many of theſe mixt, powders being added, and eſpcially of thoſe medicines which will diſſolve in a moiſt body.

3. Or they are made in the forme of an unguent.

4. Laſtly, convenient medicines alſo, are boyled in water, and the warme Vapour exhaling out of the pot, which is covered with a linnen cloath, is received into the eyes.

CHAP. XXXIV.

Of Oyles and Balſomes.

Oyles. But as for what belongs to Medicines which are exhibited to the ſuperficies of the body, the firſt amongſt them are Oyles; whereof ſome are naturall, as Petroleum and common Oyle, which is made of ripe Olives, and Omphacine, which is drawne of unripe Olives; others are artificiall, which are made three manner of wayes.

How to prepare them. 1. For firſt; Unctuous juice is expreſſed, after which manner Oyle of ſweet Almonds, Piſtack-nuts, Nuts, ſeed of Flax, Gourds, Cucumbers, Henbane, Hempe, and Oyle of Poppy is prepared; by expreſſion alſo, Oyle of Yolkes of Eggs is made,

2. Secondly, Oyles are prepared by Infuſion many wayes, for ſometimes ſimple medicines are boyled with Fountaine or diſtilled water, and Wine, or other convenient Liquor, in common Oyle, to the conſumption of the moiſture, or juice; ſomerimes the ſame ſimples by a gentle heate are macerated in the Sun, yet it ſeemes more convenient if dryed Plants are ſteeped in Oyle, in *Balneo Mariæ*, twenty foure hours, afterwards the Oyle is expreſſed, and clarified by reſidence.

3. Thirdly

Thirdly, Oyles are prepared by diſtillation alſo, as is ſaid before, amongſt which ſome at this day are called Balſomes; examples whereof are to be had in the Inſtitutions.

CHAP. XXXV.

Of Linements and Oyntments.

A Linement, or Litus, with the Greeks *Criſma*, and *Syncryſma*, and that which takes away weariſomneſſe, is called *Acopon*, that is, freed from labour, tis a liquid Medecine, externally applied, thicker in conſiſtence then oyle, but more liquid then an unguent, or of a middle conſiſtence betwixt an oyle, and an unguent. *A Linement.*

It conſiſts of oyles, butter, wax, fat, tallow, marrow, gums, juices, muſcellages; for the moſt part they have no wax, or if any be uſed, they take onely a drachm of wax to an ounce of oyle, to theſe ſometimes, flowers, powders, and roſins are mixt.

They are prepared in this manner, The oyles, fats, or other things here named, are taken: to theſe powders are added, Juices, and ſuch like, of that proportion for the moſt part, that to an ounce of oyl, three drachms of fat, or two drachms, and one drachm of powders is taken, or that proportion is obſerved, as may make the conſiſtence onely a little thicker then oyle; and all are mingled either without fire and boiling, or are diſſolved at the fire as Gums, and Fats, or alſo by ſome ebullition, namely, to the conſumption of the Juices, or Vinegar, if any ſuch thing be mingled with it. *How prepared.*

Unguents which the Greeks call *Myra*, and *Alleimata*, from whence *Miropolæ* and *Alypiæ* were the names that the Ancients firſt called them by, which for pleaſantneſſe were made of odoriferous things, and were diſtinguiſhed from oyles not in thickneſſe, but in pleaſantneſſe of ſmell. But thoſe things which are at this day called Unguents, are Emmota, ſo called by the Greeks, and are made of the ſame things whereof Linements are; But are ſomewhat thicker then Linements, and thoſe things which thicken, are taken in a greater quntity in an Unguent, then in a Linement, but as for the liquid and oyly things, a leſſe quantity is obſerved in compounding them, this is the proportion for the moſt part; that to an ounce of oyles a drachm of powder, two drachms *Unguents.*

drachms of wax may be taken, or a ſufficient quantity, namely in thoſe things where Unguents are made of oyles, powders, or mettals, or plants, and wax.

How prepard. But they are prepared either with fire, or without fire, without fire they are prepared in this manner;

1. The powders being beaten, and ſifted, are taken, which are ſprinkled in the oyle, and a ſufficient quantity of wax being added, are reduced into the forme of an Unguent.

2. Or uſual Unguents are taken, and for the moſt part foure fold, or eight fold, the quantity of powders, and ſpecies are mixt with ſome convenient oyle.

3. Or fat, or marrow are taken alone, or with oyle in equall weight, double, or halfe ſo much again, a few powders being added with a ſufficient quantity of wax, an Unguent is made,

4. With fire alſo, they are made many waies, for either the greaſe, oyles, or gumms are melted, that the powders may the eaſier be mingled.

5. Or herbes, roots, ſeeds, are macerated, ſometime in water, wine, juices, oyle, afterwards they are boiled almoſt to the conſumption of the liquor: to the decoction when tis ſtrained, the other things are added, and with ſome greaſe and a ſufficient quantity of wax, or a gumm, an Unguent is made.

6. Or they are prepared without oyle, with greaſe, namely; herbes, flowers, or freſh roots, are bruiſed with greaſe, and wrought in a Morter, untill the herbes have imbibed the greaſe, and then they are melted by the fire, and preſſed out.

CHAP. XXXVI.

Of Cerots, and Emplaiſters.

THe name of a Cerat, or Cerot, the Ancients uſed for a ſoft medicine, namely for that which conſiſting of oyle and wax is anointed.

But at this day tis taken for a medicine, like unto a plaiſter, yet is not ſo hard as a plaiſter in conſiſtence, and tis ſo called from Cera, that is wax, becauſe the greater part of it is wax: And tis compounded at this day of powders, oyles, gumms,

Gums, Pitch, Turpentine and Wax, and ſometimes Lard, Marrow, and Muſcellages are added.

But the proportion of the things that are mixt is various, neither can it eaſily be defined and comprehended by Rules, and the quantity of Wax to be mixed is left for the moſt part to the diſcretion of the Apothecary, who aſcends by degrees, according to progreſs from a leſſer quantity to a greater; yet for the moſt part the analogy of mixture uſeth to be defired, ſo that when they conſiſt of Oyl, Wax, and Roſin, one part of Oyl is taken, half ſo much of Roſin, of Wax the third part: But when Pouders are added, the proportion of Oyles to Pouders is eight-fold, to Wax, two three, four or ſix-fold; and to Roſin, that it may ſtick the faſter, they uſe to add twelvefold; a Cerot becomes the harder three ways, namely, by defect of Oyl and Greaſe, by boiling, and ſtore of Pitch, Wax, or Pouders.

1. They are made in this manner, If the Cerot ought to be made of Pouders only, Oyl and Wax; the Oyl and Wax ſhould be diſſolved together at the fire, and the Pouders put in by degrees, and exactly mingled. *How made.*

2. If Lard, Gums, or other things to be melted by the fire are taken, they ſhould be melted with the wax.

3. If Gums are to be diſſolved in Vineger or Wine; firſt they muſt be diſſolved in Oyl, and mingled with Wax, that the Vineger or Wine may be conſumed with boiling, afterwards the Pouders may ſprinkled in.

4. If you are to add Roots, Fruits, or Seeds, theſe are firſt to be boiled, and the Decoction to be boiled again with Oyl to the conſumption of the moiſture.

Laſtly, the things melted and pounded are to be added, and all to be mixt together, and to be kept for uſe.

But when you may preſcribe freſh things for preſent uſe, three Ounces and an a half may ſuffice for a great Cerot, for an indifferent one two Ounces, for a little one, one Ounce, & three or four Drachms of Pouders are ſufficient for an indifferent Plaiſter: and ſuch Cerots uſe to be put with an Aromatick Pouder ſprinkled on them into a piece of Leather, or to be covered with fine Linnen; the quantity and figure, if it may be, ſhould anſwer and be conformable to the parts to which they ought to be applied.

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Plaiſters. Plaiſters, from Emplattein, that is, from faſhioning, and ſoft anointing is derived, becauſe they may be extended, and ſpred on a Linnen cloath, or peice of Leather; they are medicines ſomewhat harder and more ſollid then Cerots, and are compounded of the ſame things whereof Cerots are, only that metalls, and mineralls, and for the moſt part, Litharge are added, which makes them of a more ſollid conſiſtence.

How compounded. For the moſt part this is the manner of compounding them; the wax for the moſt part is melted in Oyle, if the Litharge be in readineſſe, that alſo ſhould be boyled in Oyle. If Juices of herbs, or decoctions, Muſcellages, Vinegar, Wine or any other Liquor be to be mixt, then that alſo is to be mixed with the reſt, and being mixt, are to be boyled ſo long, untill the aqueous humidity be conſumed; afterwards the Roſins, fat, thickned and concreate juices, and Gummes, are to be put in ſometimes, diſſolved firſt, and ſtrained, with Wine, Vinegar, and Oyle; laſtly Turpentine is to be mixt, and all to be boyled to a due conſiſtence, which when tis done, and taken from the fire, the powders muſt be put in by little and little, and continually ſtird about, that they may be brought into one maſſe, with the reſt, of which being cooled, but before it growes hard, are to be faſhioned, in the ſimilitude of a Pyramid, or a long Rolle, or Rollers, and be kept for uſe, of the which when tis neceſſary, a part may be cut off, and if need be ſoftned ſomewhat with convenient Oyle, ſpred on Linnen, and applyed to the skin.

The proportion of mixture, can ſcarce be defined exactly, and ſtrictly, and if any error be committed, it may eaſily be corrected by boyling or mingling of more dry, or liquid things; but this proportion for the moſt part is obſerved, that to an ounce of dry things, there is taken of Oyle, Fat, or Honey, three Ounces, of Wax a pound, of Roſin eight Ounces: But if boyled, and pounded Herbs are added, a little handfull, requires an Ounce, or an Ounce and halfe of Oyle, or Greaſe, ſo that the proportion of Wax to Roſin is ſix-fold, to Oyle foure-fold, to Powders double: but if the quantity of Roſin be greater, there needs the leſſe Wax.

Emplaſtick web. Sometimes before the Emplaiſtick maſſe be cooled a Linnen

nen cloath that is worne out by age is dipt in, and when tis bedaubed with the ſubſtance of the Plaiſter, tis taken out, extended, cooled, and kept for uſe; which kind of Plaiſters, they called Emplaſtick Webbs of cloath, and *Sparadrapum*, and applyed them for cleanſing of Ulcers, Glutinating, Cicatrizing, and other uſes.

And theſe are properly called Plaiſters, yet ſome things are referred to Plaiſters alſo, which are prepared without Wax, Pitch, and thoſe Glutinous things, and without fire, and are compounded with Honey, Muſcellages, and a certain thick juice, or Barme, or only with a little Wax, melted with Oyle; of which kind is the Plaiſter of Bay-berries and *de Cruſta panis*, and ſuch like, which are as it were in the middle, betwixt Plaiſters, and Cataplaſmes.

CHAP. XXXVII.

Of Cataplaſmes.

A Cataplaſme.

CAtaplaſmes, which the Ancients called Pultaſes, are Topicall medicines ſoft, and having the conſiſtence of Pultaſes, and are prepared to aſſwage paine, repell, mollify, diſcuſſe, to ripen, and other ends.

How made.

1. They are either prepared without fire and boyling, or with fire and boyling, from whence the one is called crude, the other boyled.

Without fire, greene Plants are pounded, and reduced into a Poultice, or dry, reduced into Powder, are mingled with a ſufficient quantity, namely double, or trebble, of Oyle, or a convenient Liquor.

2. They are made with fire, and boyling, if the plants being beaten, and pounded, are boyled in a ſufficient quantity of water, till they are ſoft; afterwards ſtrained through a ſeive, which nevertheleſſe, if they are well boyled, and bruiſed is not allwayes neceſſary, to theſe are added Muſcellages, Flowre, and a ſufficient quantity of Fat, and Oyle, and are all boyled againe to the conſiſtence of a Poultice, ſometimes plants alſo are immediatly boyled in Oyle.

The Cataplaſmes being prepared, and put on a peece of linnen are applied hot to the part.

CHAP. XXXVIII.

Of Medicines to take away Haire, Salves made of Muſtard, Medicines cauſing Wheales, or Puſtles in the body, and Veſicatories, or Medicines that cauſe Bliſters.

ADropax, or any thing to take away haire, a Synapiſme, or a Salve made of Muſtard, a Phænigne, a Medicine to cauſe Wheales, or Puſtles, differ not from the forme of a Cataplaſme, yet for ſome certaine peculiar effects which they produce, Authors have been pleaſed to ſeparate them from other Cerots, Plaiſters, and Cataplaſmes.

A Dropax. Dropax in Greek, with the Latines Picatio, is a Medicine compoſed in the forme of a Plaiſter, or Cataplaſme, powerfully ſticking to the skin, which heretofore was exhibited to extenuate and relax the Member, to heat and draw more ſtore of blood, as is ſpoken before, *part* 2. *Sect.* 2. *Cap.* 5. or to dry moiſter bodies; It is two-fold, *Its differences.* the one ſimple, which conſiſts of Pitch and Oyle melted together, the other compound, which beſides Pitch and Oyle, hath in it, Pepper, Caſtor, Pellitory, Bittony, Galbanum, Brimſtone, Nitre, or the aſhes of Vine twiggs, and other things which are needfull; out of all which a Plaiſter is made with Oyle and Pitch, which is put in a peice of Leather, or linnen cloath, and applied to the member, being hot, the haire ſhaved before hand, and the part well rubbed, and before tis quite cold, is twitched off againe, and put to the fire againe, and applied to the part againe, and that is ſo often repeated, untill the part growes red, and is ſomewhat ſwelled.

A Synapiſme. Synapiſmes are Cataplaſmes, or Plaiſters, principally conſiſting of Muſtard-ſeed, from whence they have their names, or other things are compounded, which are of the ſame nature with muſtard-ſeed, and they are two-fold, the one

one more mild and gentle, which the Greeks call *Phoinigmon*, becauſe it makes the skin look red, and is to draw out the matter which lies ſo deep hid in the body, to its ſuperficies. The other is ſtronger which alſo raiſeth bliſters in the part to which it is applied, which they properly call *Veſicatories*. *A Veſicatory.*

The Ancients made Synapiſmes of Muſtard-ſeed, or ſheere-graſſe, dry Figgs were macerated in warme water, the next day after Muſtard-ſeed pounded was mixt with that pulpe, and if a ſtronger Synapiſme were required, they would mingle two parts of Muſtard with one of Figgs, but if weaker, one part of Muſtard-ſeed, and two parts of Figgs, : If indifferent equall parts, being mixed they were applied to the part affected,, and left there ſo long, till the skin run down with moiſture, and looked red. *How to prepare Synapiſmes.*

Other Medicines alſo, both making red, and cauſing Bliſters, are mentioned before, part the firſt, Sect. the firſt, Cap. 10. and are mingled with honey, Oxymell with Squills, Vinegar with Squills, Melle Anarcardino, Spirit of Wine, Turpentine, Soap, the crum of bread, and Gumme, with ſharp things and Plaiſters, and Cataplaſmes are made of them, whether to cauſe the part to look red, and burn onely, or to raiſe bliſters. The principall thing to raiſe bliſters is a medicine compounded of Cantharides, and Leaven. When a bliſter is raiſed by a medicine, and is broken, tis not forthwith to be dried, but to be permitted to run, that the humour which we deſire to evacuate, revell, or derive, may flow out, and therefore ſome fat unguent, or a Figg, or the leaves of Coleworts, are to be put to it. *How to make Veſicatories.*

Chap XXXIX.

Of Epithems (which are ſomewhat moiſter then Plaiſters) Medicines made of Vinegar and Roſes, and of Medicines applied to the Temples, to ſtop fluxes of Rebume from falling to the eyes.

Although all medicines which are externally adplied to the body may be called Epithems, yet by cuſtome thoſe onely are called ſo at this day which conſiſt of diſtilled waters, decoctions, or juices mingled with ſpecies and powders, and are externally applied, principally to the region of the *Epithems.*

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Liver, Spleen, Heart, Stomach, fore-head, and joynts.

As for the matter whereof they are made, tis various according to their ſeverall intentions: of diſtilled waters, Juices, Decoctions, Oyles, either alone, or mixt, Epithemes are applyed for the mitrigation of heate, reſiſting of humours, that flow, ſtrengthning the parts, and Liquors, or Powders that are appropriated to any part whatſoever, are to be applyed.

How prepared. Epithemes are prepared two wayes, firſt of liquid things only, diſtilled waters or juices are taken convenient for the diſeaſe and proper for the part, to which ſometimes, ſome Vinegar, or Wine for penetration ſake is added: afterwards Species or Powders, beaten very fine a drachm and a halfe or two drachms, to a Pint, and ſometimes more Powder is taken: the matter of the Epitheme is preſcribed according to the magnitude of the part, from three Ounces to a pint, the mixture in the firſt place hath a linnen or wollen cloath Cotten, or Spunge dipt in it, and ſtird about, when tis to be uſed leaſt the Powder ſhould ſettle in the bottome, and for the moſt part tis applyed warme, and as often as tis taken off, tis dipt into it againe, and applyed.

Sometimes certaine Powders are put in, but they are firſt macerated in fountaine water.

Epithemes for the fore-head. To Epithemes belong Oxyrhodes, as they are called, which are Epithemes peculiar to the fore-head, prepar'd of Oyle of Roſes, and Vinegar, to coole, and repell; The Ancients, tooke of Oyle of Roſes three parts, and of Vinegar one part, and ſtird them well together, wherein they dipt a peice of leather, or skin and applyed it to the forehead: At this day alſo other Oyles, as of Violets, Myrtles, Nimphæa, or water Lillies, and ſometimes diſtilled waters, and Powders are added Santalls, and other things.

Anacollemata. To theſe are referred *anacollemata*, which are wont to be applyed for diſeaſes of the Eyes, and Hemorhodes of the noſe, principally to the fore-head, ſo called for this reaſon, whether they conſiſt of medicines that fill up, glutinate, and have an aſtringent quality, becauſe they ſtop the violence of humours that flow into them, or becauſe by their clammineſſe, they adhere, and as it were ſtick like glue to the part to which they are applyed.

And

And they are prepared of Volatile or fine Flowre, Bole-armoniack, Dragons-blood, Acacia, maſtick, Manna, Frankincenſe, and ſuch like, mixt with the white of an Egg. *How prepared.*

2. Yet they are often prepared without the white of an Egge, to mittigate the paine of the head, or cauſe ſleepe which are applyed, either with a Leather, or a skin dipt therein, or incloſed in a little bagg, and they are more properly called Epithemes, or Frontells.

CHAP. XL.

Of Medicines applyed Plaiſter-wayes to mittigate paine, and of little Bags.

Like unto Epithemes, are Fomentaes, ſo called, becauſe they doe by their heate, as it were cheriſh the parts of the body to which they are applyed, and they are exhibited either to heate the parts, or to cleanſe, and diſcuſſe, or to mittigate paine, or ſoften that which is hard. *Fomentations.*

1. And they are two-fold, moiſt, and dry; the moiſt are made either of hot water, Oyle, Milke, or wine, or decoctions of Plants, made with water, wine, Vinegar, Milke, whither a ſponge, or linnen cloath, anſwerable, to the magnitnde of the part affected, is dipt whilſt it is hot, and applyed to the part, and when they begin to be luke-warme, or to coole, they are changed for hot, or the ſame are heat againe in the Liquor. *Differences of Fomentations. Moiſt.*

2. Sometimes, ſimples, included in Linnen baggs, are boyled in water, wine, or Milke, and are applyed hot to the part affected, for which purpoſe, tis convenient to prepare two Baggs, that when the one is cooled, the other may be applyed.

3. Sometimes, a Hoggs Bladder, or an Oxe his Bladder, is halfe filled with the Liquor of the decoction and applyed hot to the part affected.

4. Fomentations, are made alſo, of living Creatures diſſected, and as yet warme, eſpecially Pidgeons, as alſo of the parts of living Creatures newly ſlaine, whilſt they are hot, as the Lungs, Paunch, or Oyles made of the ſame.

Some-

5. Sometimes the ſteam onely of Waters, of Wine or Vineger boiled, is ſtirred up by the fire onely, or by caſting in of ſtones or Irons burning into the Liquour, or ſome of the Liquour poured on them is applied to the part; the vapour is taken by a Pipe or Tunnel with a wide orifice, or it is put about the part with ſome covering, whereby the ſteam being detained and included, it may act the ſtronger on the part affected.

Dry. But dry Fomentations are made with Bags, the Bags are compounded of Herbs, Flowers, Barks, Roots, Seeds, Aromaticks, Gums, which are agreeable to the preſent intention, being cut and pounded proportionable to the figure and magnitude of the part affected, are put into a Bag, and applied to the part; for a cordial Bag an Ounce, or an Ounce and half may ſuffice, for the ſtomack a greater quantity is required.

The Bag is prepared either of Linnen or Silk, and being pricked through with a Needle is applied dry to the part, and ſometimes it is wet in Wine or Vineger, and put on a hot ſtone or brick heated by the fire, it is applied to the part affected and makes it warm.

CHAP. XLI.

Of Embrocations, Lotions, and Bathes.

THe likeſt to Fomentations are Embrocations, or Waterings, Lotions, and Bathes, all which ſignifie rather a certain manner of uſing, than any Compoſition and Forme of Medicine, and they contain for the moſt part the ſame matter with moiſt Fomentations.

Embrocations. Embrochee, is a certain diſtillation or dropping down of a moiſt humour from above like Rain: the dropping which is made on any part is performed, either by pouring water out of a veſſel, with a long ſnout, or by dropping out of a Laver.

Tis applied principally to three parts; Firſt, upon the Coronall Suture, in diſtempers of the braine, and the moiſture runs no further, then the Sagittall ſuture. Secondly, from the beginning of the ſpinall marrow, in diſeaſes of the Nerves and the moiſture is terminated at the end ofthe ſpine. Thirdly,

ly, to heat or dry the ſtomach, and the matter is ſuffered to run over all the belly: if the guts alſo are weak, a Cerat with Santals is to be applied to the liver, if there be feare of inflaming it, the matter to be ſo diſtilled is common water, water of Bathes, decoctions, milk, oyle, according as the part affected requires it.

Some Lotions are exhibited to certain parts which are called particular Lotions, others to the inferiour parts of the body onely, which are commonly calted *Inceſſus*, and *Semicupium*, *i. e.* a Veſſell that you may ſit upright in, others are fit for the whole body, which are called Bathes. *Lotions.*

Peculiar Lotions principally uſe to be adminiſtred to the head, hands, and feet, and are prepared as Fomentations of hearbs, or faire water, or boiled in a lee, Wine, or Oyle.

Inceſſus, which the Greeks call *Encathiſma*, is a bath for the belly, and inferiour parts wherein the diſeaſed muſt ſit up to the Navell, and ſuch bathing Veſſels ſerve for ſeverall uſes, ſometimes to mittigate paine, ſometimes to ſoften and diſcuſſe wind, ſometimes they are uſed to provoke courſes. *Inceſſus.*

A Bath is a waſhing of the whole body, and is adminiſtred either for cleanſing and taking away the faults of the skin, or to relax the parts; or for ſome diſtemper of the whole. *A Bath.*

Some bathes are naturall, others are made by art. Amongſt the naturall bathes the plaineſt is that of Fountaine-water, which hath a power of heating and moiſtning, and therefore is convenient for ſuch as are Hectick. Nature alſo affords bathes, for the imitation of bathes artificiall, and of naturall Bathes, the Phyſitian may prepare many things to ſupply the want of them. *The differences.*

CHAP. XLII.

Of Soapes.

SOap alſo, or Waſh-balls are uſed to certaine parts of the body, which are prepared in this manner; *Sapones.*

There is taken of Venice Soap made ſmooth, or of ſome other good and white Soap as much as is ſufficient, to which is added ſix or eight times ſo much Powder, and all of them are mingled in a ſufficient quantity of a water that is proper, *How made*

and

and reduced into one maſſe, from whence round Balls are made in the forme of an Apple.

They are exhibited principally to cleanſe the body, or ſome parts thereof, and to give a pleaſant ſent to it.

Chap. XLIII.

Of Cauteries.

Cauteries. Lastly, That we may ſpeak ſomething alſo of Potentiall Cauteries, their preparation is manifold, and there is no man, but here will ſomewhat boaſt: But the moſt profitable which will make an Eſcarre ſooneſt without paine, and other Symptomes, is that which is thus prepared;

Take the Lee, whereof black Soap is made and put it into a Frying-pan, till it become almoſt as hard as a ſtone, and when it growes cold cut it into the forme of great Dice, and let it be kept in a glaſſe cloſe ſhut, leaſt it ſhould melt, and it is commonly called the Corraſive ſtone; the uſe wherof is very frequent at this day; to quicken Ulcers, by the which humours may be diverted from the more noble parts, to the ignoble, and therefore they are called Iſſues, or Fontanells.

HONOUR, GLORY, and THANKSGIVING be to GOD *alone.*

FINIS.

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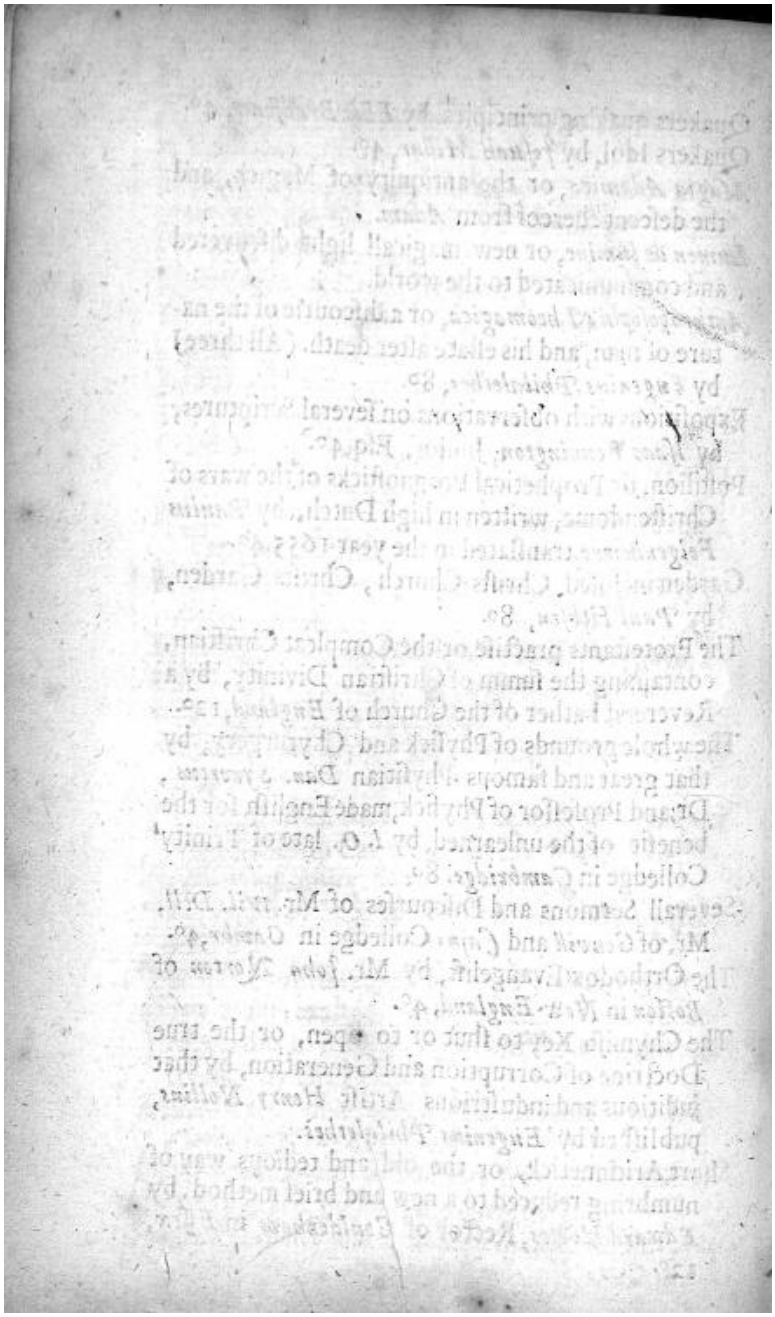

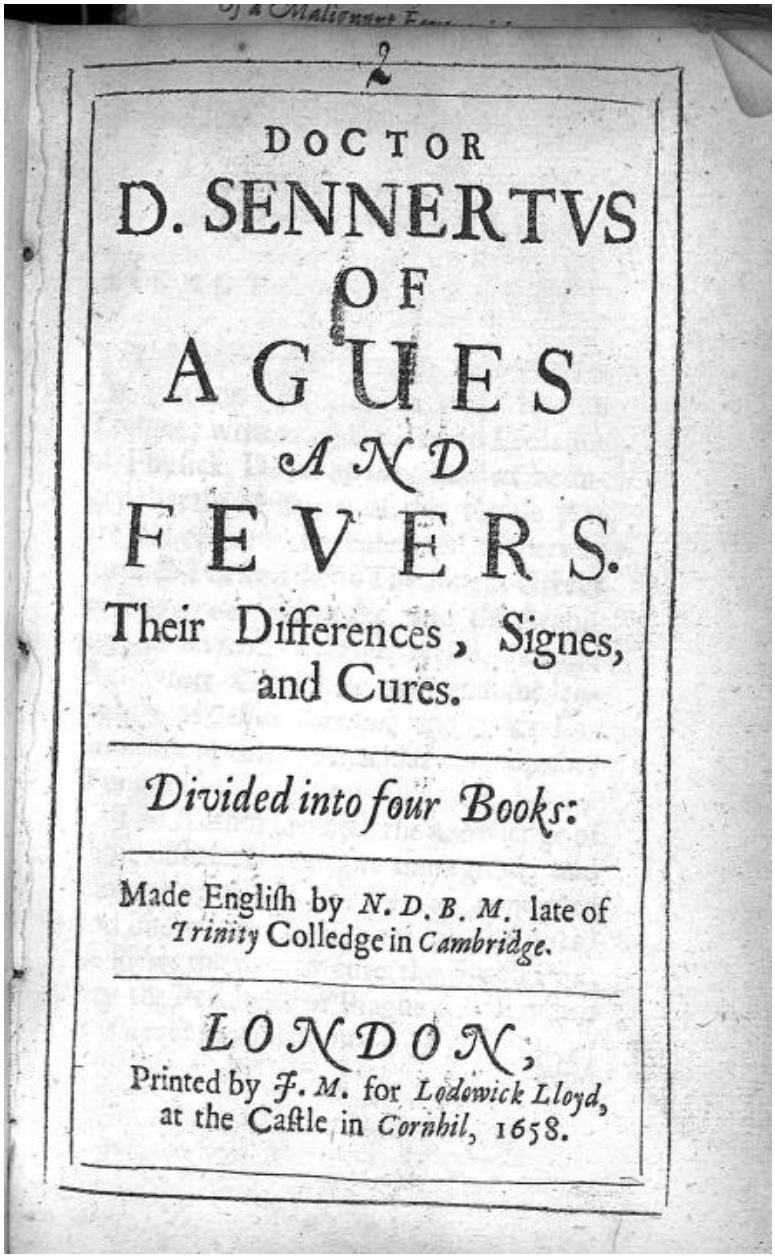

DOCTOR

D. SENNERTVS OF AGUES AND FEVERS.

Their Differences, Signes, and Cures.

Divided into four Books:

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To the *Reader*,

HEALTH *and* SAFETY.

WOnder not Reader, that you ſee theſe Rarities in the Engliſh Tongue, written by the learned Profeſſor of Phyſick, D. *Sennertus*; neither be angry that the Myſteries of this Noble Art are laid open for the unlearned to peruſe, for ſuch I deſign them. The antient Greeks as *Hippocrates*, *Galen*, &c. and the Arabians, as *Avicen*, *Averoes*, *Meſue*, *Serapio*, &c. wrote all in their own genuine language, as *Celſus*, *Serenus*, and other Latines alſo in their vernacular and mother Tongue.

The Author teacheth the knowledge of thoſe diſeaſes that reigne amongſt us, and the cure of all ſorts of Fevers, continued and intermittent (which are called Agues) he ſhews the way to cure the Small Pox, nay the Peſtilence or Plague it ſelf, when it is never ſo contagious.

To the Reader.

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Not long ſince, this Authors five Books of *Inſtitutions of Phyſick and Chyrurgerie*, were publiſhed in the Engliſh Tongue; which incomparable Piece I recommend to thy ſerious peruſal, as the beſt foundation (for Practiſe) that any man hitherto hath laid; Without any further troubling of thee with theſe Epiſtolary lines, I refer thee to the Book it ſelf; and ſo Farewel.

The

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CHAP.

Book I.

Of Fevers in General, and of an Ephemera, *and of a* Synocha *with Putrefaction.*

CHAP. I.

Of the Nature of a Fever.

THat which is called by the Latines a Fever, by the Greeks (from fire) is called the fiery diſtemper; *Hippocrates* plainly calls it fire, if it be very vehement, as being by the conſent of all men a hot diſtemper; For although ſome Germans call it *Daskalte*, yet that appellation belongs not to every Fever, neither doth it expreſs the nature of a Fever, but only ſignifieth Cold, An intermitting Fever may be ſo called. *The name of a Fever.*

A Fever is a hot diſtemper of the whole body, ariſing from heat, kindled contrary to nature in the heart, and by the mediation of the Blood and Spirits, conveyed through the veins and arteries to all the parts, and hindring natural actions, unleſs it be prevented. *Its definition and nature.*

For a Fever is generated, when (as *Galen* 1. Aphor. 14. hath it) The native heat is become fiery; For ſeeing that all the parts of the body have a certain temperature, and all of them are actually hot, every one according to its own degree, and thereby are rendered fit to perform natural actions; If *Generation of it.*

in the heart, from whence the vital heat is diffuſed over all the parts of the body, each part receiving its due temper from thence, a certain preter-natural heat be kindled and ſpread over the whole body, ſo that to the natural temperature of the parts ſome degrees of preter-natural heat are added, and that actual heat ſhall be increaſed; a certain excels of heat and a hot diſtemper is kindled in the whole body, which is called a Fever. Which diſtemper indeed *formaliter*, as ſome ſay, is contrary to nature, and is called a Fever; but *materialiter* 'tis not altogether contrary to nature, for unleſs there had been before ſome degrees of natural heat extant, the ſupervenient heat could not conſtitute this degree of heat.

Drineſs is no part of the Eſſence of a Fever.

And indeed a hot diſtemper only conſtitutes a Fever; for although all fevouriſh heat tend to drineſs, yet that drineſs is not ſickneſs in all Fevers, neither is the body by fevouriſh heat rendred unfit to perform its natural actions, it is ſo by drineſs in every Fever that the natural actions are hindred; but although the fevouriſh heat always tend to drineſs, yet oftentimes the diſpoſition of the body wherein that heat acteth, and moiſture therewithal, hinders the production of a diſeaſe by drineſs.

The Subject.

The adequate Subject of a Fever is the whole body, or certainly moſt of its parts, but the principal is the heart, as being that wherein that heat is firſt kindled, and from thence communicated to all the other parts of the body, unleſs it be hindred; nor can a Fever be generated, unleſs the heart firſt become hot. Indeed the whole body is the Subject of a Fever in regard of the ſimiliar parts, and as it is indued with actual heat, which is as it were kindled by the innate and influent heat; For this heat when it is changed and converted into a fiery heat from a temperate and moderate, a Fever is ſtirred up.

The proximate cauſe.

The immediate cauſe of a Fever is heat kindled in the heart contrary to nature, and diffuſed over all the body; For as the heart whileſt it is well and according to nature, is the fountain of natural heat, and diſperſeth the ſame over all the body, ſo if it grow hot contrary to nature, it diſtributes that unnatural heat over all the parts. For although a Fever may be kindled by the inflamation of other parts likewiſe, yet that happens not unleſs that heat be firſt ſent to the heart, and afterwards from thence to all the parts of the body, whence it comes to paſs that in every Fever the Pulſe is changed. Nevertheleſs every kind of heat in the heart is not ſufficient to cauſe

cauſe a Fever, but ſuch a kind of heat it ought to be, as can cauſe ſuch a hot diſeaſe as can hinder the performance of natural actions.

A Fever and fevériſh heat differ.

Whence 'tis manifeſt that a Fever is one thing, and a feavouriſh heat another thing. A Fever properly is that hot diſtemper which happens in the living parts of a body, and renders them unable to act; but the fevouriſh heat is alſo in the humors and ſpirits, and ſtirrs up that hot diſtemper of the body, which conſtitutes the eſſence of a Fever.

Chap. II.

Of the cauſes of Fevers in general.

Although there is but one only cauſe of a hot diſtemper of the whole body, which conſtitutes the eſſence of a Fever, namely, preter-natural heat kindled in the heart, and thence diſtributed over all the body, yet the cauſes from whence that heat in the heart ariſeth, are ſeveral, as *Galen* of the cauſes of diſeaſes, cap. 2. and in the firſt book of differences of diſeaſes, cap. 3. recites five, Motion, Putrefaction, Contact of ſome hot thing, Cloſure of the pores of the skin, or a Retention of a hot ſtream; and laſtly Mixture with ſome hot thing: And of theſe cauſes, ſome by themſelves, and ſome by accident ſtir up heat.

Motion.

Firſt from Motion, ſithence the Spirits and humours of our bodies are hot, from the confluence of them into any part, according to the various motion of the body and mind, heat is increaſed, which if it be greater, and be either kindled in the heart, or communicated to the heart, a Fever enſueth.

Putrefaction.

Secondly, Putrefaction excites heat. For ſince all things that do putrifie become hotter, and out of putred bodies are exalted many hot vapours, thence heat is conveyed to the heart by the veins and arteries, and from thence a Fever raiſed.

Contact of a hot thing.

Thirdly, contact of a hot thing exciteth a Fever: As if the body wax hot by the Sun, Fire, Bath, or Medicine, and that heat be ſent to the heart a Fever followeth.

Retention of a hot ſtream.

Fourthly, if the pores of the skin are cloſed, and a hot ſtream and hallituous excrements, which in concoction are generated in the body, and uſe to be ſent out through the pores of the skin, be penn'd in, heat is thereby kindled, and a Fever bred.

Laſtly, when hot things are mingled with humours and ſpirits, as meat, drink, hot Medicines, all thoſe communicate

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that heat which they contained in themſelves to the Spirits and humours, which if they penetrate the heart, and from thence be diſtributed to the other parts of the body, a Fever is thereby kindled.

And indeed the fourth of theſe cauſes, or the retention of the hot *effluvium*, is ſufficient alone without the reſt to cauſe a Fever: But the other cauſes without this can hardly do it. For although from Motion, Putrefaction, Contact, and Mixture with a hot thing, hot vapours are ſtirred up in the body; yet if the body freely ventilate, and that ſo much be daily evaporated and emitted of thoſe vapours as are generated, a Fever is not eaſily occaſioned, but when thoſe vapours are detained, a Fever is ſoon kindled.

Diſpoſition of a body to a Fever.

But although theſe cauſes if they be powerful, may raiſe a Fever in any body whatſoever, yet in bodies inclinable an ordinary power in the cauſes may ſuffice to beget a Fever. Now they are moſt inclinable to Fevers which abound with much heat, ſalt and ſharp humours: For which reaſon Youths are more apt to Fevers, of which you may read, *Galen* 8 Of the Method of healing, cap. 8. where the whole order of Inclinations to Fevers are ſet down. 1. Hot and dry. 2 hot and moiſt. 3. hot only. 4. dry only. 5. temperate. 6. cold and dry. 7. cold only. 8. moiſt only. 9. cold and moiſt. Yet to another kind of Fevers other bodies are more inclinable.

Chap. III.

Of the Symptomes of a Fever in general.

Symptomes of Fevers.

WHereas in a Fever the temper of a body is changed, and rendred hotter, hence certain Symptomes of Fevers muſt neceſſarily enſue: And firſt of all it is hence manifeſt, that thoſe actions are eſpecially hindred, which ſhould be performed by the ſimilar parts as they are ſuch, and by the benefit of the temper of each ſuch part, no organick part concurring. Such action ſince it is Nutrition, and thoſe that are ſubſervient thereunto, they are eſpecially hurt in Fevers. Yet becauſe the Inſtruments by which other actions are performed, conſiſts of ſimilar parts, that imperfection is derived to the hinderance of them, as of vital and animal actions. Indeed the vital actions are principally hurt in a Fever, becauſe the fevouriſh heat is firſt kindled in the heart. Whence in all Fevers the Pulſe becomes more frequent and ſwifter; for ſince the motion of Pulſes in all Fevers may be increaſed,

firſt

firſt, a thick Pulſe, as being moſt facile of all; but if that frequency ſatisfies not the neceſſity, celerity happens, which if that be not ſufficient, then magnitude follows: So that the ſtrength be not debilitated: The animal actions alſo are often hurt. As for other Symptomes, preter-natural heat is obſerved to offend internally or externally. Alſo the excrements and qualities of a body are variouſly changed by reaſon of the hinderances of concoctions.

Chap. IV.
Of the differences of Fevers in general.

Differences.

The differences of Fevers are taken from their eſſence, or from their accidents. *Hippocrat. 6. Epid. comment. text.* 29. propounds the differences taken from the heat it ſelf of the Fever, that ſome Fevers are biting, namely, ſuch as ſtrike the hand of them that touch them, and by reaſon of that ſharp vapour, which is ſtirr'd up by putred matter, it doth as it were prick the hand; but a mild one is ſuch as hath troubleſome heat, but not ſo violent. Moreover the heat of ſome Fevers at the firſt touch is not ſharp, and nipping, but if the hand be continued longer, afterwards it betrayes it ſelf. On the contrary others are quick at firſt to the touch, but if the hand continue longer, it is overcome by the hand, and a little abated.

But thoſe are the moſt proper differences which are taken from inherence in the Subject, and the cauſe of inhering, which Fevers are divided into *Ephemeraes*, putred and hectick, the trueſt foundation of which diviſion is, that one Fever is in habitude, the other in habit, for although the fevouriſh heat in every Fever poſſeſs the ſimilar parts of the body; yet ſome are ſo inherent in the body, that they require no cauſe to cheriſh them, and although they are not fed by the kindling of humours and Spirits, nevertheleſs they will continue, which ſort are called Hecticks. Another hot diſtemper is ſo inherent in the ſimilar parts of the body, that unleſs it be cheriſhed by the kindling of humours and Spirits it can no more ſubſiſt, which Fever is called a Fever in habitude, which in reſpect of the cauſe is twofold, an *Ephemera*, to which alſo a *Synocha* without putrefaction is referred; and a putrid.

There is another thing worth the noting, that one Fever is Primary, another Symptomatical, Primary is that which follows no former diſeaſe, but depends on its proper cauſe: Secondary

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condary or Symptomatical is that which ariſeth from the inflamation of any member. See *Galen.4.Aphor.7.*

But of Symptomatical this is to be noted, that thoſe which by the ancients were accounted Symptomatical, were indeed primary many of them, and inflamations of the parts, of the Membrane that covers the ribbs, of the lungs or chopps, rather happened to thoſe parts, then the Fever to take it's riſe from them: Which Fevers may be called *Comitatæ*, or ſuch as accompany the Fever.

Feavers accompanied.

Chap. V.
Of the cure of Fevers in general.

Cure.

NOw to the cure. A Fever as it is a Fever being a hot diſtemper, indicates cooling things are to be uſed. *Galen.8.Meth.Med.Cap.1.*

But becauſe there is no ſmall difference amongſt Fevers, and that a Fever is often joyned with it's cauſe, regard is to be had of the cauſe of the ſame. Nay indeed becauſe the cauſe often offends more then the Fever it ſelf, the Fever is ſo to be cooled, as that the cauſe may not be cheriſhed, and thoſe things be detained in the body which ought to be evacuated.

And oftentimes error is committed in this, whileſt regard is had only of the heat, cold things are adminiſtred, by which the cauſe of the Fever being detained, the Fever is prolonged: Whereas on the other ſide, heating things, as likewiſe either opening or ſudocifick things, without cooling medicines, often with happy ſucceſs cure the Fever; For the cauſe being taken away, the Fever it ſelf ceaſeth of it's own accord; Whereof more particularly hereafter.

Chap. VI.
Of the Fever Ephemera.

Feavers in habitude.

THere are two ſorts of Fevers whoſe heat are inherent in our bodies in habitude. For that the hot diſtemper of the parts is cheriſhed either by the heat of the Spirits or humors; and the humors are inflamed either with or without putrefaction.

The name Ephemeros.

Thoſe Fevers which are ſuſtained by the heat of the Spirits and humours without putrefaction, are called *Ephemeræ* and *Humorales* without putrefaction: Thoſe which are kindled by putrifying humours are called putred Fevers.

That Fever which is cheriſhed by the kindling of Spirits,

is

is called by the Greeks, *Puretos Ephemeros*, by the Lattines, *Diaria* and *Ephemera*, by a name not taken from the nature of the diſeaſe, but from it's duration. In reſpect of the Eſſence thereof, it may be defined thus: It is a Fever ariſing from and depending on the heating and inflaming of the vital Spirits. *Definition*

The proximate cauſe of this Fever is the heat of the vital Spirits kindled contrary to nature, which being ſpread over the whole body through the arteries, heats the whole againſt nature. *The next cauſe.*

That heat is ſtirr'd up from all thoſe cauſes before mentioned in the ſecond Chapter, only except from putrefaction; which ſometimes immediately, ſometimes remotely, by means of the natural and animal Spirits heat the vital; to wit, perturbations of the mind, ſadneſs, fear, ſolitude, anger, over much watching, too much intentiveneſs of the mind; too much exerciſe of body, grief, hunger, thirſt, hot meats and drinks, drunkenneſs, crudities in bodies cholerick, heat of air, fire, hot Baths, retention of the hot *Effluvium*, inflamations of Kernels and Buboes, from the which heat alone without putred vapours is conveyed to the heart according to the vulgar opinion. Yet it ſeemeth not impoſſible but that thoſe putred vapours by the veins and arteries next to the part affected, may be communicated to the heart. And ſo theſe Fevers ſhould rather be Symptomatical then abſolute, putred then *Ephemeral*. *Remote cauſe.*

Thoſe that are hot and dry eaſily fall into this Fever, in whom many hot dry vapours are collected, which are eaſily inflamed by cauſes heating them more. *Diſpoſition of body.*

Amongſt the Signs by which this Fever is known and diſcerned from others, in the firſt place, *Galen. 1 de differ. Febrium* c. 7. ſaith, it beginneth from ſome procatartick or evident cauſe; which indeed is an inſeperable ſign, but not a proper ſign; for although a Fever that doth not ariſe from a manifeſt cauſe is not an *Ephemera*, yet every Fever which ariſeth from a manifeſt cauſe is not therefore an *Ephemera*. 2. Moreover the Urine in ſubſtance, colour, and contents, is moſt like unto the Urine of healthy men, or at leaſt recedes not much from them, which in an *Ephemera*, which proceeds from crudity, it uſeth to do, in which the Urine uſeth to appear more crude and whiter. 3. The Pulſe is neerer to a natural one, then in any other Fever; only that it uſeth to be extended in magnitude, celerity, and frequency. Yet in regard of the cauſe which occaſioned the Fever, ſome change *Diagnoſtick ſigns.*

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may be made in the Pulſe. 4. The heat of this Fever is gentle and weak in reſpect of other Fevers. 5. Nay in the very ſtate and height thereof it is ſomewhat more gentle and moderate. 6. This Fever invades without ſhakings, or tremblings; it's increaſe and augmentation in heat and pulſe is free and equal. 7. The declination is performed by moiſture, or moiſt evaporation, by ſweat like theirs who are ſound in health, which by a little exerciſe more then ordinary comes forth, and a perfect apurexſie follows that moiſture, ſo that after the declination no footing is left for the Fever, either diſcernable by Pulſe or any other circumſtances: And in caſe any footing be left, it is a ſign that it will turn into another ſort of Fever.

The cauſes are moſt perfectly to be known by the relation of the ſick, which may inſtruct the Phyſician whether from paſſion of the mind, exerciſe of the body, or any other evident cauſe this diſeaſe hath been occaſioned. Theſe cauſes alſo affords ſome ſigns of themſelves, which the Phyſician cannot be ignorant of.

Prognoſticks. Theſe Fevers are the ſhorteſt of all others, and continue not above twenty four hours: There is no danger in them, unleſs ſome error be committed, and for the moſt part they are conquered by nature, wherefore Phyſicians are ſeldom called to their cures. Yet according to the diverſity of their cauſes ſome are cured more eaſily, others with more difficulty. For thoſe cauſes which are hardly taken away, and the humours are apt to corrupt, a Fever introduced from ſuch, eaſily degenerates into a putred; which happeneth when it is extended above four and twenty hours, or no ſweat appears, and pain in the head be preſent and perſevere: And it degenerates either into a *Synocha* without putrefaction, if the body be youthful and plethorick; or into a putred, if the body be cacochymick, or into a Hectick, if the body be hot, dry, and lean. And the proper ſigns of thoſe Fevers ſhew into what ſort of them the tranſmutation will be made.

Indications. Moreover ſithence this Fever is a hot diſtemper of the whole depending on the heat of the Spirits inflamed: And ſeeing the heat of the Spirits, and the diſtemper thence introduced indicate cooling, yet if the cauſe exciting the ſame be ſtill preſent, that alſo ought to be taken away.

The Cure. Theſe Fevers are cured by good dyet, ſo that there is ſeldome any need of ſtrong medicines; the food therefore ought to be cooling and moiſtning, the meat of good juyce, and eaſie of concoction, principally cream of Barley, the reſt may be mixed with

with lettice, ſorrel, juice of Citron or Lemmon, Vinegar. The drink ſhould be barley-water, ſmall beer or ſmall white-wine: Yet if pain in the head be preſent, or that the Fever be occaſioned by anger, or from a bubo, then wine is to be refrained. The Ancients moſt frequently uſed Baths of warm water, but at preſent, neither the ſame induſtry is uſed in preparation of them, neither are men in our age ſo accuſtomed and diſpoſed to bathe.

Cure of an Ephemera from cloſure of the skin.

In the firſt place diligent care is to be had of that Fever Ephemeral, which ariſeth from the cloſure of the skin, or it's thickneſs, or crudity of the ſtomack, ſince they eaſily turn into putred Fevers. And an *Ephemera* which is cauſed by ſtoppage of the pores of the skin, ſince it comes to paſs rather from plenty of blood, then ill habit of body, in that a vein is forthwith to be opened, that the blood may be diminiſhed and cooled; but the thickneſs of the skin if occaſioned by cold or aſtringent things is cured by thoſe things that rarifie and open the ſame, by a bath of fair water luke-warm, ſoft rubbings, temperate and luke-warm oils, wherewith the body ſhould be annointed. But if the thickneſs of the skin be occaſioned by drying things, uſe moiſtening dyet, and the body ſhould be annointed with temperate and moiſtening oils.

From crudity of the ſtomack.

Laſtly, if the *Ephemera* proceed from crudity, ſince that is twofold, the one called Acid, which proceeds from diminution of heat, the other Nitrous, which is cauſed by preter-natural heat: If from Acid crudity, which ſeldom happens, the *Ephemera* proceed, and that crudity be leſs, ſo that meat may be reduced into a better ſtate, reſt and ſleep are to be occaſioned, and before ſleep meat of eaſie concoction in a ſmall quantity is to be taken, and the ſtomack to be comforted with hot oyls; But if the crudity be great, then the meat is to be ejected by vomit, or if the ſick be not apt to vomit, with a lenitive, he ſhould provoke a ſtool; before it be diſtributed into the veins he muſt then abſtain from meat, and the ſtomack both with internal and external medicines is to be comforted. But if the crudity be unſavoury or nitrous, 'tis to be corrected with cold things, wherewith if the concoction be not helped, the corrupt meat is either to be emitted by vomit, or to be purged by gentle medicines opening the firſt paſſages only, ſuch as are good againſt cholar, and as corroborate the ſtomack.

CHAP.

Chap. VII.

Of an Ephemera *of more dayes, and of a* Synocha *without putrefaction.*

An Ephemera of many days.

THere remains another kind of Fever, called *Ephemera*, to which that appellation doth not belong, because it is extended more dayes: Yet it can be referr'd to no other sort of Fever then this more conveniently; therefore although *Ephemera* should signifie the essence of the Fever, *Ephemera* is so called though with the addition of more dayes.

Such Fevers are those which no wayes differ from *Ephemeral* Fevers newly described, unless in durability, the cause of which is obstruction of cutanious vessels, which when they do continue stopped, an inflamation of the Spirits so long endureth until that cause cease. Moreover to these belong a *Synocha* without putrefaction, commonly called a Fever inflative, which is generated from the fervency of Spirits, and thinner blood without putrefaction.

Synocha without putrefaction.

Cause.

The cause of this Fever is the prohibition of the hot Effluvium, arising from obstructions or striction of the pores of the skin in a plethorick body.

This continues several dayes, namely, to the third or fourth day, neither can the plenty of vapours kindled, and exhaleing, which proceed from the blood, be discussed in one day, nor can the obstruction or astriction of the pores of the skin be opened in one day.

Diagnostick signs.

The Signs of a *Synocha* without putrefaction are the same with those of other *Ephemeraes*, only more evident: For the heat is somewhat greater then in the others; the skin is not dry but moist as it were, the Urine somewhat thicker and redder, the Pulse vehement, swift, frequent, full, great and equal; the face and whole body red and fresh, and as it were blown up; the veins swell and strut with blood, the head is heavy and respiration more difficult.

Prognosticks.

This Fever as the other Ephemerals is void of danger, and is dissolved by sweat or Hemeroids of the nose, within the fourth day, or if it be protracted longer, within the seventh day, so it be rightly handled. For unless it be rightly order'd 'twill degenerate into a *Synocha* with putrefaction, or into a Phrensie, Squincy, Plurisie, or some other perillous inflamation.

But when this Fever ariseth by the inflaming of the thinner blood

blood and Spirits in a plethorick body, occaſioned by the prohibition of tranſpiration, the blood offending in quantity is to be abated, the heat to be cooled, and the cloſed pores to be opened. *Cure.*

Therefore preſently a Clyſter being firſt given, or a lenitive medicine, a vein is to be opened, that the blood may be abated, fanned, and cooled, and better governed by nature: And in that more plentifully then in any other Fever you may bleed, yet ſo, as that the ſtrength may bear it.

As for things altering, *Galen* to cool the blood drinks cold water, and commands the ſick to drink as much of it as they pleaſe, which may be permitted in thoſe which are accuſtomed to ſmall drinks, and in whom no danger is to be feared by drinking the ſame, whether by reaſon of thick juices which the drinking of cold water may hinder the dividing of, or by reaſon of ſome weakenneſs in the bowels, by which they may be offended at the drinking of water: which unleſs ſeeing in our bodies we ſeldom need, we may rather uſe other coolers, ſuch as are *Oxymel* with water, water of *Chicory*, *Endive*, decoct of barley, juice of Lemmon or Citron, *Oxyſaccharum*, Spirit of *Vitriol*, and *Salt*, and the like cooling and opening things. And that the appertion may the more happily be performed, you muſt abſtain from ſyrrups and conſerves with much ſugar in them, unleſs they are much watered. If obſtruction of the pores of the skin be preſent, 'tis to be opened as I ſaid before.

Their dier ought to be thin and little, ſuch as hath force to cool and moiſten, principally a Ptiſan, the meat ſhould be ſavoured with juyce of Lemmon, Pomegranates, Gooſe-berries: Their drink ſhould be barley-water or ſmall beer. *Dyet.*

Fernelius 5. cap. of Fevers, makes mention of another ſort of *Synocha*, which is made by the kindling of the Spirits and cholerick humours without putrefaction, and which ariſeth from the ſame cauſes as an *Ephemera*, if it happen in a cholerick body, which opinion indeed may take place if it be meant of the thinner and ſubtiler part of the hotter blood, which ſomtimes uſeth to be called choler, but not if it be ſpoken of excrementitious cholar. *Synoch. Bilioſ. Fernal.*

The end of the firſt Book.

THE

BOOK II.

Of Putred Fevers.

CHAP. I.

Of Putred Fevers in General.

WHereas there is a two-fold ſort of Fevers, whoſe heat is inherent in the parts according to habitude, whereof the one hath it's riſe, and is continued by the kindling of the Spirits, and thinneſt parts of the blood, without putred humours, the other hath it's original from vapours and putred humours; of the former kind 'tis already ſpoken; The next buſineſs is that we handle the putred Fevers.

Putred Fevers. That there are putred Fevers many things ſhew; For neither is it diſſonant from the nature of humours, but that they may putrifie, ſince that may happen to every mixt body; and we ſee humours putrifie otherwiſe in mans body, as it happens in inflamations, wherein quitture is generated, as *Galen* in the 1 of the differences of Fevers, cap. 6. he compares the putridneſs whereby the humours putrifie in the brain, with that, by which Sanies is generated in the humours. And that they do actually putrify, ſufficient reaſons are given, which hereafter we ſhall propound, and the matter it ſelf ſhews that humours do putrifie in the veins. For both blood which cometh forth from breathed veins, and thoſe things which are evacuated by ſtool, Urine, ſweat, ſufficiently by their ſmell and otherwiſe, argue putridity of humours. And the way of cure proves the ſame, for 'tis not performed by things that alter, but evacuate humours, which is partly inſtituted by nature, partly by the Phyſician. For if humoral Fevers could be made without putrefaction, they might alſo be cured by altering things only. And indeed ſuch Fevers are not only malignant as ſome think, but the ſame ſigns appear and the ſame way of cure is exhibited to intermittent and continued, which are void of all malignity and peſtilency.

What Putrefaction is. *Ariſtotle. 4. Met. c. 1.* defineth putrefaction to be the corruption of the proper and natural heat in every moiſt body, by reaſon

ſon of external ambient heat, but by *Galen* 11 Meth.med.c.8. without doubt not ſo much regarding the common and adequate ſubject of putrefaction, as to mans body, ſubject to medicinal conſideration. It is (ſays he) a change of the whole ſubſtance of the body putrifying to corruption, by reaſon of extraneous heat; the ultimate end of putrefaction is the diſſolution of the parts whereof the mixt body conſiſts, and the corruption of the whole mixture.

How manifold it is,

That we may here paſs by the tedious diſputations which are extant amongſt Philoſophers and Phyſicians concerning putrefaction, this is to be taken notice of, that putrefaction in reſpect of the mixt body putrifying, the one, is according to the whole and perfect, whereby mixt bodies are plainly diſſolved into Elements, out of which they are bred: The other is in ſome part, and imperfect, whereby theſe which are full of moiſture, putrify. For ſeeing the moiſture wherewith it abounderh cannot wholly be drawn out, only ſome parts thereof, eſpecially the thinner are. And ſuch putrefaction, namely, according to parts, agrees to humors alſo; namely, when ſome particles of theirs are really corrupted, and they looſe their form: Yet the whole humour muſt not neceſſarily looſe it's form; thence it continues it's name, and thoſe corrupted parts being evacuated, it returns to its former nature; unleſs the corruption have ſo far gone, that mutation is made into another kind. Which putrefaction, is putrefaction indeed, and not alteration only. For although the whole be not corrupted, yet ſome parts thereof are really corrupted.

according to the whol

in ſome part.

The cauſe of putrefaction.

Putrefaction in a body is cauſed by extraneous heat, and when the humours are no longer governed by the natural heat, but are deſtitute thereof, they are corrupted. Therefore all things whatſoever which may be an occaſion to hinder the innate heat, ſo that it cannot in its due manner govern the humours, may be ſaid to be the cauſe of putrefaction of the humours.

Putrefaction of humours though oftentimes it be cauſed by obſtruction, and bowels, and prohibiting of free tranſpiration, ſince that, as *Galen.* 11. Meth.med.c.4. writeth, things hot and moiſt, in a hot and moiſt place not being fanned and cooled by wine eaſily putrifie: Yet putrefaction may be occaſioned without this, by the meeting with putred things, and other cauſes, which debilitate the native heat, and bring in an extraneous heat.

Default of humours.

Firſt, certain humours by reaſon of ſome internal defect, of their own accord tend to putrefaction, or at leaſt are eaſily overcome

come by ſmall cauſes of putrefaction, and having gotten the leaſt occaſion fall into putrefaction: Such vice humours contract firſt from bad meats, of the which they are generated, whether they are ſuch by nature, or any other wayes corrupted: Moreover by meats which are eaſily corrupted, ſuch are fruits rare-ripe. Thirdly, from the ill dreſſing of meats, or ill concoction, or when they are taken in exceſs, or at unſeaſonable hours, or after a prepoſterous manner. Fourthly, by the default of the parts appointed for concoction, by reaſon whereof even the beſt aliment may be corrupted. Laſtly by reaſon of other cauſes which either impede concoction, or retain excrements, as alſo the prepoſterous uſe of the ſix Non-naturals. Therefore by how much the more of ſuch humours are cumulated in the body, by ſo much the more eaſily they putrify. For nature doth not defend excrementitious humours ſo carefully as thoſe which are fit to nouriſh the body; whence they are eaſily corrupted and putrify. Blood alſo out of the veins, being out of it's natural place, and of a hot and moiſt nature eaſily is corrupted. But although ſuch humours turn to putrefaction of their own accord, and being in a hot and moiſt place; yet it happens ſooner if any other cauſe be added. Nay good humours alſo in a ſound body if they are the cauſe in poſſe of putrefaction may become putred.

Tranſpiration hindred.

Amongſt all theſe cauſes the firſt and chiefeſt is the hinderance of tranſpiration and ventilation, whether it happen by ſtraitnes of the pores of the skin, or by obſtruction of veſſels & paſſages in the more inward parts of the body. For hot and moiſt things in a hot place unleſs they are ventilated, eaſily putrify. Narrowneſs of pores is occaſioned either by conſtriction from cold, or aſtringent things, or drineſs, as ſtaying under the Sun-beams; or by Obſtructions, which either plenty or vicoſity, or thickneſs of humours brings forth. Moreover the internal paſſages are ſtopped, either through ſtore of blood over-flowing in the body, or plenty of it contracted up and down in many parts, or by the thickneſs and viſcouſneſs of humours.

Cauſæ califacientes.

Secondly, thoſe things cauſe putrefaction, which can kindle preter-natural heat in humours, and call out the native heat; in which number is the Fever *Ephemera*, which for this cauſe is often changed into a putred in hot and moiſt bodies: Moreover the other cauſes heating, as hot air, a hot bath, too much exerciſe of body and mind

Meetings with putred things.

Laſtly, the meeting with putred things, ſeeing that which is touched by what is putred, is defiled and putrifieth

From all which it is manifeſt, that a putred Fever is ſhort, having

having it's riſe from hot vapours ſtirr'd up by putred humours, and heating the heart, and thence the whole body againſt nature.

Chap. II.
Of the differences of putred Fevers.

The difference of putred humors.

Although there are many differences of Fevers, nevertheleſs thoſe which are neceſſary to be known for the performance of their cure, are taken either from the matter putrifying, or the place putrified.

For firſt either ſolid parts putrify, or humours, or even the Spirits themſelves; concerning which it is controverted as in it's own place ſhall be ſhewn. Humours that putrify are as well natural as preter-natural: And thoſe of every kind, blood, Phlegm, choller, melancholy; which both the variety of thoſe things which are evacuated by ſtool, vomit and ſweats, and the difference of Symptomes which happen in Fevers doth ſhew, moreover the diverſity of cauſes which went before it, whereof ſome generate this, ſome that humour, and moreover ſome afford matter for this, other for that humour. And the humours either ſimply putrify, or a malignant venemous quality and contagion is joyned with it. Furthermore the place wherein the humours putrefie is not alwayes the ſame; For ſometimes the humours putrefie within the veins and arteries, ſometimes without them. And that putrefaction which is within the veſſels, is either equally in all the veſſels, or in the greateſt, or in certain parts of a vein.

Whence theſe differences of Fevers do ariſe. Firſt, ſome Fevers are ſimply putred, without any malignity or contagion, others malignant, peſtilent, contagious. Moreover ſome Fevers are continual, others intermittent, according as the putred vapour which is the cauſe containing of putred Fevers, or heat ſtirred up by putred humours either continually heats the heart, and from thence is diffuſed over all the body, or by certain intervalls.

Of either of which kinds of Fevers there are again many differences; For either the putrefaction is kindled in the common veſſels, and not in private paſſages, whence ariſe continued Fevers, called Primary: Or the putredity comes by the inflammation of ſome peculiar part, and from thence putred vapours are continually communicated to the heart, which Fevers are called Symptomatical.

Primary continued again are two-fold, for ſome have no augmentation,

mentation, nor remiſſion, which they call Fevers containing, or fiery *Synochaes*.

Others are continued, yet there is ſome increaſe of heat, and ſometimes remiſneſs, which are called *Synochaes*, and by the general name of continual Fevers.

The continual for the time of their increaſe and decreaſe of heat, ſome are called tertian, others quotidian, others quartan, according as the heat is exaſperated, dayly, each other day, or the fourth day likewiſe.

Intermitting alſo according to the time of their invading, ſome are called, tertian, others quotidian, others quartan. Nay it is obſerved that there are Fevers that have a longer diſtance between the Paroxiſmes.

Chap. III.

Of the ſignes of putred Fevers in general.

The Diagnoſticks.

A Putred Fever is known. 1. From it's heat, which is more gnawing and acrid, then of any other Fever, and that in the increaſe and ſtate. For in the beginning of fits, th: heat doth not at the firſt touch of the Pulſe diſcover it's acrimony, but if the hand be continued longer it may be perceived, which proceeds from fuliginous vapours which exhale out of putred humours. 2. Becauſe it begins without any manifeſt cauſe. Which indeed is a proper ſign, but not an inſeparable one, for as often as any Fever is kindled without any manifeſt cauſe, you may well determine it to be a putred Fever: Yet ſometimes humours are ſo diſpoſed to putrefaction, that upon any light occaſion they'l become putred. 3. Urines in putred Fevers either are crude or elſe at leaſt afford but obſcure notes of concoction, unleſs an *Ephemeral* be degenerated into a putred Fever, otherwiſe there is no putred Fever wherein the Urine in the beginning doth not appear crude or obſcurely concocted. 4. The pulſe is more changed then in other Fevers. 5. Putred Fevers begin with a cold ſhaking. Which is a proper, but not an inſeparable ſign. 'Tis a proper ſign becauſe neither Diaries nor Hecticks do ever begin with cold ſhaking; yet it is not inſeperable, becauſe all putred Fevers do not begin with a cold fit, as a putred *Synocha*. 6. It is the property of putred Fevers to return by fits and Paroxiſmes; and no other Fever hath fits. Yet this is not an inſeperable ſign, becauſe it doth not agree with all putred Fevers. 7. Laſtly, if any ſign be preſent which is proper to any ſort of putred Fevers, 'tis a ſign it may admit of the general appellation of a putred Fever.

Concerning

Concerning the event of putred Fevers in general not much can be ſpoken, ſince there is great variety and difference of putred Fevers, and the event various: Only this, that the event is beſt to be known by comparing the magnitude of the diſeaſe with the ſtrength of the Patient; For if the patient be very ſtrong, there is much hope of a good end of it, if the party be weak, there is great danger. *The Prognoſtick.*

Chap. IV.

Of the cure of putred Fevers in general.

NOw ſeeing a putred Fever is cheriſhed by the cauſe containing, Indications in putred Fevers are taken ſome from the Fever it ſelf, others from the cauſe thereof. Nor indeed ought vital indications to be neglected. Firſt, a Fever as it is a Fever, indicates cooling things; Moreover as that heat of the whole depends on a hot putred vapour, as on the cauſe containing, the removal of that is alſo indicated; but becauſe putred vapours depend on putred matter, they cannot be removed, unleſs the matter putrified be taken away; putrefaction cannot be taken away except its cauſe be removed, as we ſaid before. Firſt, all evident cauſes which are preſent are to be removed; the antecedent cauſes and whatſoever is in the body, either of ſuperfluous blood or peccant humours, they are to be prepared. and if occaſion require, to be evacuated, ſtreightneſs of paſſages if it be external or interal in the bowels, they are to be opened and free ventilation and reſpiration for the humours is to be procured, Putrefaction is to be reſiſted, and the putred humours are to be cooled and dryed; the generation of peccant humours, by ablation of their cauſe is to be prevented. Yet nevertheleſs ſeeing that theſe indications are often contrary, and that thoſe medicines which are adminiſtred for the cauſe, may make the Fever worſe, and the contrary. We muſt be careful how to perform theſe intentions. And for the moſt part, ſince the Fever comes laſt, the cauſe is to be taken away firſt, ſince the cauſe hath more power then the diſeaſe, and the cauſe of a putred Fever being taken away, the Fever of neceſſity ceaſeth. *Indications in putred Fevers.*

Yet if the greatneſs of the Fever inforce, 'tis neceſſary to have regard of the Fever firſt; and afterwards to the taking away of the cauſe; or certainly if we may firſt go to the taking away of the cauſe, we ſhould be very careful that by thoſe things by which we take away the cauſe, we increaſe not the Fever. But thoſe

things are never to be uſed for the cure of the Fever, which increaſeth its cauſe, ſince that for the moſt part that is of greateſt force.

Chap. V.

Of breathing of a vein.

Letting blood.

NOw for the cure to be performed by theſe intentions, and firſt concerning Phlebotomy. *Galen* 11. *meth. medendi. cap.* 15. gives this rule. It is moſt wholeſome he ſayes in all Fevers to open a vein, not only in continued, but alſo in all others which the putrifying humour ſtirreth up, eſpecially when neither age nor want of ſtrength prohibites it. And he addeth this reaſon; For nature which rules our bodies being enlightned, and unburthened of that by which as with a pack it was oppreſſed, what remains, it will overcome without difficulty, and therefore not being forgetful of its proper office, will both concoct what can be concocted, and caſt out what may be emitted. Yet this precept of *Galen* is to be rightly underſtood and explained. For although there are many occaſions for opening a vein, and Authors cannot agree about the reaſon why *Galen* commands Phlebotomy in putred Fevers: Yet 'tis clear he did it, that by evacuation of the blood, nature might be enlightened and freed from the greateſt part of her burthen, for when blood abounds, the opening of a vein, and purging of Cacochymy are the beſt remedies; furthermore when it is a plethorick body, without doubt we ſhould open a vein. In ſome meaſure the breathing of a vein, doth take away the cacochymy contained in the veins, and mixed with the blood, ſince the vein being opened, the vitious humours go out with the blood, eſpecially becauſe purgation which can take away foul humours out of the veins, is not ſo ſafe as the breathing of a vein to be appointed at the beginning of a Fever. For although Phlebotomy cannot take away all the ill humours out of the veins, yet nature is leſſned ſome part of her burthen, and therefore can concoct and maſter the remainder the more eaſily, for it may be that the plenty of blood, which before the ſickneſs was no trouble to the party, now being ſick and weakened with a Fever, may become burthenſom unto him. And although ſome good blood be emitted therewith, yet that hurts not the ſick, but rather helps, as is ſaid: As we alſo ſee by critical Hemorrhodes, that nature ſends out no ſmall quantity of good blood together. Yet nature for the moſt part uſeth to drive

Whether, when, and why to be done in a putred Fever.

drive no ſmall part of peccant humours to the extream and ſubcutaneous parts; thence and in the firſt place moſt commonly the worſt blood comes firſt out. Whence it is manifeſt eſpecially in continual Fevers, in thoſe who abound with blood, or have peccant humours mixt with their blood, that bleeding is proper, and that at the beginning, that nature may be unladed of part of her burthen, but if vitious humours are not intermingled with the blood in the greater veins, the breathing of a vein for evacuation thereof is not to be uſed.

Cooling and fanning the blood is performed by letting blood: but they are only to be done when bleeding will not cool it alone.

Rules allowing Phlebotomy.

We are not only to obſerve whether bleeding be needful, but alſo whether the party be ſtrong enough to ſuffer it; when the ſtrength of the vital faculty is principally to be required, ſo that the ſtrength do not languiſh by too great ſtore of blood ſuffocating the Spirits, Age, Habit of body, and condition of the ambient air ſhew the ſtrength.

The quantity that may be taken.

But how much blood is to be taken away; firſt by the plenty of blood, then by comparing the ſtrength of the Patient with the greatneſs of the diſeaſe, will be manifeſt; for greater quantity requires larger emiſſion, leſſer, leſs; robuſtious bodies require larger breathings of veins, weaker require leſs. The ſtrength varies according to temperament, habit of body, age, ſex, ſeaſon of the year, the condition of the Heavens, and the Region, as alſo in regard of certain Symptomes, which uſe to be accompanied with Fevers, as of watchings, pain, and ſuch like.

The time.

As for the time for letting blood, 'tis to be done when 'tis indicated, and no way prohibited; which is in the beginning, and by how much the more the diſeaſe haſtens to increaſe, ſo much the ſooner blood is to be taken away, but if the concoctions are more dull and ſlow, Phlebotomy may be deferr'd longer.

The place.

Veins that are opened for evacuation are beſt in the middle of the arm; yet if the ſick be weak, and that alſo revulſion is to be made from the head, the veins in the foot are to be opened to the greateſt benefit of the ſick.

CHAP. VI.

Of Purging.

Purgation

BUt becauſe all putred Fevers have their original from foul humours: Now we are to conſider by what means they may

be evacuated, but ſeeing thoſe things which evacuate them are twofold, Lenitives and Purges, properly ſo called: Lenitives are ſafely to be adminiſtred in the beginning of all putred Fevers, becauſe there are ſcarce any bodies wherein the ſtomack, guts, and Meſaraick veins contain not ſome of the peccant humours.

Clyſters. Theſe evacuations are to be cauſed by Clyſters, called looſening medicines, and by vomit. The Clyſters are made of Mallows, Marſh-mallows, Violets, Pellitory, Beares-breech, Mercury, common Oil, or mixt with Violets, brown Sugar, Caſſia, Elect Lenitive, Diacatholicon Hiera, and ſuch like.

Lenitives. Or thoſe lenitive medicines may be given which are at this day in uſe: Syrrup of Roſes ſolutive, of Violets ſolutive, Honey of Roſes ſolutive, Tamarinds, Caſſia, Manna, the lenitive Electuary ſimple, Cream of Tartar.

You muſt uſe ſuch medicines at the times of remiſneſs and intermittings, when the Fever leaſt offendeth, whether it be early in the morning or in the evening.

Sometimes alſo in the beginning of Fevers you may adminiſter a vomit; when great ſtore of matter is contained in the ſtomack and adjacent parts, whereof no concoction can be expected, the which uſeth to corrupt and putrifie in the body, and oftentimes that is eaſily vomited out, which with great difficulty is purged out.

Vomits. The Vomits are ſet down in the fifth Book of the *Inſtitutions part.* 1. *Sect.* 1. *cap.* 12. Some give at this day the roots of *Aſarabecca*, from half a drachm to a drachm. The Chymiſts uſe white Vitriol, Salt of Vitriol, Medicines prepared of Antimony; which do not open only the firſt paſſages, but ſtir the whole body: Theſe are to be uſed with much caution, and as *Hippoc.* 1 *Aphor.* 24. Not without skilful advice.

Purging medicines. Concerning Purgers at what time they are to be uſed, there is great controverſie; for although vitious humours at any time during the diſeaſe, ſhew that they ought to be taken away; Yet they ought not to be evacuated at any time, but inſtead of an Oracle, *Galen* admoniſheth four of preſervation of health, *c.* 5. the Aphoriſme of *Hippocrates* is to be had in eſteem, 22. *Sect.* 1. Such as are concocted and ripe, ought to be purged and removed, not crude; neither in the beginnings, unleſs the matter trouble much, which ſeldom cometh to paſs. But although ſome interpret this Aphoriſm otherwiſe, yet if it be diligently conſidered, 'twill be manifeſt, that *Hippocrates* meant to ſpeak only of putred Fevers, and of no other diſeaſe, and by crude humours intends thoſe that by reaſon of their putrefaction in putred Fevers

ought

ought not to be purged, being unfit; by concocted he intends such as are fitting to be purged: The words crudity and concoction, being translated from their proper signification of crudity and concoction to excrementitious humours.

Concoction of humors.

Although there are certain other preparations of humours for purgation both in Fevers and out of Fevers: Yet the name of concoction belongs not to them, and we must distinguish betwixt concoction and preparation of humours. Concoction, whereof *Hippocrates* speaketh, is a reducing of the putred humours into a better condition, and less obnoxious to the body, and a separation of them from good blood, that they may the more profitably be evacuated out of the body; hence concoction belongs only to humours, which are contained in the Veins, and mixed with the blood, but those that are in other places, and not mixed with the blood, may be purged at any time. For these humours unless they are reduced to a certain mediocrity as they are capable of, and are seperated from laudable blood, the Physician in vain, and with much detriment to the sick, endeavours to expell them by purging. For neither will the humours follow the foregoing medicine, neither hath the Physician nature for his assistant, since the matter is only stirr'd and troubled, and various Symptomes arise; either the strength is weakned by the violence of a strong medicine, or the native heat is consumed and weakened.

Flatulent humours.

Yet flatulent humours may be purged without concoction; For although these are not as yet concocted, yet because there is not only danger lest they should fall upon some principal part, but also because being thin, and already in motion, they easily follow their leading medicine; and the Physician hath nature to assist him, which alone sometimes expells such humours at the beginning, to the great advantage of the sick. But by flatulent humours here, we are not to understand only those which hitherto are moved to no determinate part, but also those which although they rush into some part yet they are still moveable, and so disposed, that they'l easily remove into another part, and according to their manner, are hitherto wandring, but have not any fixed seat any where.

Concoction, whereof we here speak, is the work of nature only, which when 'tis strong, gives what perfection they are capable of receiving, even to the vitious humours, as may be seen in the generation of quitture; and this concoction is made only in putred Fevers For whilest the humours ferment in the veins, like new wine, and the good and bad are mixt together,

and cannot eaſily be ſeperated: They are called crude, but when the humours are appeaſed and cooled, and the good may eaſily be ſeperated from the evil, they are ſaid to be concocted.

Chap. VII.

Of Concoction and Seperation of humours.

Digeſtive medicines.

Although the concoction of humours be the work of nature only. Yet a Phyſician may help her by his medicines, which may either cheriſh and ſtrengthen the native heat, or take away impediments which may hinder nature in concocting, and reduce the exceſs of qualities to mediocrity. And medicines of the latter of theſe two kinds are called Digeſtives and Concoctives, namely, ſuch as cool the hot humours, heat the cold, moiſten the dry, attenuate the thick, incraſſate the thin, and if there are any other exceſſes of qualities, reduceth them to mediocrity.

Concocters of cholerick humours.

So Cholerick humours becauſe they are hot to be allayed, and tempered with cold medicines, and their tenuity if too much, to be reduced to mediocrity, and its power of inflaming to be prohibited. Theſe perform this, Chichory, Endive, Sowthiſtle, Garden-Endive, Sorrell, Burrage, Bugloſs, Violets, Barley; the greater and leſſer cooleing ſeeds, the juice of Lemmon Pomegranates, Gooſe-berries, Vinegar, Spirit of the ſalt of Vitriol, and medicines prepared of theſe.

Phlegmatick.

Phlegmatick humours becauſe they are thick and dull, require attenuating, and cutting medicines; ſuch are the opening roots, Hyſop, Bittony, Agrimony, Venus-hair, Vinegar, alſo Spirit of Vitriol.

Melancholy.

In a Melancholly humour, attenuating medicines are alſo uſeful, but ſuch as moiſten withal: Such as are Burrage, Bugloſs, Polypody, Cæterach or Spleen-wort, and ſuch like.

Reſiſting of putrefaction.

But becauſe in all theſe Fevers, corruption of humors is preſent, thoſe things which reſiſt putrefaction are alſo neceſſary, ſuch are Vinegar, Juice of Lemmon, Citron, Pomegranates, Sorrel, Spirit of Salt of Vitriol.

And thoſe things which are ſpoken about concoction and crudity of humours, principally take place in continued and acute Fevers, which is manifeſt from *Hippocrates*, who 1. *Aph.* 24. adjoynes, In acute diſeaſes ſeldom, and about the beginnings, purging is to be uſed, and that with diligent premeditation, and 2 *Aphor.* 29. In the beginning of diſeaſes if ought be

be to be moved, move it; but when it flourishes 'tis best to be quiet, namely, if the matter swell big in acute diseases, presently at the beginning 'tis to be evacuated, but if not, a concoction is to be expected, which nature alone performing, very often useth to expell vitious humours, which if it be not done, the Physician useth to do it: The same crudity and concoction is required in intermitting Fevers, for since their causes are scituated in the Mesaraick veins, and the Mesaraick veins contain and elaborate blood of their own accord, if peccant humours be any where mingled with that blood, and begin to putrefie, crudity is said to be present: But when those humours are so conquer'd by nature, that they may easily be seperated, concoction is performed.

Although in intermitting Fevers in every fit some of the peccant matter be evacuated, yet notwithstanding the humour, which is the fuel of such Fevers, is not first taken away before the concoction be performed, and the bad are seperated from the good: That which in quartanes useth to be long in doing; For although each Paroxism some may be expelled, yet as *Galen. 2. of the difference of Fevers. cap.* the last teacheth, superfluities in the part wherein the fewel feeding the Fever is contained being left behind, cause new fits, and purgation is appointed in vain before the humour be concocted and rendred fit to be purged, whereof shall be spoken amongst the intermitting Fevers.

Preparing of humors.

But besides this concoction and preparation of humours, there is yet need of other things, which when the humours are concocted, are to be exhibited: For considering purgation that it may be happily used, the passages ought to be open and the humours fluid, if the passages are obstructed, and thick sluggish humours be present, the wayes through which the humours ought to pass are to be opened, and the humours to be cut and taken away,

Chap. VIII.

Of Sudorificks and Diureticks.

Causing sweat.

But because nature for the most part expells the concocted matter by sweats, so that almost no Fever without them ceaseth and is well cured. The Physician ought to imitate nature, and the body being evacuated, to discuss the remainders by sweats: The Sudorifiques that at this day are in use, are,

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Carduus benedictus, Scabions, Fumetary, Tormentill, Zedoarie, Harts-horn, Elder, Bezoar-ſtone, Methridate, and ſuch like, but no ſudoriferous medicine ought to be adminiſtred, if any Criſis by ſtool, vomit, or Hemerrhodes at the noſe be extant, leſt nature ſhould be diſturbed in it's work. They are moſt conveniently exhibited at that time, when nature her ſelf uſeth to remove humours, which happens either before any paroxyſm, or at the end thereof.

Urine provoked. By Urine alſo ſometimes part of the fevouriſh matter is evacuated, and therefore Diureticks after other evacuations are to be appointed, and the moſt temperate amongſt them are to be choſen, which together attenuate the humours, and free the paſſages from obſtructions, as Maiden-hair, Sparagus, Agrimony, &c. But thoſe things which are cold, may timely be uſed alſo, ſince they correct the hot diſtemper of the humours and parts.

Chap. IX.

Of Diet in putred Fevers.

Dyet. Laſtly concerning dyet, and firſt, of meat and drink, not only regarding the uſe of them, for the comfort and refreſhment of our ſtrength, but in reſpect of what is to be permitted, and what prohibited; for when nature is moſt buſied in concoction and evacuation of matter, ſhe ought not to be called from that work to the concoction of meat, hence *Hippo.* 1. *Aphor.* 8. When the violence of the diſeaſe is great, dyet is to be uſed moſt ſparingly, and ibid. *Aphor.* 11. In the Paroxiſm it ſelf, food is to be taken away; for it affords miſchief: and when by circuit the Fever returns in the fits we ought to abſtain.

Form of Diet. In the adminiſtration of dyet in Fevers, we are to obſerve, form, quantity, quality, and time. The form of dyet is threefold, thick, indifferent, and thin. Which of theſe are moſt proper for every one, is to be collected by comparing the ſtrength of the ſick with the morbifique cauſe; neither ought we to give more meat then the ſtrength can concoct: and we ought to conſider whether the ſtrength do more require food, or the diſeaſe forbid it, or the contrary: for by how much the buſier nature is in oppugning the morbifique cauſe, by ſo much the leſs ſhe ought to be burthened with food: She is by ſo much the more buſied in oppoſing the diſeaſe, by how much the paroxiſm is neerer at hand, hence *Hippocrates* 1. *Aphor.* 8. When the diſeaſe is in it's vigour, then 'tis neceſſary to uſe the thinneſt food,

food, and 1. *Aph.* 7. When the diſeaſe is peracute, there are extream labourings; and at height, the thinneſt nutriment is to be taken. But when 'tis not at height, and that we may uſe more nourithing things, by ſo much is to varied from the thinneſt of all, by how much the diſeaſe is remitted and abated, and ibid. 10. Thoſe who expect the vigour forthwith to come, ought preſently to take a little nouriſhment. They who expect it afterwards much, and ſhould both in the vigour of it, and a little before it, abſtain. But before-hand the ſick ſhould be more plentifully nouriſhed, that he might be the better able to endure the diſeaſe. But how dyet is to be moderated according to the ſtrength, *Hippocrates* teacheth, 1 *Aphor.* 9. We ought to conjecture by the ſick, whether he can hold out to the vigour of the diſeaſe by the preſcribed dyet or not, or whether he will firſt faint, and being inſufficient with ſuch food, ſh uld dye before the diſeaſe depart and be overcome. And 1. *Aphor.* 13. Old men that are not decrepid eaſily endure to faſt, according to theſe, middle aged men, young men leſs, children leaſt of all; and amongſt them eſpecially ſuch as are endued with the choiceſt and moſt acute wits: Cuſtom alſo and courſe of life is to be conſidered in preſcribing of dyet.

The quantity of meat alſo is to be conſidered by comparing of the diſeaſe with the ſtrength of the ſick: For ſince that we muſt never give more food then can be concocted at the time when nature is moſt buſied in oppoſing the morbifique cauſe, the leaſt quantity of food is to be taken, which is in the height thereof. *Quantity.*

Concerning the quality of meat, ſince it is to be conſidered either as it is meat, or as it is medicinal meat, in the former reſpect thoſe meats are to be choſen that are of eaſieſt concoction, full of good juyce, facile to be diſtributed, and which hath the leaſt excrements: But if it be conſidered as Medicinal, Firſt, it ought to be contrary to the Fever, and therefore it ſhould be cold and moiſt, 1. *Aphor.* 16. moreover it ſhould be repugnant to the cauſes, and all exceſs of qualities in them. *Quality.*

The time for food is moſt proper when 'tis indicated, when the body requires nouriſhment, which is when the former meat is concocted, and no ſign is preſent, which may prohibit the taking of it, to wit, no combate betwixt nature and the diſeaſe; therefore during the fits, we ought to abſtain. 1. *Aphor.* 11. unleſs the ſtrength be much decayed and ſpent. *Time.*

Care alſo is to be taken what drink is fitteſt in Fevers, for although it be eaſier concocted then meat, and by it's cooling it mitigates *Drink.*

mitigates the heat, and the drineſs is hindred: Yet we are to be careful that nature be not burthened with it, and the concoction of matter hindred by it, and therefore in intermitting Fevers during the Paroxiſm, we ſhould abſtain from drink as neer as we can: But in continued Fevers, when heat, thirſt, and debility of ſtrength do require, you may give more drink; but ſithence drink is to be conſidered, not as drink only, but as medicinal, hence it comes to paſs, that at certain times, certain drinks are to be choſen. Drink conſidered as drink, ought to be given according to the rules for meat: But as it is conſidered as altering, by how much the dry heat is more intenſe, by ſo much the more, hotter drinks are to be avoided, and the colder to be choſen. Yet regard is to be taken of the cauſe, and oftentimes there will be need of attenuating and abſterging drinks, and not of cooling only; and the matter being deeper faſtened in the part, admits not cooling drink. The drinking of cold water is only uſeful in acute Fevers, 'tis never proper in intermittent. Fair water is often altered with barley, which is called a decoction, and barley-water. Inſtead of drink, Juleps are alſo exhibited, water mixed wih Honey, Oxymel, Emulſions, Whey, ſtrong beer, wine. But ſeeing certain drinks for certain Fevers are moſt convenient, we may more properly handle them ſeverally amongſt the different kinds of Fevers, of which ſorts are peculiar for ſuch a particular Fever then in general to treat thereof.

Air. The air in all Fevers ought to be pure, cold rather then hot, yet ſo temper'd, that the drawing in thereof may rather allay the fevouriſh heat, then meeting with a naked body, cauſe it to ſhut its own pores, which hinders the diſcuſſion of vapours and ſweats, and therefore the ſick is to be covered with outward garments, but ſuch as are light, that ſo the heat may be drawn to the outmoſt parts of the body.

Sleep, reſt. Excrements, paſſions of the mind. Sleep ought to be moderate. Reſt in putred Fevers is moſt advantagious: Excrements ought not to be retained beyond meaſure, but to be ejected in due time. The paſſions of the mind ought to be at peace, and ſadneſs, and anger are to be avoided.

CHAP.

CHAP. X.

Of the differences of putred Fevers.

HItherto we have ſpoken of putred Fevers in general, it remains that now we ſpeak of them particularly. Firſt their differences are a little more cleerly to be explained. And they are taken cheifly from the matter putrifying, and the place of putrefaction. *The differences of putred Fevers.*

As for the matter, Fevers ariſe either from choller, or phlegm, blood or melancholly: To which not without reaſon is added a ſerous humour, eſpecially that Ichor, which is very evil, eaſily obnoxious to putrefaction, and cauſeth the blood and other humours to putrefie more eaſily. Whence ſome are of opinion that Ephemeral Fevers, which commonly are ſaid to ariſe from Spirits kindled, do all proceed from the ebullition of the ſerous part of the venous or arterious blood: And much more a *Synocha* without putrefaction; although the vital Spirits being heat may firſt allure the heat to the ſerous humour. The ſame ſhew that all *Synochaes* or Fevers containing, as they are called, which have no periods, as well putred as not putred, do ariſe from the ſame aqueous and ſerous humour, whether putrefying or not putrefying; whereof the Tract of Fevers may be ſeen. *From the matter.* *A ſerous humour.*

Thoſe Fevers which proceed from blood do all keep a certain continuity and equality; and are neither exaſperated daily, nor each other day, nor the fourth day, but thoſe which do ariſe from Phlegmatick, chollerick, or melancholy humours, all have their periods, whether they are continued or intermittent. *From blood.* *Phlegm.* *Choller.* *Melancholy.*

Beſides theſe there are other Fevers, which although they are exaſperated, yet have no certain periods, ſuch are thoſe which ariſe from inflammation, putrefaction, worms, corrupted milk; as in Infants, blood out of the Veſſels, chyle, and blood imperfect, puttefying in the Meſaraicks. *From other cauſes.*

The matter whereof putred vapours are bred in Fevers, is either contained within the veſſels or without. The veſſels which carry the perfect blood, as the vena cava, and the arteries, or the more imperfect, as the Meſeraick veins. Whileſt blood putrifies in the vena cava, there ariſe continued Fevers, whereof ſome are called *Synochaes*, or containing Fevers, others continued inſtead of a genus and periodick continued. If excrementitious humours putrefie in the Meſaraicks, intermittent Fevers are ſtirred up, but if imperfect blood putrifie in the Meſaraick veins, *From the place.* *within the veſſels.*

veins, continued Fevers are raiſed, but calm ones.

Without the veſſels. Putrifying matter without the veſſels, ſending putred vapours to the veins and arteries, kindles continued Fevers. Such are firſt Symptomatical, which proceed from inflammations of certain parts. Moreover calmer Fevers, which proceed from the ſtubborneſs of the guts and their obſtructions. Thirdly, thoſe that are cauſed by an Ulcer, Fiſtula, and all putrefaction. Fourthly, from corrupt milk, as in Infants, from blood putrefying without the veſſels, alſo the matter of Catarrhs, whence they are called Catarrhal Fevers.

Fevers accompanied. Laſtly, there are Fevers called *Comitatæ*, or Companions, which are occaſioned from matter putrefying in the veins, part whereof when nature either expells out of the body, which happens in a Diarrhæa, Dyſentery, and a Catarrh, or protrudeth into ſome part, which happens in the Meazles, Small Pox, Stragling pains, Quinſey, Peripneumonie, Phrenſie, Eriſipelas, ottentimes. Another diſeaſe then accompanies the Fever.

Chap. XI.

Of a continued putred primary Fever, and firſt of a Synocha *in particular.*

A primary continued Fever. NOw concerning putred Fevers in particular, and firſt we will handle a primary continued Fever: A primary continued Fever is that which comes not to apurexie before it be plainly taken away; and hath its riſe from putred humours contained in the greater branches of the vena cava and arterie. For ſince that thence putred vapours are continually ſent to the heart, a continued heat is alſo cauſed, thence until it fully be cured there is no abſence of fire, neither doth it return by intervalls, with tremblings and ſhaking fits.

Primary continued Fevers are two-fold, Some without any remiſſion or exacerbation of the heat, continue from the beginning to the end: But there are others, wherein the heat before the Fever be throughly cured, doth never totally depart, yet at certain periods is increaſed. The former are called fiery *Synochaes*, and Fevers containing; the other are called *Synoches*, or continued, inſtead of a genus.

A putred Synocha. The Fever *Synocha* putred, is a Fever, which without any ſlacking or increaſing afflicteth from the beginning to the end, ariſing from putrefaction of the blood in the greater branches of

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the vena cava. Although continued Fevers may arise out of vessels of determinate parts, yet such are Symptomatical: And if they are true Synochaes, which have their original from the default of any part, as from the womb offending: Yet that part only affords an occasion, the polluted, putredity being communicated, that the blood in the greater vessels might corrupt. But there are Fevers risen from determinate parts, for the most part continued Periodicks.

So sometimes peccant matter in the first passages collected in the first concoction, which useth to go to some of the humours, which at certain Periods are moved, and hath not as yet received its limits for motion, it useth then to corrupt the humours, and communicate putrefaction to the vena cava, which Fevers for the most part are malignant.

The cause.

A putred *Synocha* hath its original for the most part from transpiration hindred, and want of ventilation of the blood, and hot fuliginous retentions, by reason of obstruction of veins, as well in the skin, as also in the internal parts. And the blood appointed to nourish the body putrifies in these *Synochaes*, and putrefying, continually sends hot vapours to the heart. For when preter-natural heat is so kindled in the veins, that nature can no longer rule it, it becomes putred and is corrupted. Nor is there any need that the putred blood should be turned into another humour presently. For blood of its own nature is apt to putrefaction, and in inflamations we see it changed to quitture, not into choller; though nothing hinder it in the veins but that it might: And especially the Ichor or thin watery part of the blood is apt to turn to putrefaction, and by reason of the Ichor the blood in the first place is corrupted, which happens, when the vapours which ought to transpire, are retained in the veins. Yet the whole blood doth not putrifie, but some parts thereof, which so long as they are not seperated from the good blood, crudity is said to be present, which afterwards by concoction are seperated from the good blood, which being done, Nature appoints evacuation, by which the blood returns to its former purity again.

Differences.

A *Synocha* is three-fold, *Acmastick*, i. e. when it remains alwayes in the same state, namely, when so much of the humour daily putrifies as is discussed, this is called also *Homotonos*. *Epacmastick* or *Anabaticos* is when the heat continually increaseth, and more of the matter is kindled then can be discussed. *Paracmastick* is when there is more discussed then corrupted, and thence the heat alwayes decreaseth. Furthermore if blood which

putrifies

putrifies be temperate absolute, 'tis called a sanguinious *Synocha* in particular: But if it be hotter, which useth to be called cholerick, the disease is then called *Synocha biliosa*.

Diagnostick signs. The Fever is known first by this, that it continues from the beginning to the end without any exasperation and mutation. Moreover because the Pulse is great, vehement, swift, frequent, unequal and inordinate. And in a *Synocha* proceeding from temperate blood the signs of Plethory are present: The blood to him that toucheth seems much and full of vapours, and is not so troublesome and sharp as in other Fevers, and other signes are present which are observed in a *Synocha* that is not putred. A putred *Synocha* is distinguished from a non-putred by certain signs. The heat in a putred is sharper then in a non-putred. In a putred the urine is red, thick and troubled, without any sediment, and crude, or a little concocted in the beginning; the Pulse affords signes of putrefaction, and all the Symptomes are greater then in a Fever that is not putred.

A *Synocha biliosa* happens to those that are troubled with cholerick blood, and the heat is sharper then in a *Synocha* proceeding from temperate blood, thirst is more troublesome, the urine thinner and sharper, and other signes which are usual in cholerick Fevers are discerned.

Prognosticks. This Fever is the most simple amongst the putred, and easiest to be cured. And being pure, seldom passeth seven dayes, but the spurious is extended to the fourteenth day, and is terminated sooner or later, as the signes of concoction appear sooner or later. A white urine in a *Synocha* is evil. The least dangerous of all is that which is called *Synochos Paracmasticos*, next to that *Acmasticos*: But that is most dangerous which continually increaseth, and is called *Epacmasticos*, which easily degenerates into a disease called *Causus*. And by how much the fewer the evil Symptomes are, by so much the better hopes; the more they are, the more danger is shewn.

Indications. The whole cure consists in taking away the cause, and altering the fevourish heat Blood therefore as abounding in plenty is to be lessened, the pores of the skin to be opened, the causes of obstructions being taken away. The fevourish heat is to be tempered and allayed, if there be strength, as for the most part there is, thin diet is to be used.

Breathing of a vein. Therefore a vein is forthwith to be opened in the right arm, a Clyster or lenitive medicine being given first, if occasion require, and to take away as much blood as the strength will permit. and you may more boldly take away blood in this, then in any other sort of Fever.

Blood

Blood being evacuated, that the concoction may be made more facile, we are to uſe thoſe things which allay the heat, free from obſtructions, and reſiſt putrefaction; namely, the juice of Sorrel, Lemmons, Citrons, and Syrrups and Conſerves prepared of them, Syrrup of Sorrel ſimple, Oxymel ſimple, Oxyſauharum ſimple, Spirit of Vitriol, and the four cold ſeeds with cooling waters are to be adminiſtred. *Medicines.*

Principally we ought to endeavour that the pores of the skin may be freed from obſtruction, which for the moſt part is the cauſe of this diſeaſe, which thing Oxymel and wine mingled with honey, and the honey diſſolved, will conveniently perform, ſince they are eaſily carried to the outmoſt parts of the body, and attenuate dull thick humours, and ſimple Oxymel reſiſts putrefaction.

Concoction being perfected, the Ancients uſed to drink cold water, and gave ſo much of it to drink, as might not only extinguiſh the fevouriſh heat, but that the matter concocted might be evacuated by ſtool, vomit or ſweats. But in our countries, ſick people are not ſo accuſtomed to drink cold water, and many inconveniences are to be feared by the uſe thereof. So likewiſe ſwimming in cold water, which was uſual with the Ancients, doth not agree with our bodies.

The concoction being perfected, nature uſeth for the moſt part critically to evacuate the corrupted matter, which if it be not done, it ought to be performed by the Phyſician with purging medicines.

Dyet in this Fever ought to be thin, becauſe both that blood aboundeth, and the diſeaſe is ſhort; It ſhould be cooling and moiſtening, and alſo to have power of attenuating thick humours, and deterging viſcid ones. *Diet.*

Chap. XII.

Of a Cauſus, *or Burning Fever.*

WHereas amongſt continued Fevers there is often mention made of a *Cauſus*, we are alſo here to ſay ſomething of it: But a *Cauſus* is not any difference of a Fever, but rather a meaſure expreſſing the quality of fevouriſh heat. The word *Cauſus* is ſometimes taken generally, and not ſo properly, ſometimes *ſpecialiter*, and more properly: Generally for any ſort of Fever whoſe heat is vehement, in particular for a Fever which hath two Pathognomonicks, great heat, extream and unexain-

unextinguiſhable thirſt. A *Cauſus* properly and in ſpecie ſo called, is again twofold, legitimate and ſpurious: legitimate is that which hath alwayes, and that evidently, thoſe two ſignes joyned with it: an illegitimate is that wherein thoſe two ſignes are not ſo evident.

Burning Fevers. Whence it is manifeſt that burning Fevers, and ſuch as properly and in ſpecie are ſo called, are continued Fevers, and ariſe from choller. And ſo a *Cauſus* or burning Fever properly ſo called, is a Fever continued, Bilious, and indeed either *Synocha biloſa*, which we have newly handled, or a continued tertian, whereof we are to ſpeak next.

Diagnoſticks. The Pathognomonick ſignes as we ſaid before, are two, vehement and burning heat, and unquenchable thirſt, although the ſick ſhall drink; and the more legitimate the *Cauſus* is, by ſo much theſe ſignes are greater, yet the thirſt is ſometimes reſiſted if a little cough happen, which may draw humors from the neighbouring parts.

Concurrent ſignes there are many, as a dry tongue, rough, black, watching, giddineſs of the brain, difficulty of breathing, thick and great, and the ſick continually blow, opening their mouth, that the hot ſpirits may the eaſier exhale.

Prognoſticks. Theſe Fevers if they are pure, never continue long. For nature cannot long endure ſuch burning and vehement heat; and the Symptomes which accompany it with their vehemency. And for the moſt part they are terminated the ſeventh day, ſometimes the ninth, eleventh, fourteenth: but the ſpurious are protracted longer, and all of them are dangerous according to *Hippocrates* 4. *Aphor.* 43. Fevers of what kind ſoever that have no intermiſſion by the third day, are the ſtronger, and fuller of danger. Yet ſome are more dangerous then others, according to the violence of the heat, and of the Symptomes, and force of the ſtrength, and by how much the greater digreſſion is made from the natural ſtate, by ſo much the more dangerous is the Fever. Hence if an old man be troubled with a burning Fever, which ſeldom happens, 'tis deadly, as *Galen* hath it, 1. *Aphor.* 14. They lye down in no leſs danger who are exceedingly burnt in cold air: Who if they have not great ſtrength, neither the ſignes of concoction appear, it cannot be that they ſhould eſcape, as the ſame *Galen* 11. *Met. med. cap.* 9. writeth. To whom if vehement Symptomes happen, by ſo much the more dangerous the diſeaſe ſhall be, whether they are Pathognomonick or ſupervenient, yet if by the other ſignes, it be manifeſt to be a burning Fever, and that thirſt be wanting, this alſo is dangerous, for

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it ſhews the ſick either to be in a Delirium, or that the deſiring faculty of the ſtomack faileth.

Black urines are alſo evil, as alſo thin, crude, and ſuch as have other ill tokens in them.

But it is good if the ſick can eaſily endure his ſickneſs, the Symptomes being not without vehemency, if he can eaſily fetch breath; if he complain of pain in no internal part, if he ſleep; if he find benefit by his ſleep; if the body be equally hot and ſoft, if the tongue be not too dry, if the urine be good. But if when the ſignes of concoction appear, and that there is much ſtrength, in a critical day there happen large Hemorrhodes, or bleeding at the noſe, without doubt the ſick eſcapeth: For it is proper if there be any other of the pure burning Fevers, that they ſhould be cured by bleeding. Yet ſometimes they are determined by Sweats, looſeneſs of the belly, vomits, and impoſthums. But there are many Prognoſticks of burning Fevers in *Hippocrates* in *Prognoſticis*, *Porrheticus*, and *Choacis prænotionibus*, and there are many expounded in the Inſtitutions, lib. 3. part. 3.

But by what means burning Fevers are to be cured, appears by what hath been ſpoken of a *Synocha biloſa* with putrefaction, and thoſe things that ſhall be ſaid of the cure of the continued Tertian ſhall make manifeſt.

Chap. XIII.

Of continued Periodick Fevers in general, and of a continued Tertian.

Continued periodick Fevers.

ANother kind of continued putred Fevers which they call in particular continued, comprehends thoſe Fevers, which indeed continually remain, and have no remiſſion before they are plainly diſſolved, yet at certain periods they are exaſperated, whence they are called continued periodick and proportionated Fevers.

their cauſes.

But as Fevers containing have their original from the blood appointed for nouriſhing the body; ſo continued Periodicks, as alſo intermittints proceed from an excrementitious humour and Cacochymie. Therefore continued Periodicks agree in this with Fevers containing, that both their cauſes are contained in the vena cava, but with intermittents in this that both proceed from excrementitious humours. But they differ from Fevers containing, in that they proceed from alimentary blood; theſe from an excrementitious humour: From intermittent becauſe the

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matter which is the cauſe of continued Periodicks is generated in the ſecond concoction, and contained in the vena cava: But that matter which is the cauſe of intermitting Fevers is contained in the firſt concoction, or certainly in thoſe parts which are about the liver, which are not appointed for perfect ſanguification. Namely, the matter of continued Periodick Fevers is generated in the Organs of the ſecond concoction, if for any cauſe whatſoever it be not rightly performed. For then the peccant humours generated in the ſecond concoction are ſent with the blood into the veins, which there ſtirreth up theſe continued periodick Fevers.

The reaſon of its continuity. Which matter ſince it is not only confuſed with the blood, as in intermitting Fevers, but from the very firſt original is mixed therewith throughly. Nature alſo cannot expell it before concoction, and therefore the Fever from the beginning continually laſteth. Yet theſe Fevers have exaſperations at ſet times, becauſe that from the inſtruments of the ſecond concoction, freſh matter which is the cauſe of theſe periods is afforded, and indeed for the moſt part from the liver: Whence alſo continued Tertians are moſt frequent.

Signs. Theſe Fevers are generally known becauſe they never come to apurexie, yet at certain periods they are increaſed and remitted. Neither doth cold, trembling, nor ſhaking fits precede their exaſperation, neither doth ſweat follow their remiſſion.

Differences. There are three kinds of theſe Fevers. For ſome are exaſperated each other day, and proceed from Choller, and are called Tertians continued. Others every day which are cauſed by Phlegm, and are called continued quotidians. Others the fourth day, which ariſe from Melancholy, and are called Quartans continued.

A Tertian continued. Firſt a tertian continued is a putred Fever, ariſing from blood with ill juyce and choller putrefying in the vena cava, indeed continued, but afflicting moſt the third day.

The cauſe. The cauſes of this Fever are all things which can increaſe ſtore of cholerick Cacochymy in the veins, and being cumulated there can introduce putrefaction; ſuch as are before propounded.

Signs. This Fever is thus known, in that it is continued, and the third day it is exaſperated. Yet there are preſent other ſignes and Symptomes of continued and burning Fevers.

Prognoſticks. But what is to be hoped concerning their event, is manifeſt from things which are ſpoken of the Prognoſticks of burning Fevers.

Cure. Concerning the indications for cure; this Fever if it be pure, ſince

ſince it is exceeding hot and burning, and the cauſe thereof hot and dry, it requires extraordinary cooling and moiſtening, and indeed more then any other Fever.

The humour it ſelf indicates evacuation; but crudity for the moſt part forbids it: but if the Fever be ſpurious, regard is together to be had to the humour which is mixed with choller; if the Symptomes need it they are to be reſiſted likewiſe.

Therefore a vein is to be opened ſo that the ſtrength will permit it, by which means both ſome part of the peccant humour may be evacuated, and the blood cooled and revell'd from the more noble parts. And nature her ſelf ſometimes uſeth to make evacuation by the noſe in the beginning of theſe Fevers, whereby the Fever is wont to be abated; but the vein ſhould be opened in the cubit forthwith in the beginning, or certainly in the augmentation, and blood is to be taken in ſuch plenty as the ſtrength of the patient requires. *Opening a vein.*

But you are not to appoint purgation unleſs the matter be turged. Yet 'tis very neceſſary that the belly and firſt paſſages be evacuated before a vein be opened, but the medicines which perform that, ought to be cold and moiſt not hot; or if they are hot, they ſhould be tempered with the mingling of cold. *Lenitives.*

Afterwards altering, namely, cooling and moiſtening medicines are to be exhibited, both which prepare the humour appointed by nature for concoction, ſuch as are, Syrrup of Sorrel ſimple, Oxymel ſimple, compound, Oxyſauharum ſimple, Syrrup of Sorrel, Wood-ſorrel, the juice of Lemmon, Pomegranate, the accidity of Endive, Cichory, Violets, Gooſeberries, the four greater cold ſeeds, Purcelane, Lettice, the flowers of Water-lillies, Santalum, Water of barley, Sorrel, Endive, Cichory, Strawberries, Water-lillies, Purcelane, ſpec. Diamargariti frigidi, and ſuch like, to which for the reſiſting of putrefaction and hindring inflamation may be added, Spirit of Vitriol and Salt, Nitre prepared is alſo commended: If Phlegm be mixed, opening and attenuating things are to be added; ſuch as the roots of Fennel, Sparagus graminis, and medicines prepared of them, *Alteratives.*

In leek colour'd æruginous choller, *John Langius.* l. 3. epiſt. 1. c. 4. commends Chryſtal.

Topical medicines are alſo profitable to mitigate the heat, as Epithems, Oyles, and Unguents, made of cooling things, which ſhould be applied to the heart, liver, or back. Yet you muſt be careful that you cloſe not the pores of the skin thereby, and hinder tranſpiration, and therefore before the height they *Topicks.*

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are ſeldom uſed, unleſs it be when the heat is equally diſtributed through the whole body, and it is more commodious if they are applied hot then cold.

The matter being concocted, that nature might be ſtrengthned, and ſtimulated to expulſion, and that the matter might be expelled either by ſtool or ſweat, the Ancients uſed great quantities of cold drinks, as *Galen* teacheth *9. meth. cap.* 5. and *4. de rat. vict. in acut.* 12.

Purgation But if ſo be that after concoction nature do not inſtitute evacuation, it is to be done by the Phyſician, with Syrrup of Roſes and Violets ſolutive, the pulp of Tamarindes, Manna, Rubarb, Trypheta Perſica, ſuch as have Scamony in them are not to be admitted; yet ſometimes ſome of Electuarii roſati Meſua, de pſyllio and of juice of Roſes may be given.

Diuretick's For cauſing Urine in theſe Fevers an emulſion is profitable, prepared of the four great cold ſeeds, with the whey of Goats milk, or barly and ſtrawberry water, or with a decoction of the roots of Parſley.

Sydorifick's Sweats alſo ought to be provoked with medicines proper for that purpoſe, which hereafter ſhall be mentioned amongſt malignant Fevers.

Dyet. Diet ought to be thin; but according as the height of the diſeaſe is neerer or farther off, it ought to be thicker or thinner. The meat and drink ought to be cooling and moiſtening, whence a Piſan is profitable in theſe Fevers, the reſt ſhould be ſeaſoned with juice of Lemmon and Pomgranates: The drink ſhould be barley water, or water boiled with the juice of Lemmon or Pomegranates, and ſuggar or ſmall beer. The air ſhould be cold, and if it be not ſo by nature, it ſhould be prepared by art.

If Phlegm be mingled with choller, and the Fever be a continued Tertian or burning Notha, blood is to be taken away more ſparingly: In the preparation of humours, thoſe things are to be added which attenuate Phlegm. Agarick is to be mixed with the Purgers.

Chap. XIV.

Of a continued Quotidian.

A continued Quotidian. A Continued Quotidian vulgarly called Latica, becauſe it hath a certain hidden and obſcure heat, is indeed a Fever continually laſting, yet having every day exaſperations ariſing from indigeſted phlegmatick humours in the vena cavæ.

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Cauſe. The cauſe of this Fever is Phlegm mixed with blood in the vena cava, and there putrifying, and therefore thoſe fall into theſe Fevers which are of ſuch an age and nature as that their bodies are moiſter, as children and infants, as alſo old men and ſuch as have groſſer bodies, and are given to their bellies and to idleneſs, and dwell in moiſt places, but not young men and ſuch as are cholerick.

Signs. The ſigns of continued periodick Fevers are alſo manifeſt in this Fever, only the violence is moſt about the evening. The heat firſt is gentle, a little afterwards more ſharp, and ſometimes ſeems to abate, and ſometimes to increaſe, by reaſon of the thickneſs of the phlegm which putrifieth. The pulſes are not ſo thick and frequent, the urine is not ſo fiery and red as in other Fevers but thicker, nor are the other Symptomes ſo vehement as in other Fevers.

Prognoſticks. Concerning the event. 1. This Fever by reaſon of the thickneſs of the humour is long, and hard to be cured, and therefore dangerous. And by how much the thicker the phlegm is by ſo much the more violent and durable, ſo that it is not ended before the fivetieth or ſixtieth day, and the beginning is ſcarce paſt before the twentieth. 2. It continueth leſſer time where many evacuations happen. That which is pure is alſo longer then that which is mixed with choller, and by how much the worſer Symptomes are preſent, and the ſtrength weaker, by ſo much the greater danger there is, which if they are not, health is to be hoped for. 3. By reaſon of the duration of the Fever, and weakneſs of the Liver, the ſick for the moſt part fall into Cachexy and Dropſie.

Cure. As to the cure this Fever is more dangerous in reſpect of the cauſe, then of its heat; and therefore ſince it depends on phlegm that is to be heat, attenuated, cut, and afterwards being concocted and prepared, evacuated, and regard is to be had of the ſtrength, principally of the ſtomack and Liver.

Lenitives, Therefore in the beginning the ſtomack and firſt ways are to be opened and evacuated by Cliſters and lenitive medicines, or elſe the matter inherent in the ſtomack is to be ejected by vomit,

Opening a vein. But although the cauſe of this Fever be cold, yet becauſe it is mixed with blood and putrifieth, ſome blood may be taken away by opening of a vein, in caſe that the urine be thick and red, and that the ſtrength will bear it and the age, that nature may be eaſed of ſome part of her burthen.

Preparing and alterating. Afterwards preparation & concoction of the matter is to be endeavored with attenuating things which do not heat much; therefore

fore in the beginning uſe Syrrup of Sorrel ſimple, with honey of roſes, Oxymel ſimple, Syrrup of Hyſop, Bittony, with the water or decoction of Maiden-hair, Sparagus, Graſs, Fennel, Hyſop, and medicines prepared of thoſe plants; alſo Spirit of Vitriol and Salt.

Purging. When any ſigns of concoction have appeared you may exhibite ſome gentle Purger of phlegm, of Agarick, the leaves of Senna and ſuch like: Hence you muſt come to ſtronger preparing and purging things, and ſo the matter which cannot be evacuated at once, is to be prepared, concocted, and evacuated at ſeveral times. And becauſe a pure continued Quotidian ſeldom happens, but that either choller or melancholy is intermixed, we are to look to theſe humours alſo, and to adde Cichory, Burrage, Fumitory, Rubarb, and the leaves of Senna.

Provoke urine and Sweat. After the greateſt part of the matter is evacuated, the remainder is to be emitted by urine and ſweat uſing ſuch medicines as occaſion the ſame.

Strengthening Medicines. But ſince that by reaſon of the duration of the diſeaſe the ſtomack and liver are eſpecially offended, things that corroborate theſe parts are to be adminiſtred, troches of Wormwood, of Rubarb, of Roſes, with the powders of aromatici roſati and diaxyaloes.

Dyet. The Diet ought to be attenuating, cutting, and clenſing, the meats therefore ought to be of good juice, eaſie of concoction, and affording little excrement. Fiſh are not proper in this Fever, the fleſh ſhould be ſeaſoned with Parſley, Fennel, Time, Hyſop, Savory, Roſemary, Cinamon. In the beginning nouriſh ſomewhat more plentifully, that the ſick may endure to the height of the diſeaſe, but when 'tis neer the ſtate abate aliment by degrees. Yet if crudities be in the ſtomack and firſt paſſages by ſparing dyet the three firſt days they may be abated and conſumed, afterwards ſuch a dyet as we have mentioned may be obſerved. In the beginning the ſick ſhould abſtain from wine, and in its ſtead uſe water and honey; yet if by cuſtom it be required, give it ſmall and mixed with water. Small beer is alſo convenient, when concoction appears, wine is more ſafely adminiſtred, whereby the concoction is aſſiſted, the ſtomack ſtrengthened, and the humours driven out by urine.

Of the Fever Epiala.

The Fever Epiala. THe Fever called the *Epiala* is referred to continued putred Fevers, which it ſelf is indeed continued and quotidian, yet

yet differs from the other Quotidians in this, that the ſick at the ſame time endure heat and cold, and the heat and cold together are diſperſed through the ſmalleſt particles of the whole body, as *Galen* teacheth *de inæq. intemperie. cap.* 8. and 2. *de diff. Febr. c.* 6.

Galen in the place newly quoted, draws this Fever from acid and vitrious phlegm putrefying; yet in his book of an unequal diſtemper, cap. 8. he addeth bitter choller, whence he infers that ſince heat and cold are perceived together in one place, it argues mixture of phlegm and choller; in another place he determines it to ariſe from vitreous phlegm, part whereof putrifying, exciteth heat, the other not putrifying cauſeth trembling and cold. Yet *Platerus* refers them to intermitting Fevers, and ſays that *Epialaes* are generated when intermitting Fevers happen together in one and the ſame day, and the cold of the one beginneth before the heat of the other be ended, or moreover when intermitting Fevers concur with continued, and the heat of the continued always remains, but the intermittent Fever coming, a trembling and cold fit is occaſioned. *Cauſe.*

The cure of this Fever differs not much from the cure of other Fevers ariſing from phlegm, only that it requires ſtronger attenuating and cutting medicines, becauſe there is greater frigidity and crudity in this then in the reſt; alſo though the humour it ſelf ſeem to require ſtronger Purgers, yet the weak cannot bear them, and therefore evacuation by degrees is to be appointed. *The Cure.*

Of the Syncopal Fever.

MOreover to theſe Fevers belongs a Syncopal Fever, commonly called a humorous Fever, in which there is more of pituitous and crude humours then in other Fevers that are phlegmatick; and moreover a debility of the orifice of the ſtomack is adjoyned, whence the ſick eaſily fall into a Syncope, eſpecially when the Fever begins. *Syncopal Fever.*

This Fever is hard to be cured, ſince the ſick by reaſon of their extreme weakneſs and danger of continual ſoundings, cannot endure neceſſary evacuations, and eſpecially if the pulſe be weak, ſmall and unequal, the Fever is exceeding dangerous. *The Prognoſtick.*

But evacuations are moſt properly occaſioned by frictions, as *Galen* teacheth in his twelfth *of the method of curing*, cap. 3. Clyſters and Lenitives alſo with medicines opening the firſt paſſages only and cauſing no commotion of the other humours. *Cure.*

The firſt paſſages being opened and cleanſed, we come to preparing and evacuating humours, as in other Fevers petuitous, and medicines to prevent the ſounding fits are alſo to be adminiſtred.

Diet. The meats ſhould be not much, thin as to ſubſtance, eaſie of concoction, and generating as little phlegm as may be, and they are to be taken often. The drink ſhould be wine which hath power to nouriſh, heat and attenuate, and doth not increaſe phlegm. Hydromel is alſo good wherein Hyſop hath been boiled.

Chap. XV.

Of a continued Quartane.

A continued quartan. Laſtly a continued Quartane is a Fever, whoſe heat is indeed continued, yet the fourth day 'tis exaſperated, it proceeds from melancholy mixed with blood putrifying in the vena cava.

The cauſe. The cauſe is a melancholy humour putrefying in the vena cava, hence all things that can generate melancholy and crowd it into the vena cava, and putrefie, are the cauſes of this Fever.

the Diagnoſticks. It is known by its continued heat, raging the fourth day, without trembling fear or ſhaking fits going before, or ſweats following afterwards, the pulſe in the beginning is ſmall and ſlow, afterwards great, full, and ſwifter then in an intermitting Fever, wherein 'tis moſt intended in the height.

Prognoſticks. This is the rareſt of all Fevers, but dangerous and far more deſperate then a continued Quartane, and debilitates nature exceedingly; it laſteth till the fourtieth day oftentimes, and beyond it.

Cure. Moſt part of the cure is the ſame with that of a continued Quartane, and becauſe the humour, the cauſe of the Fever is contained in the vena cava, and there mixed with the blood in the beginning, thoſe things that open the firſt paſſages being firſt exhibited, a vein is to be opened, afterwards phlegm is to be concocted and evacuated. Yet you ſhould heat and attenuate more ſparingly then in intermittent Fevers, but to moiſten more and adde thoſe things which may allay the heat of the putrifying humours, ſuch as are in other caſes convenient againſt choller.

The humour being prepared, purging is to be uſed, and a purge ſhould be given the next day after the fit, which at firſt ſhould

ſhould be given the next day after the fit; which at firſt ſhould be gentle, but if nature order no Criſis, ſtronger may afterwards be given, Diureticks and Sudorifiques may alſo be given after concoction, but ſuch as are not ſo hot, and thoſe given in intermittent Fevers; and when the ſtrength is much debilitated confortatives are to be exhibited, prepared of Burrage, Bugloſs, Balm, flowers of Roſemary, Gilliflowers, Confection of Alkerms, and ſuch like.

Such Diet is to be appointed as in intermittent Quartanes, yet the diet ſhould be thinner and cool more then in intermittent Fevers, ſince that the heat is greater and the height neerer the uſe of the ſmaller ſort of wine, although it may be allowed, yet it muſt be taken more ſparingly then in intermittents, and if the heat be greater, wholly abſtain from wine. *Diet.*

Chap. XVI.

Of Symptomatical Fevers.

Beſides theſe continued primary Fevers which have hitherto been explained, there are yet other continued Fevers called Symptomatical and accidental, which happen upon ſome other diſeaſe which hath gone before, and which follows as a Symptome the diſeaſe, and is taken away at the cure of the diſeaſe, and ſo theſe Fevers follow other diſeaſes which being taken away, they ceaſe. Whence the Ancients, alſo as *Galen* teacheth, 4. *Aphor.* 73. ſaid thoſe only were fevouriſh, which were ſick without an inflammation or other diſtemper, but thoſe that did febricitate by reaſon of an inflammation of the ſide, lungs or any other part, they did not call them fevouriſh, but Pleuretick, Peripneumoniack, Hepatick, or other ſuch like names. *Symptomatical Fevers.*

But there is not only one ſort of theſe Fevers, yet the principal and moſt uſual is that which follows an inflamation of ſome internal part neer the heart, or which hath conſent with the heart, when from blood powred into the inflamed part and putrifying, vapours are communicated to the heart, and heat it; which in a Pleuriſie, Peripneumony and Angina happens as we are commonly taught. But although it cannot be denied but that from the inflamation of theſe and other ſuch like parts Symptomatical Fevers may ariſe, and that the Fevers enſuing the inflammations in accidental wounds do prove it; yet if we diligently conſider it, all thoſe Fevers which are commonly called Symptomatical are not ſuch but primary. *Differences.*

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For firſt putrefaction is kindled in the vena cava, whence a continued primary Fever is ſtirred up; but becauſe nature is burthened with the weight of thoſe peccant humours, ſhe uſeth to force them as much as it could out of thoſe greater veſſels, and from a publique and Kingly ſeat as it were into leſſer veins and ſmaller parts of the body, the blood with thoſe vitious humours being diffuſed into thoſe leſſer parts cauſeth inflammation. And it is manifeſt by this, becauſe a Fever for the moſt part precedes inflammation it doth not follow it, and oftentimes the matter paſſeth from one part to another, whence changes of diſeaſes are made. Hence theſe Fevers are properly called by *Platerus Comitatæ* rather then Symptomatical, and ſuch *Febres Comitatæ* are not only thoſe which have an inflammation of any part accompanied with them, but alſo thoſe, to which other evils are annexed, namely a Diarrhea, a Dyſentery, Spots, Meaſles, the ſmall Pox, wandring pains, the Gout of the joynts, or running Gout, Catarrhs. For all theſe evils do ariſe when nature being oppreſſed with the weight of its burthen of peccant humours, it protrudes ſome part of them out of the veſſels.

Fevers accompanied.

A Fever of this kind is alſo accompanied, which is an *Eryſipelas*, called by the Germans Roſe; for this Fever doth not proceed from an inflammation of an external part, but this evil accompanies the Fever; for when the thinner and hotter blood burneth in the veſſels by what means ſoever, putrifies, and is corrupted, and acquires a vitious quality, which principally is cauſed by anger, and fear, nature being ſtimulated protrudes the ſame to ſome external part of the body, whence this evil invadeth with a trembling and quaking, and whileſt the matter ſtriving to go outwards, ceaſeth on the Glandules under the Arm-pits, and about the groin; ſome of the humour that is ſtirred up, ſticks there, and pain and ſwellings are there perceived, till at length it manifeſts it ſelf in the leg or ſome other external part which may be known by the heat, pain, and roſie colour.

Eryſipelas or Roſe.

But we do not aſſent unto *Platerus* in that he ſays that all thoſe Fevers are ſimple and pure continued, and are without any putrefaction.

The Urines, that we may paſs by other things, do manifeſtly ſhew putrefaction, which hath the ſame tokens of crudity and concoction as in other putred Fevers, and nature ſometimes critically, ſometimes Symptomatically, expells the matter offenſive to it; for it doth not only expel by inſenſible tranſpiration, and by a moiſt ſteam, which uſeth to be in Ephemeraes and Synochaes which are without putrefaction. Some

Some of these Fevers whether they arise from an inflammation of the parts, or whether they have that as a companion, are called *Phlegmonides*, which principally proceed from blood; but those which arise from *Erysipelas* or inflamation, are called *Erusipolatodes*, and inflame fires. *Differences of Fevers.* *Phlegmonides.*

To these belong the Fever that leaves fire as it were behind it, which burneth so exceedingly, that all the interals are as it were burnt, but the external parts grow cold, and that during the whole course of the disease; and this Fever ariseth from an Erisipelas or inflamation of any internal part, but principally of the stomack, and from blood and Spirits meeting in the part inflamed. *Typhodes.* *Lipyria.*

The second kind of Symptomatical Fevers which is called *Lenta*, proceeds not from any inflamation of the bowels, but from some obstruction and hidden putrefaction, that is, from matter without the vessels, spread over the substance of any of the interals, or at least impacted, and putrifying in the capillar veins dispersed neer the substance of the interals, and hath its rise from the substance of the interal decaying; whence there is so great quantity as that when the matter is gotten into larger and wider vessels, vapours cannot be transmitted to the heart, and so a *Febris Lenta* is stirred up, which therefore is unequal and keeps no certain order. *Febres lentæ.*

This Fever is the gentlest of all, and molesteth not the sick with any grievous Symptome, so that the sick oftentimes thinks himself well. In the mean while the strength decayes, that the sick can scarce go forward, and the body is no ways refreshed by aliment, but wasteth by degrees, whence sometimes this Fever is accounted with an Hectick, and therefore whea there is any suspition of this Fever, in the first place we must diligently search the Hypocondries and Hypogastries, to try whether any tumor be to be discerned in any of them; some signs of putrefaction also will appear in the urine, and discover themselves in the Pulse.

This Fever is more durable, and goes beyond the terms of other Fevers, and often endeth not in fourty days, nor is it gone until the humour fastened to the interal be consumed.

The third sort of Symptomatical Fevers is, that which ariseth from the putrefaction of any interal, from whence putred vapours through the veins inserted might be sent to the heart, heat that, and might stir up a continued Fever, whereby the body by degrees might be extenuated and wither. And this Fever is sometimes more violent, sometimes more mild, according *Fevers from putrefaction of interals.*

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ing as the putrefaction is more or less. This often happens in putrefaction of the lungs in such as are Phthisical; so 'tis found that the Caul or Kell, Mesentery, Womb, and other parts are corrupted, and thence a Fever kindled. In like manner from Fistulaes penetrating into the internal parts a *Febris lenta* being stirred up, it is observed, that some do consume and waste.

From corrupt milk. Putrified blood, Worms. The fourth kind of Symptomatical Fevers is when either from corrupt milk, which often happens in Infants, or from blood putrifying somewhere without the vessels, or from worms, putrid vapours are communicated to the heart, that is heated, and a Fever irritated.

To these may be referred that Fever which ariseth from crudity, which is familiar amongst little children from their eating of sweet things, which hath with it a tumor and inflammation of the Hypocondries, which the Germans call *Das Herngespan*, from the abundance of crude humours collected in the stomack and neighbouring parts, which begin to putrefie and are turned into wind.

Diagnostick signs: Symptomatical Fevers properly so called, are known by this, that they come after diseases of private parts, and the first sort of these Fevers is known from hence, because it follows an inflammation of some certain part: as on the contrary, Fevers called *Comitatæ*, first appear and invade with rigor and trembling, to which afterwards a Fever happens.

But those *Lentæ* or slow Fevers are known by their slow heat, wherewith notes of purrefaction in the urine and pulse appear, the sick are weak scarce able to go, the body wasteth by little and little, and the Fever is lengthened for the most part beyond fourty days; they are tormented by the use of purging. But when the cause of these Fevers is hidden, 'tis very hardly to be distinguished, and therefore the Hypocondries and other internal parts are to be observed with great diligence, and we are to enquire whether any tumor or pain be to be found there.

But those which arise from the putrefaction of any part are more easily known, nor indeed can the corruption of the part be hidden, unless it be ignoble.

So that Fever which proceeds from corrupt milk or blood is easily known by its signs; as also that which ariseth from crudity is manifest from their loathing things blowing up and swelling of the Hypocondries.

The Prognostick. Although these Fevers in respect of themselves for the most part are not dangerous because they are mild, yet in regard of their causes on which they depend, we ought to doubt whether they

they are dangerous or not, as also whether they are long or short; for those which follow an inflammation of any part are short; since that the inflammation it self cannot be long, but the danger of them depends on the inflammation.

The *Febres Lentæ* are for the most part long, and often continue more then fourty days. And although not by their violence yet by their duration they debilitate the strength; they are cured also with difficulty, because their cause pertinaciously inheres in some interal.

Those Fevers are very dangerous and seldom curable which come from the corruption and putrefaction of any part; because the part can seldom be cured.

But those Fevers which proceed from corrupted milk and blood, worms or crudity, are often acute and dangerous, and bring with them grievous Symptomes, as Epilepsies, Convulsions; yet they last not long, neither are they hard to be cured, but the cause being taken away they cease.

The way of cure ought to be aimed at by striking at the cause whereon it depends. If therefore a Symptomatical Fever depend on an inflammation of any part, the cure is to be directed to the inflammation it self, which being cured, the Fever ceaseth. And therefore most remedies which are convenient to asswage inflammations are here useful. Yet in regard of the part affected, the way of cure sometimes differs, the part affected is diligently to be weighed: Whereof it shall be spoken in the cure of particular affects. *The Cure.*

The *Febres Lentæ* since they proceed from extraordinary obstructions of the bowels, require opening, attenuating, and deterging medicines. And such are to be chosen as are appropriated to each part, and such as strengthen the tone of the interals, which for the most part is debilitated, yet by intervalls gentle purgation may be used. Neither are Diureticks to be omitted in their season. Externally also if the part affected will bear it, Emollients and Discutients are to be applied.

If the Symptomatical Fever proceed from the corruption and putrefaction of any part, that cure is to be instituted which agreeth to Ulcers and Fistulaes of the internal parts.

If it be occasioned by corrupt milk or blood, Worms, or crude and corrupt meats, we are to endeavour that those causes be taken away conveniently, either by vomit or cleansing and evacuating medicines, and together to resist putrefaction and fevourish heat.

In the cure of accompanied Fevers, we are to look no less to the

The cure of accompanied Fevers.

the Fever then that conjunct diſeaſe or companion, and the motion of nature is not to be impeded, leaſt the peccant humour retained in the body ſhould cauſe more danger; and therefore although it be not profitable to hinder an inflammation when 'tis beginning: Yet the humour that is the cauſe or that evil is alſo to be evacuated, which is moſt conveniently done for the moſt part by breathing of a vein, which together affords evacuation and revulſion: Yet it ſhall be profitable alſo to empty the firſt paſſages, ſince that oftentimes the matter is gather'd together in them; and ſince the matter for the moſt part is thin, and often makes toward the extremties of the body, and is often full of malignity, 'tis conveniently expelled by ſweat.

Chap. XVII.

Of intermitting Fevers in general.

Intermitting Fevers.

After continued Fevers, intermitting are to be explained. But although the Ancients did extend the name of intermitting Fevers more largely, and attributed the ſame to all Fevers which admit of ſome change of heat, and are ſometimes exaſperated, ſometimes remitted, and ſo to continued periodicks: yet afterwards uſe brought it to paſs that thoſe Fevers only were called intermittent, which ſometimes ceaſe and come to that apurexy or want of fire.

their proximate cauſe.

The proximate cauſe of an intermitting Fever is a putred vapour, elevated from the putrefaction of excrementitious humours, not continually as in continued Fevers, but by certain intervalls ſent to the heart, and heating the ſame contrary to nature.

The five place of intermitting Fevers.

But how it comes to paſs, that the putred vapour is not continually ſent to the heart but at certain times is very obſcure. For the explanation whereof ſince the knowledge of the place wherein putrefaction ariſeth, doth not a little conduce, and whence the putred vapours are communicated to the heart, which *Galen* calls the Furnace and Chimney in his 2. *of the differences of Fevers*, cap. the laſt, and in his 15. *of the method of curing*. cap. the fourth, that therefore is firſt to be explained. But ſince 'tis beyond the bounds of our Breviary of Inſtitutions to reckon up the various and different opinions of Phyſicians concerning it, we will here ſet down that opinion which we think trueſt. The Chimney or Furnace and place wherein the matter the cauſe of intermitting Fevers is generated, are the Meſaraick veins

veins, wherein the matter which ſufficeth to irritate each ſingle Paroxiſm, is generated during the time of its interval. And that many things which happen about intermitting Fevers do prove; namely Loathing, Vomitting, Dolor of the heart, Extenſion and pain of the Midriffe, Intumeſcence about the Ventricle, Bitterneſs about the mouth, Belching, and ſuch like; for in the beginning of intermitting Fevers pure choller is often ejected by vomit in great abundance, which out of the more remote veins could not be evacuated in that manner, and about the cava of the Liver. *Fernelius* ſays he hath found the quantity of a pound by weight after the death of a Patient.

This choler being caſt out the Fever is often cured, which is a ſign that it is the cauſe of the Fever, and that it is collected in thoſe firſt ways or paſſages. Which Fomentations alſo uſed to the Hypocondries at the beginning of a Paroxyſm ſhews by the mitigation of the trembling and ſhaking.

This matter is gather'd together in the Meſaraick veins a long time before it brings forth a Fever, but when it begins to putrefie, grow hot, and be changed, its heat being diffuſed over the whole body it exciteth a Fever; which when it is diſperſed, the fevouriſh heat and Paroxiſm ceaſeth, and the Fever leaveth ſo long as till new matter which in like manner putrifieth in its due time, is generated.

But although the matter which is the cauſe of intermitting Fevers be generated in the Meſaraick veins and firſt paſſages: Yet the whole doth not reſide and continue included in them, but is ſent to the vena cava and arteries, both during the fit and out of the ſame. Nor is it here neceſſary to ſeek for occult and blind paſſages, through which the putred vapours ſhould be ſent to the heart during the Paroxiſm, ſince there are manifeſt paſſages enough; for the branches of the Gate-vein are inſerted into the ſubſtance of the Liver, and the mouths of theſe have communion with the vena cava, and the arteries going from the heart are joyned in the ſtomack, guts, ſpleen and other parts to the Meſaraick veins. Yet 'tis probable that the fevouriſh matter may be communicated to the veins not principally and only in the Paroxiſm, but moreover ſome part thereof by that paſſage which is from the Meſeraick veins to the Liver continually may be carried to them; whence both by *Galen.* 1. *de criſ. cap.* 7. and other Phyſicians a Fever is called a paſſion of a venemous nature. And that is firſt manifeſt from the urines, which ſhew evident notes of crudity and concoction in ſatermittents. Hence alſo it comes to paſs that urines during the Paroxiſms are laudable

the cauſe of intermitting Fevers conteined in the vena cava.

ble and like to theirs who are well, ſince that the peccant humor is then protruded by nature out of the veins towards the circumference of the body, and ſo the blood in the veins is become purer, which again in the intervals of fits is pollured by the vitious humour proceeding from the chimney of the Fever. The ſame is manifeſt out of thoſe things which happen at the beginning of a fit, and at that time which the Greeks call Epiſemaſian; for then ſpontaneous laſſitudes, ſtretching, compreſſion of pulſes, and other things happen which indicate that the matter which is to ſtir the Fever begins to be moved and as it were to ſwell in thoſe common veſſels, veins and arteries.

That vitious humour accumulated partly in the Meſaraick veins, partly in the vena cava when in time it putrifieth, nature ſtimulated and irritated oftentimes ſtrives ſeveral ways, firſt by vomit and ſtool, afterwards by ſweats and urine ſenſibly to evacuate the ſame, as alſo through the pores of the skin, and by inſenſible tranſpiration it may diſcuſs the ſame being reſolved into vapours and ſteam. For ſince that peccant humour is not exactly mingled with the blood but confuſedly, nature may eaſily ſeperate the ſame from the good blood, and may ſhake it off each ſingle fit; which being diſcuſſed, ſince putred vapours cannot any more be communicated to the heart, the Fever alſo ceaſeth and apurexie enſueth.

Cauſes of the return of fits. But becauſe that as long as the Fever continueth ſome ſeeds and ſparks are left in the granary and chimney, and ſeeing that there is imbecillity in the part, 'tis neceſſary that the humour flowing to it, although it be good, ſhould be defiled with that pollution and excrement which was left as it were with leaven, and through the debility of the part be corrupted, and ſo new matter of a future Paroxiſm be generated. And theſe fits continue, and ſo often return, until that thoſe ſeeds, that putrefaction, and thoſe ſparks are fully taken away from thence, and the weakneſs of that part reſtored. Yet it ſeems probable that the whole matter which is the cauſe of a Fever doth not putrifie together in the firſt Paroxiſm, but that part which is apt to putrefaction, in the other fits the reſt, until the whole be putrified and conſumed.

Cauſe of fits. By theſe things it is manifeſt both where the matter that is the cauſe of putred Fevers is generated, how it cauſeth a fit, by what ways it is evacuated, and how the matter which is the cauſe of a new Paroxiſm is generated, and ſo the cauſe of Paroxiſms and the recourſe of intermitting Fevers is explained. But what the reaſon is why theſe Fevers return at ſet times, ſome ſooner, ſome later;

later, is now another queſtion, and that moſt intricate, which is eaſier to ask then anſwer? But that we may here forbear to recite the opinions of others, which are very many, we will mention only that which ſeems moſt probable to us, ſo far as in this humane dimneſs of our underſtanding in ſo obſcure a buſineſs we are able to diſcover. And firſt, that Fevers keep ſuch certain periods, experience doth manifeſt; whereby it appeareth, that ſome Fevers return the third, ſome the fourth day, and that oftentimes it obſerves not only the ſame hour, but minute of invaſion, although the fits may ſomtimes anticipate, ſomtimes retard for certain reaſons. But the cauſe why paroxiſms return at certain times, we conceive is to be ſought from the diverſity of humours: For thoſe effects, as *Valleriola* ſaith, in any one ſort of things, which perpetually agree to the things; and are made in the like manner, into what body, and at what time ſoever they happen to come, theſe are to be referred to the proper ſubſtance of that of the which they are made; but to make return through certain days, and to irritate acceſſions, both agrees perpetually to humors and the recourſes in this manner, alwaies at equal intervals (unleſs a perverting of the order of periods happen from elſe-where) are made: Therefore it ſhall be from ſuch or ſuch a nature of humours that the recourſe ſhall be made in the ſame ſort; namely, the cauſes of periods and intermitting Fevers, are excrementitious humours. *Choler*, *Melancholy*, *Flegme*; and thoſe Fevers which return the third day, proceed from a Cholerick humour; thoſe on the fourth from Melancholy; thoſe that come every day, ſo that they are not double Tertians, proceed from Flegme.

Yet the cauſe of periods cannot be drawn ſimply from humours, but as they acquire a peculiar quality from putrefaction or corruption, by reaſon whereof at a certain time, they wax hot and begin to be moved. For ſithence this effect is definite and determinate, which carries it ſelf alike in all individuals, 'tis neceſſary that it have a certain definite and determinate cauſe in all individuals that are alike; which ſince that neither diſpoſition of parts, nor quantity of humours (for we ſee that although the ſtore of matter decreaſeth, and the fits are become ſhorter, nevertheleſs they do return at their uſual time) nor manifeſt quality of humour, thickneſs, viſcidity, tenuity, or ſome ſuch like, which uſeth to vary, can be a quality; we muſt needs fly to a peculiar and proper quality and nature of a humour; which alſo when it is changed, the form of the Fever it ſelf is changed; for when Choler is turned into Melancholy, the Fe-

ver which uſed to come the third day, cometh on the fourth; and this quality alſo may afterwards remain in the humour, when the putrefaction ceaſeth, and the Fever depending thereon. Whence, as *Fernelius* in his 10 of Fevers witneſſeth, the torments of the Cholick, Pains of the Joynts, and ſuch like diſeaſes ariſing after long continued Tertians and Quartans, do likewiſe keep certain periods, by reaſon of that diſpoſition which they have received from the corruption or putrefaction of the humours.

Order of the fits

Yet if any one be willing to determine that the ſaid occult propriety is derived, not from corruption only, but that celeſtial cauſes do alſo concur to its generation, I will not much contend with him; for we ſee that principally about the Solſtices and Æquinoctials, ſuch Fevers, eſpecially the moſt durable of them, do begin and end.

But although Fevers keep certain periods, yet there is a certain difference in them alſo; for ſomtimes the fit returns juſt at the expected time: ſomtimes the following paroxiſme returns ſooner then the former; which form is called *proleptick*: ſomtimes the following fit comes later then the former, and that form is called *Hyſterick*; and indeed ſomtimes through the whole courſe of the diſeaſe, ſuch a form is obſerved, and oftentimes from the beginning of a Fever, until the end of the ſame the paroxiſmes anticipate, or come after the expected time: but ſomtimes in ſome there is anticipation, in ſome poſt poſition, otherwiſe the fits comes at the ſame time.

The cauſe of anticipation and coming late.

For the moſt part they ſay, that anticipation happens when the humours by ſome error in diet are augmented, or are moved by medicines, anger, exerciſe, and ſuch like cauſes. But the fits return ſlower, when the matter is diminiſhed, or thickned: Which indeed when the accuſtomary paroxiſme is changed, that it may be ſo, as we do not deny; ſo when the Fever keeps always ſome certain form, either proleptick or hyſterick, the cauſe rather ſeems to be taken from the diverſity of the humour; for although Choler, according to its manner, being corrupted, is the cauſe of a Tertian, Melancholy of a Quartan; yet Choler and Melancholy, according to the diverſity of Bodies and Temperaments, do oftentimes vary ſomthing; Hence alſo it happens, that although that putred leaven, or occult quality introduced by choler, be the cauſe of the circuit of a Tertian, Melancholy being brought in of a Quartan: yet according to the difference of a humour, it may happen ſo, that the effervеſcence, or fervency of humours, may come ſooner or later by ſome hours.

Concerning

Concerning the longitude or brevity of ſome Paroxiſms that depends on the paucity or plenty of matter, diſpoſition of the humours and body: For a plentiful quantity of humours is the cauſe of a longer fit then a ſmall; ſo a thick humour cauſeth a longer then a thin, ſince it cannot be ſo ſoon diſcuſſed as a thin. If the ſtrength of the body be great, which can more eaſily diſcuſs what is offenſive, then theirs who are weak; the ſhorter fit followeth: Alſo a thinner conſtitution of body, as being more apt for the diſcuſſing of the matter, is the cauſe of a ſhorter fit; a thicker, of a longer. And when all the cauſes which occaſion a ſhort paroxiſm concur, a very ſhort fit is raiſed: But when all thoſe that produce a long are preſent, the paroxiſm is extream long. When certain cauſes are preſent which make a ſhort fit, and ſome are wanting of them, an indifferent betwixt both happens. *The cauſe of the length of Fits.*

And ſo much of the nature, place, and motion of the proximate cauſe, which exciteth intermittent Fevers; But the more remote cauſes, and thoſe things which conduce to the generation and corruption of that matter in the Meſeraick veins, are meat and drink of evil juice, but yeilding matter for peccant humours anſwering to their own nature; and an ill diſpoſition of ſtomack, whereof meats turn into choler, or become ſour; an intemperate conſtitution of Ayr; for although divers humours are generated in different bodies naturally, yet if there be great vehemency of manifeſt cauſes, even in bodies of different conſtitutions, they may produce the ſame humours and diſeaſes depending on them. *The more remote cauſes of intermitting Fevers.*

As for the difference of intermitting Fevers, they proceed from the diverſity of humours; for there are ſo many ſorts of intermitting Fevers, as there are of humours by which they are produced; for there are according to the vulgar opinion, three ſorts of excrementitious humours, *Choler*, *Flegme*, and *Melancholy*, and ſo three kinds of intermitting Fevers, *Bilious*, *Pituitous*, and *Melancholy*; which differences we uſually call a Tertian intermittent, a quotidian intermittent, and a quartane intermittent. And in caſe thoſe humours are ſincere, pure Fevers are generated; if they are mixed, ſpurious. And that Fever which proceeds from pure Choler, is called a pure Tertian, but that which ariſeth from yellow Choler mixt with ſome other humour, is called a Baſtard Tertian. *Difference.*

But concerning a quotidian intermittent, the matter is not ſo plain: For *Fernelius* accounts this the rareſt of all other, and ſcarce one of them happens amongſt ſix hundred; and that thoſe intermittent Fevers which daylie afflict, for the moſt part he rather accounts *Of a quotidian, whether any be.*

accounts them double Tertians: But *Platerus* flatly denies a Quotidian Fever, and wholly agreeth with *Galen* 8. *Meth. med. cap.* 5. where he appoints only a twofold crudity; the one nitrous, the other acid: and they only seem to afford matter for two sorts of Fevers, Cholerick and Melancholy. For although Flegme also, according to preheminency, and most principally, be called a crude humour; yet since it is exceeding cold, it can scarcely putrifie and excite a Fever.

Whether there are Quintan Fevers.

But whether there are more circuits of Fevers, and whether besides Tertians, Quartans, and if there be any such thing as Quotidians, there are also other Fevers which are extended beyond the fifth circuit, is doubtful. *Galen* saw no such: Nevertheless *Hypocrates*, and other Physitians, observed Fevers which returned the fifth, sixth, seventh, eighth, ninth day: But what the cause of this course is, is very obscure. Some seek the cause of such fits out of the diverse constitution of Choler and Melancholy; and *Andreas Cæsalpinus Art. Med. lib. 2. cap.* 15. refers Quintans to Choler, Septanes to Melancholy; and determines such slower returns of Fits to be a kind of renewing of one or more simple accessions; and the Quintan to be a kind of Tertian, wherein the third day is without a paroxism; and a Septan to be a sort of Quartan, renewing the accession of the fourth day. But most derive the reason of these circuits from the various mixture of Melancholy humours with others. But although it be probable that all these Fevers, as keeping longer periods, proceed from a Melancholy humour; yet a mixture of that humour seems not necessary: Because no humour can be appointed to be mixed with a Melancholy, which can be a cause of a slower period then it self: for those humours, both Cholerick and Melancholy, are not always of the same sort; and moreover, the corruption also which they suffer, is not always the same; so that it is no wonder that the effect also varies, which proceeding from them is not always the same: And as in epidemical diseases, sometimes rare and wonderful corruptions of humours happen, so in Intermittents, that some such thing may likewise happen, is not altogether absurd.

Diagnostick signs.

Intermitting Fevers are easily known; for they come to Apyrexie, and at certain times; and indeed, as *Galen* 1. *ad Glaucan. cap.* 5. 2. *de crisib. cap.* 3. & 2. *de diff. Febr. cap.* 3. teacheth, they return with shaking, horror, or cold, For although that sometimes Fevers do occur which seem intermittent, and invade without any rigour, trembling, or cold; yet really they are not such, but only slow and obscure continued ones; or in case they

are

are really intermittent, they are not pure; whose Idea *Galen* propounds but spurious.

Prognosticks.

But these Fevers are less dangerous then continued; and seldome, unless the strength be decayed, or in regard of age, or some other cause, or some errour committed in diet, are mortal, sithence it may be convenient during the apurexie to gather strength, and administer necessary medicines.

Indications and Cure.

Concerning the cure of these Fevers in general: Since their cause is collected and generated in the meseraick veins, there putrifies, and thence is diffused over all the body, and at length is discussed by insensible transpiration or sweats: But the cause of the recourse of the Fever, as *Galen* teacheth, 2. *de Febr. cap.* the last is a twofold vitious disposition in a body, the one a certain pollution or putrifaction left after the former paroxisme; the other imbecility of the member or part, generating excrementitious humours; what therefore is to be done in each sort of Fever, easily appears from hence.

Purging

For sithence the beginning of generation and corruption of humours producing a Fever, is in the first passages, we are to endeavour to purge out that peccant humour, before it corrupts the rest of the blood, and brings weakness, and a vitious disposition to the parts; but we must proceed warily in those evacuations, since there is not the same reason of all intermitting Fevers: For when that vitious and excrementious humour, the cause of a Fever, in the meseraicks is mixed with blood, crudity also, and concoction, according to their manner are necessary; whereby the vitious humours may be separated from the good, and rendred fit for evacuation: and that often happens in a short time in Fevers full of Choler, and the cholerick humour is otherwise apt enough to motion: But in a Quartan the humour is more stubborn, and moreover according to *Galen* 1. *ad Glau. cap.* 11. no strong medicine is easily to be admitted at the beginning.

Sweats

And Sudorifiques are not at all (or altogether) to be used, unless evacuations have preceded; for if many vitious and excrementitious humours do hitherto abide in the first ways, it may easily come to pass that by reason of hydroticks untimely exhibited, they may be detruded thence to the more noble parts, and may become the cause of various and grievous evils, and such as may bring more danger then the Fever it self.

Letting blood.

As for breathing of a vein, 'tis not indicated from the primary cause of intermitting Fevers, which is generated in the meseraick veins, where the greatest part abideth: Yet because that

ſomtimes blood alſo abounds, which may eaſily be corrupted and polluted by the vitious humours, and ſo if it be too plentiful, cannot be well governed by nature when it is weakned by a Fever; and in the progreſs of the diſeaſe, from thence ſome of the peccant matter palleth into the vena cava, and is mixed with the blood, it is ſomtimes needful to open a vein, which nevertheleſs is not to be appointed preſently in the beginning, before the evacuation of the primary paſſages.

If the Fever be not cured by theſe evacuations, we are to endeavour that the cauſes of the returns of fits may be taken away, and moreover two things remain to be done; namely, that that diſpoſition and weakneſs of the part generating vitious humours, may be taken away, which is performed by altering medicines, which together correct the fault of the humour, and diſcuſs that pollution, and thoſe ſeeds which were left out of the putrifaction of humours: and indeed that paroxiſms depend on that pollution, and that when it is taken away the Fever ceaſeth, appeareth from hence, That whilſt that is driven by nature to the circumference of the body, out of the veins, and that Puſtules are raiſed about the lips, noſe, and other parts of the face, the Fever ceaſeth

Wann der Mundt oder die Naſe auſs ſchlaget.

But 'tis principally taken away by Sudorifiques; yet there are alſo certain other medicines known both to Phyſitians and to the vulgar, which take away feverish fits, and therefore are called *Febrilia*, *Puretagoga*, and ſuch as ſpecifically cauſe, and are called The flight of a Fever, or *Febrifuga*, which nevertheleſs cauſe no ſweat, but without doubt ſome other way take away that ſeed, and by conſequence the paroxiſm, ſuch as commonly are accounted the powder of burnt ſhells of Cockles or Snails or of the Pearl bearing ſhels, or mother of pearl calcined, of River Crabs, and principally their eyes, which are ſo called prepared, and ſuch like: But how they perform this, is not explained by Authors. That I may ſpeak my own opinion, ſuch like medicines ſeem by a certain precipitation to take away that force of heating and ſtirring up a paroxiſm which is in the humours, to which Opiats ſeem to belong: yet ſuch like cannot be given ſafely, unleſs the vitious humours, and thoſe things which may afford the reaſon of the antecedent cauſe be firſt taken away; for otherwiſe thoſe things which may be expell'd by nature when it is irritated in a paroxiſme, are left in the body, and afterwards may become the cauſe of a Chachexie, Dropſie, Jaundies, Cholick pains, and of other grievous evils.

Febrifuga.

Externally

Externally alſo are applied certain medicines to cure intermitting Fevers, of Cobwebs, oyl of Spiders, and certain veſicatories, which without doubt, that which they do, is performed by drawing out, and evacuating of that Feveriſh corruption and pollution. *Topical Medicines.*

Chap. XVIII.

Of Intermitting Fevers in particular, and firſt of an Intermitting Tertian.

After we have handled intermitting Fevers in general, we will now go through them in particular; amongſt them the moſt frequent is a Tertian intermitting, which ariſeth from Choler putrifying in the meſeraick veins. *An intermitting Tertian.*

But there is a certain difference of theſe Fevers; for firſt, Choler it ſelf out of which theſe Fevers are generated, is not of the ſame kind; for ſomtimes the choler is like to that natural choler which afterwards is collected in the Galls bladder; ſomtimes it is preternatural green and æruginous, ſuch as ſomtimes by thoſe that are Feveriſh, is evacuated by vomit or ſtool. Moreover, Choler either putrifies alone, or elſe hath ſome other humour mixt with it; Flegme or Melancholy that cauſeth a pure, this a baſtard Tertian. They differ alſo in reſpect of duration; for if the fits are not extended beyond twelve hours, they are wont to be called pure tertians; but in caſe the Fit be extended above twelve hours, they are no more called exquiſite and pure tertians, but either ſimply tertians, or ſpurious tertians; and when the paroxiſm is extended above twenty four hours, they are called extenſe tertians; but this is occaſioned either by the thinneſs or thickneſs, plenty or paucity of the humour. For by how much the Choler is thinner or leſſer, by ſo much the ſooner 'tis diſcuſſed, but by how much the thicker, or more mixed with thick humours, or the more plentiful, by ſo much the longer the paroxiſm continueth. *Its difference.*

The cauſes of this Fever are all thoſe things which can generate excrementitious choler, namely a hot and dry diſtemper; hot conſtitution of ayr, eating of hot meats, and drinking of hot drinks, uſing of hot medicines, watching, faſting, labour, and too much exerciſe: For although that in the Liver alſo yellow choler may be generated, yet it is very often generated by the errour of the firſt concoction, and fault of the meſeraick vein; therefore whether much choler be generated in the ſtomack by rea- *The cauſes generating, Choler ſigns of a true Tertian.*

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ſon of meats, or by default of the ſtomack, and is carried to the meſeraick veins with the chyle, and there is heaped up, and at length putrifieth, a Fever is kindled.

If the cauſes generating Flegme and Melancholy be annexed to thoſe that generate choler, ſpurious tertians are bred.

A pure Tertian; This Fever preſently invadeth, if it be pure, with a ſhaking fit, as it were pricking the fleſh; afterwards when the cold fit ceaſeth, preſently much heat followeth, ſharp and biting, and in its vigour is extended equally over the body, whence the ſick draw their breath much, and are troubled with thirſt. The pulſes in the beginning of a fit are little, weak, ſlow, and thin; but the fit increaſing, they become vehement, ſwift, frequent, and in ſome meaſure hard, and void of all inequalities beſides Feveriſh. When the fit comes to the height, and the ſick drinks, many vapours are ſent through the skin, vomiting of choler followeth, which oftentimes uſeth to happen after the cold fit alſo, the belly is looſened, choler is piſſed out, or ſomtimes more then theſe happen. Afterwards a ſweating out of hot vapours enſueth over the whole body, and the pulſe is ſwift, great, vehement, ſuch as theirs uſe to be who are over-heated by exerciſe. The Urine is of a light red, or deep yellow, and afterwards hath a white cloud or ſuſpenſion. The fit laſteth not above twelve hours, and the cauſes which generate melancholy, have either gone before, or are then preſent.

A ſpurious Tertian. A baſtard tertian is known from the cauſes which do not generate pure choler, but to gather Flegm or Melancholy: The heat is not ſo ſharp as in a pure tertian, but more mild, neither is it preſently diffuſed over the whole body. Neither is this Fever diſſolved by vomitting of yellow choler, or by ſweat, but certain vapours go out in the declination, and if any ſweats come forth, they either are not univerſal, or if they are univerſal, they cure not the Fever. The Urine is not ſo fiery as in a pure tertian, and the ſigns of concoction do not appear ſo ſoon in it. The pulſe in the beginning is hard, and that hardneſs increaſeth daylie, until the ſeventh paroxiſm, then by degrees it becomes ſofter, and the Urines alſo appear more concocted. The paroxiſm is often extended to eighteen hours and more: yet ſomtimes, to wit if the matter be leſs, and Nature ſtrong, it is likewiſe terminated in twelve hours. It endeth not in ſeven fits, but often endureth till it comes to fourteen, and ſomtimes to twenty.

Prognoſticks. But theſe Fevers are leaſt dangerous amongſt all the putred ones 4. *Aphor.* 43. and ſuch as are pure, do not long continue, but

but at ſeven fits they are accounted at the height, 4. *Aphor.* 59. Somtimes they are terminated at the third or fourth fit; but ſpurious tertians, as they are more frequent, ſo they continue longer: for although if the matter be little, and neceſſary medicines are timely exhibited, they ſomtimes ceaſe at the fifth or ſeventh paroxiſm, yet for the moſt part they ſcarce end at fourteen fits, and are often lengthned out to the fortieth day; ſomtimes they continue ſix moneths, and end with ſome diſeaſe of the Liver or Spleen, or elſe are alſo cheriſhed by them.

Although Tertians for the moſt part are not dangerous, yet ſomtimes they become pernitious. Firſt, If any errour be committed by the ſick, or the Phyſitian. Secondly, If the humour which Nature endeavours to expel, ſhould fall upon any principal part. Thirdly, If the humour be exceeding thin, putred, or filthy. Fourthly, If a thin humour have a thick one mixed with it, and ſtir the ſame, and enflame it. Fifthly, If a thick humour poured out by heat, either fall down into ſome principal part, or cauſe a dangerous Catarrh, or Aſthma, or the Gout, or draw the womb into conſent. Sixthly, If the humour acquire a malignant quality.

Indications and Cure.

But in the cure of this Fever, as alſo in others, regard muſt be had of the Fever, the cauſe and nature of it; the Fever indicates cooling and moiſtning things, the ſame Choler alſo, as being the cauſe requireth, which alſo ought to be evacuated: yet if another humour be mixed with it, altering preparing and evacuating medicines, which that humour requires, are to be mixed; and becauſe the abundance of the matter is in the meſeraick veins, the vitious humour is to be purged out of them, and if need be, prepared before it infect the good blood: afterwards alſo it is to be altered, and the diſpoſition of the part generating peccant humours to be corrected. Laſtly, We muſt endeavour that the pollution and putrifaction may be diſcuſſed by Sudorifiques.

Purgers.

Firſt therefore, the firſt paſſages are to be cleanſed, either by Clyſters, or lenitive Medicines exhibited of the Syrup of Roſes ſolutive, Manna, Caſſia, to which alſo we may add Rhubarb, Agarick, the leaves of Senna, according as the quality of the peccant humour requires. Vomits alſo convenient may be given, eſpecially if the ſick be troubled with pain in the heart, loathing, and a deſire to vomit: And ſince the matter conſiſts in the meſeraick veins, and that nature her ſelf at the beginning of the paroxiſm ſtrives to expel it either by vomit or ſtool, the Phyſician ought to be obſervant to it, and to eject the matter, if Nature endea-

endeavour to expel it by ſtool or vomit; and becauſe the matter for the moſt part in the firſt paſſages is either more abundant, or hath thick humours mixed therewith, there is need not only of lenitives, but thoſe medicines alſo which we lately mentioned; nay ſomtimes of ſome of the Electuary of Fleawort or Fleabane, of the juice of Roſes, Roſati Meſuæ: Yet care muſt be taken that we do not draw the humours out of the veins into the firſt paſſages.

Opening a vein. Concerning the opening of a vein, although Choler reſiding in the meſeraick veins do not require it, yet if there be ſtore of blood, and the peccant humour out of the firſt region of the body have penetrated the vena cava, which may be diſcerned by the thickneſs and redneſs of the Urine, and if the party be ſtrong, a vein may be breathed; and moreover note, that not at the firſt invading, but afterwards, Phlebotomy is to be uſed: Yet regard of the Fever is to be had; for if it be a pure Tertian, which uſeth to be ſhorter, a vein is to be opened more timely, if it be required, becauſe if it be referred till after the third fit, the diſeaſe comes to its height; but if it be a baſtard tertian, you may defer it till after the third paroxiſm, namely, becauſe more of the morbifique matter is then mixed with the blood in the vena cava; but blood is to be taken away in leſs quantity in a pure Tertian; becauſe as in continued Fevers that is not the primary indicant, and the ſtrength cannot bear the taking away of a greater quantity, blood may be taken away more ſafely, and in greater abundance in a ſpurious tertian: But the opening of a vein is moſt conveniently appointed during the intermiſſion.

Preparatives. Afterwards thoſe medicines are to be exhibited which both correct the qualities of the cholerick humour exceeding, whereby it is troubleſome to nature, and alſo the vitious diſpoſition in the part generating excrementitious humours, and ſuch as are contrary to that pollution which remains after putrefaction; ſuch are cooling and moiſtning things, which together have a power of purging the firſt ways, and of reſiſting putrifaction; ſuch are Cichory, Sowthiſtle, Endive, Sorrel, Barley, the four great, and four ſmall cold ſeeds, the juice of Citron or Limon, and medicines prepared out of theſe, Syrup of Sorrel, Acetoſa ſimplex, Oxyſauharum, Syrup of Cichory, Endive de acitocitate citri, with waters and decoctions of the ſame, to which in ſpurious tertians we may adde thoſe things which are proper for Flegme and Melancholy, the roots of Fennel, graſs, aſparogus, alarabecca, polypodie, carduus benedictus, centurie the leſſer, wormwood, ſcolopendrium, betony, the ſpirit of vitriol and ſalt is profitable, cream of Tartar, Tartar vitriolated.

But

Specifick.

But amongſt thoſe medicines there are ſome which by a certain peculiar force are ſaid to oppugne Tertians; amongſt which norwithſtanding for the moſt part manifeſt cauſes may be rendred for it: ſuch are Sowthiſtle, Camomil, Century the leſſer, Plantane, Divels bit.

Purgers.

Altering medicines being given, if the Fever be more pertinacious, ſomtimes purging and vomiting are convenient, which for the moſt part are to be adminiſtred on the intermitting day; but if it be advertiſed that the matter during the paroxiſm doth encline towards the ſtomack, or tend downwards, it is lawful even when the fit is preſent to adminiſter vomits, or a gentle purge, yet ſo that before the beginning of the paroxiſm the operation may be paſt, in caſe a purge be given.

Amongſt the vomits, Aſarabecca and Broom are principally commended; amongſt the purges, Rhubarb; to thoſe that are ſtronger, the Electuary or Fleawort or Fleabane, Elect. Roſatem, Meſne, and of the juice of Roſes may be given in ſpurious Tertians; Agarick or Senna may be added, in whom it is alſo neceſſary to repeat preparatives and purgations.

Medicines cauſing of Urine.

The body being ſufficiently purged, the remainder is to be taken away by Diureticks: In a pure Tertian an Emulſion of the four great cold ſeeds is profitable, made with the whey of Goats milk, or the water of Barley, Strawberries, Cichory. In a ſpurious, a decoction of the roots of Graſs, Sparagus, Fennel, Maidenhair, red Parſnips, Bindweed, flowers of Camomil and Wormwood are convenient.

Sweats:

But principally the Phyſitian ought to imitate nature, which at the end of the paroxiſme uſeth to move ſweats, and ſhould diſcuſs the Reliques of the vitious humours by ſudoriferous medicines given either before or after the paroxiſm; and indeed in pure Tertians, wherein nature uſually cauſes ſweat in the end of the fit, it often ſufficeth that the ſick drink only Barley water, or the water of Sorrel, or Carduus benedictus may be given with the Syrup of the juice of Citron or Limmon. In ſpurious, hotter medicines are to be uſed, ſuch as hereafter ſhall be mentioned amongſt malignant Fevers, which being given ſome hours before the paroxiſm, often prevents or cures the ſame.

Corolorative.

If the Fever be not cured with theſe remedies, and that there be any ſigne of viſcous matter, and that the Liver and Spleen are likewiſe affected, regard thereunto muſt alſo be had; and ſince the Liver for the moſt part in baſtard Tertians is obſtructed by thick choler, or choler mixed with thick humours, which polutes the blood, thoſe things which cleanſe the body from choler are

are to be uſed; to which purpoſe Wormwood is very good to be uſed, which hath a force of deterging choler, and bringing away the ſame by ſtool and urine, as alſo hath century the leſſer, Troches alſo of Wormwood, of Rhubarb, Gentian and ſuch like are alſo profitable; care alſo muſt be taken of the Spleen and Stomack, if they are debilitated.

Febrifuga. There are certain other medicines given ſomtimes, which are called Febrifuga, of which 'tis ſpoken in the fore-going chapter.

Topical Medicines. And beſides theſe, there are yet others, which are externally applyed to the body to cure Fevers; namely, a plaiſter of cobwebs, with unguento populio, the leaves of Shepherds pouch, nettles, crowfoot, and other veſiccatories.

Diet. Concerning Diet, in a pure intermitting Tertian, the ſame diet uſeth to be kept for the moſt part as in a continued Tertian, they are to abſtain from honey, ſweet things, and all thoſe things which ingender choler, wine is not to be drunk before concoction: but when the notes of concoction have appeared, you may uſe it, ſo it be thin and watry; meat is to be given when the paroxiſm is paſt, unleſs Syncope imminent perſwade the contrary, *Galen* 10. *Meth. Med. c.* 5.

In baſtard Tertians two things are principally to be obſerved concerning diet; firſt, that the diſeaſe by too plentiful a diet may not be increaſed. Secondly, that the ſtrength by too ſlender a diet may not be debilitated, which ſhould hold out moſt in a long diſeaſe; and therefore the magnitude of the diſeaſe, and the greatneſs of the ſtrength are to be compared one with another; and in caſe the ſtrength be greater, and the matter harder to be concocted, the thinner diet is to be uſed, but the larger diet, if the ſtrength be weak, and the matter eaſier to be concocted. The drink ſhould not only cool and moiſten, but alſo cut, and therefore it may be mixed with Hyſop and wilde Marjerom, and if water ſweetned with honey be exhibited, Vinegar being thereunto added, that Choler may be thereby corrected.

CHAP.

Chap. XIX.

Of a Quotidian Intermittent.

A Quotidian Fever

THe ſecond ſort of intermitting Fevers is that which proceeds from Flegm, which becauſe it takes them every day, is called a quotidian. *Fernelius* writes that this is the rareſt of all Fevers, and that which ſcarce happens once amongſt ſix hundred: Nay there are ſome who plainly deny it: and although many are affected every day, yet they are ſick of a double Tertian, or treble Quartan.

The cauſe

The cauſe of this Fever ſithence it is Flegm putrifying in the meſeraick veins, all thoſe things may be cauſes of this Fever, which conduce to the generation of Flegm, namely, weakneſs of the bowels, eſpecially of the ſtomack, heat, cold and moiſt aliment, and too great plenty of them.

Diagnoſtick ſigns.

This Fever is known by the cauſes generating Flegm which went before, and alſo by the ſigns of Flegm abounding in the body, explained in *lib.* 3. of *Inſtitutions part.* 2. *cap.* 2, This Fever chiefly comes to invade in the night, only with coldneſs of the extreme parts, and trembling: The heat after refrigeration ſlowly invades, ſo that ſomtimes heat, ſomtimes cold is perceived; and the heat at the firſt doth not ſeem ſharp, but habituous; yet if the hand put thereunto continue ſome time, it appears a little ſharp, and when it is diffuſed over the whole body, it doth not burn much, ſo that the ſick do not breath extraordinarily, neither are they very thirſty: The face is not very red, but for the moſt part yellowiſh, or a little puffed up; the eyes in the beginning are white, thin, and crude; afterwards when the matter is concocted, they become thick, troubled, and oftentimes alſo red. In the firſt paroxiſms alſo they ſweat not, but in the progreſs of the diſeaſe they ſweat a little; the Pulſe alſo is exceeding little, thin, and more then in Quartans, but equally ſlow; the paroxiſm is extended to eighteen hours, and the interval, which is ſix hours, is ſeldome pure and free; nay 'tis often extended to four and twenty hours.

Prognoſticks.

But how long this Fever ſhall continue, may be conjectured by the ſigns of concoction appearing ſooner or later in the Urine, and by the longitude and brevity of the paroxiſm; for if nature timely aim at ſome evacuation, it affords hopes of ſhortneſs of the diſeaſe: But this Fever as being that which ariſeth from a pertinacious humour is long, and continueth unto forty days three

three moneths or more, and is not without danger; and when the Stomack and Liver are much affected with it, the ſick are often caſt into a Dropſie and Cachexy.

The Cure The cure for the moſt part is the ſame with a Quotidian continued; for the pituitous humour is to be prepared and evacuated, to wit, the firſt paſſages are to be opened with Cliſters accommodated to the pituitous humour; breathing a vein is ſcarce uſed, but a Vomit is more uſeful then in any other ſort of Fever, becauſe the ſtomack is principally affected, but 'tis to be occaſioned by ſeed of Radiſh, Orach, of Dill, flowers of Broom, in thoſe that are ſtrong, with Spurge, and others that are every where known.

Preparers. The Flegmatick humour is to be prepared with convenient medicines; the opening roots, Hyſop, wilde Marjoram, Betony, Maydn hair, Agrimony, Groundpine, Camomil, and other things convenient for Flegm, Syrup of Sorrel ſimple and compound, Syrup of the two and of the five Roots, Honey of Roſes, Syrup Byzant, ſimple and compound, of Hyſop, Oxymel ſimple and compound with Squills, ſpirit of Salt and Vitriol.

Purgers. The matter in the firſt place being prepared, it ſhould be evacuated with Agarick, Mechoachan, Turbith, Troches of Alhandal, Elect. Indo Diaphænico, Diacarthamo, pills of Hieca, with Agarick, and ſuch like.

Movers of Urine and ſweat. Sweat and Urine alſo ſhould be provoked with medicines made of Fennel, Carduus Benedictus, Salſa Parilla, wood of Saſſafras, Treacle, and Mithridate; and laſtly the Bowels, but eſpecially the Stomack and Liver are to be ſtrengthned.

Chap. XX.

Of an Intermitting Quartan.

A Quartan. THe third ſort of intermitting Fevers which ariſeth from a Melancholy humour putrifying in the meſeraick veins, and ſeizeth on the fourth day alſo, whence it is called a Quartan.

The cauſe The proximate cauſe of a Quartan Fever is a melancholy humour collected in the meſeraick veins about the ſpleen and adjacent Bowels, and there putrifying, and that ſomtimes natural by its own nature cold and dry, and ſomtimes it participates with ſome aduſtion; But the more remote cauſes are, all thoſe things which conduce to the generation of black and melancholy humours, namely meats and drinks apt to generate this humour; amongſt the which is vinegar, of the which *Hypocrates* 3. *vict.* 71.

rat. in acut. t. 38. writeth, it attenuateth melancholy humours, raiſeth them, and frames many viſions in the mind: For Vinegar is a Leader or ſtirrer of Melancholy. The time is principally in Autumn, eſpecially if a hot Summer have preceded.

This Fever is known by its quartane circuit, and ſigns of melancholy abounding in the body, and it invadeth with a certain unequal diſturbance of the body, the which a cold ſhaking fit followeth, which at the firſt is little, or at leaſtwiſe inſtead thereof there is at the firſt refrigeration and horrour, in the progreſs of the diſeaſe the cold paroxiſm is alwaies greater, and at length moſt vehement with pain, cauſing the bones to knock together. The heat is kindled by degrees, neither is it burning, but ſomwhat milde. The pulſe is thin and ſlow, and although in the vigour of the paroxiſm it become ſwift and frequent, yet in compariſon of Tertians it is thin and ſlow. The Urines at firſt are thin and white, but in the progreſs of time higher coloured and thicker. Sweats in the beginning are not frequent, but in the progreſs of the diſeaſe plentiful. *Signs.*

And thus things are in a pure quartan, but in a baſtard one tokens of ſome humour mixed do appear, and heat, thirſt, watchings, and other ſymptomes are more grievous.

This Fever continueth the longeſt of all other, and oftentimes is not only extended to ſome moneths, but years; and if it be not gone by the next ſolſtice or æquinctial, after it was firſt taken, it laſteth for the moſt part till the next after, and for the moſt part goes away in the Spring. 'Tis ſafe and without danger, if it be legitimate, and without any diſeaſe of any of the bowels: But that which is joyned with black choler is more dangerous, as alſo that which is with ſome grievous diſtemper of ſome of the intrals, and caſteth the ſick into a dropſie, the ſcurvie, or a conſumption. *Prognoſticks.*

As concerning the cure, if this Fever proceed from a pure melancholy humour, that ſince 'tis cold, dry, thick, 'tis to be moiſtned and attenuated, or if it be alſo aduſt, it is in ſome meaſure to be cooled, afterwards to be purged with convenient medicines. *Indications*

The cauſes generating are to be removed, and in caſe other humours are mixed, regard muſt be had of them. The Fever it ſelf indicates cooling and moiſtning; yet regard of the ſtrength muſt be had, leaſt by the duration of the diſeaſe that be impaired, as alſo of the ſtomack, ſpleen, and liver, leaſt they are offended.

This Fever is to be handled gently at the firſt, neither are ſtrong *Cure*

ſtrong medicines to be uſed at the beginning of cure, ſithence the melancholy humour may be exaſperated by the uſe of them, and out of a ſimple Quartan, a double or treble may eaſily be raiſed, *Galen* 1. *ad Glauc. cap.* 11. yet there is leaſt danger in Vomits:

Opening a vein. The firſt paſſages of the Body therefore are firſt to be evacuated with cliſters, lenitive medicines, and vomits alſo; afterwards in caſe blood abound therewith, a vein is to be opened; and in caſe it iſſue forth black and thick, the greater quantity is to be taken, that by this means both the plenty of blood may be diminiſhed, and that part of the melancholy humour which is poured out into the vena cava may be evacuated; but if the blood coming forth appear to be thin and yellow, 'tis forthwith to be ſtopped: And indeed where there is ſtore of blood (the firſt paſſages being cleanſed) a vein may be opened; but if this Fever begin without ſtore of blood, a vein is not to be breathed preſently at the beginning, but when ſome of the peccant humour is drawn into the veins, and mingled with the blood: The Baſilick or median vein either may be opened, moſt commend the opening of the Salvatella; yet they have not as yet rendered any ſufficient reaſon why that ſhould be preferred before others.

Preparers. The blood being evacuated, the peccant matter muſt be prepared and concocted, and likewiſe that diſpoſition of the body to generate vitious humours is to be corrected: And indeed, in caſe a Quartan Fever proceed only from natural melancholy, moiſtning things are to be firſt uſed, but heating things ſhould be more moderate; but if aduſt humours are mixed, there will be uſe of things moderately cooling; but in the progreſs of the diſeaſe, there will be need of cutting and attenuating medicines: If the pituitous humour be mixed therewith; in the beginning there will be need alſo of attenuating and cutting things, and it may be more ſafe to heat a little: Hence are to be adminiſtred, Burrage, Bugloſs, Violets, Maidenhair, Cichory, Fumitory, Ceterach, Hearts-tongue, Germander, Ground-pine, Carduus Benedictus, the Roots of Marſh-mallows, Licoras, Chichory, the opening roots, Polipody, Gentian, Fern, the barks of Tamariſk, Capparum, Roots of Walnut Trees, Flowers and ſeed of Broom, of the Vine, Aſh, Citron, juice of Apples, and compounds of theſe, and ſomtimes this or that may be choſen or mixed according as the nature of the peccant humour requireth.

Purging Medicines The concoction and evacuation of the matter muſt be by intervals repealed, and when the matter is in ſome meaſure prepared, purging medicines are to be prepared of Polipody, Epithymum, leaves of Senna, roots of Jalop, black Helleb*o*re, lapidis Lazuli,

Lazuli, and compounds of these Syrup of Apples, Regis Sapor, Electuary called Diacatholicon, Confection of Hameck, with the compound powder of Senna and Diasenna, Tartarious pills, or pills evacuating melancholy of lapis Lazuli, Armoniack, beginning with the more milde or gentle ones.

Vomits A Vomit also is convenient, by which oftentimes pertinacious Quartans are cured: So *Galen* of Treacle *ad Pisonem, cap.* 15. the day before the fit, after Supper he gives a vomit, the next day after early, the juice or dilution of Wormwood, and two hours before the paroxism, Treacle; the gentler Vomits are of the decoction of Dill and Radish with Oxymel; the stronger are Asarabecca, and Gratiola, or Hedge-hysop; The strongest were made by the Ancients of black Hellebore; at this day such medicines are made of Antimony.

Hemorrhodes. If the Hemorrhodes can be opened, there will be much good expected thereby; seeing that the flowing of these, preserves and frees a man from many diseases arising from adust and melancholy humours. The opening and preparing things before mentioned, may also cause Urine.

Sudorificks. Moreover, for the discussing the reliques of the matter after purging, and that the matter is concocted, sudorifiques are to be exhibited an hour or two before the paroxism. *Galen* hath two medicines in use for this purpose; the one ex succo Cyraniaco, and Treacle, which is also in use at this day. 'Tis profitable to use the use of Gentian, Carduus benedictus, Antidotus Saxonica so called, and such like.

Appropriated medicines. To these belong those medicines also which may help by a certain propriety, or hidden quality, whereof notwithstanding a reason may be given for the most part; to wit, such as may discuss and consume the reliques of the humour, and strengthen the bowels: such are the juice of Wormwood, Vervain, Roots of Masterwort, Plantane. Others also commend other medicines, which for the most part provoke sweat likewise, and may safely be exhibited in due season.

Hindring the fits. But Opiates, and such like, which only have power to check the fit, are not alwaies safely to be administred, because they only stupifie the expulsive faculty, and dull it, and prohibite the endeavours of nature, and hinder the motion of the matter, and the humours offending being detained in the body, may cause other evils. Fruthermore above the wrists, and where the pulses beat, may be applied those things which we have mentioned before amongst the Tertians.

In the mean time we should alwaies be careful of the interals;

and endeavour that they may be ſtrengthned, and that the ſpleen may not be obſtructed, ſwell, or become ſcirrous and hardned, which often uſeth to come to paſs.

Mitigati- of cold fits. Amongſt other ſymptomes, for the moſt part cold ſhaking fits are moſt troubleſome to the patient, which may be mitigated by the giving of Treacle or Mithridate before the paroxiſm, and anointing of the ſpine of the back with oyl of Camomil, Dill, Coſtus, Rue, Pepper, Bayes, with Treacle and Mithridate.

Topical things. Alſo there ſhould be applied to thoſe parts that principally cheriſh the Fever, and which are eſpecially troubled with pain during the time of the fit, plaiſters, fomentations, and unguents, eſpecially to the ſpleen, and thoſe to be made of Marſh mallows, Tamarisk, Broom, Dill, Camomil, Armoniack, Bdellium.

Diet. As concerning diet, it ſhould be meat of good concoction, and eaſie digeſtion, and no ways apt to generate melancholy humours, but rather ſuch as may hinder the increaſe of them. The meat therefore ſhould be moiſtning and heating in melancholy, and if an aduſt humour be mixed therewith, it ſhould be ſomwhat cooling, yet ſo, that it may not be deſtitute of power and and force to attenuate that which is thick; the meats alſo mixed with Burrage, Bugloſs, Fennel, Parſly, Capers, Cinamon, Saffron, and ſuch like. Meats affording thick and viſcous juices muſt wholly be refrained. If a Quartan ariſe of it ſelf without any preceding diſeaſe, at firſt a little thinner diet is proper, then diet ſomwhat thicker is to be uſed, and at laſt towards the height, a little thinner is to be again adminiſtred: But if a Quartan ſucceed another diſeaſe, at firſt diet a little thicker is to be taken, and afterwards by degrees towards the height, ſomwhat to be detracted from that: And in caſe the ſick will endure it, let him faſt that day his fit cometh, or at leaſt ſix hours before the paroxiſm, let him eat nothing, according to *Hypocrat.* 1. *Aphor.* 11. and 19. For meats then given, afford not any nouriſhment to the body, but to the diſeaſe: And many Quartans, as alſo Tertians are prolonged, not by their own nature, but by errors in diet, eſpecially becauſe the ſick either in the fit, or newly before it comes, do not abſtain from meat and drink.

Their drink ſhould be white wine, thin, mature, and not auſtere, or Beer that hath worked well, and is not flatulent; and the wine and beer may be mixed with herbs good againſt the melancholy humour above-named.

Quintan Fevers. Fevers which have longer periods, and return on the fifth or ſeventh day, or afterwards, ſince they all proceed from a melancholy humour, or melancholy declining into a black and aduſt humour

humour, or have a black humour mixed, as is manifeſt from the duration, and other ſymptomes, there is alſo the ſame reaſon of curing them as of Quartans: yet what the nature of the humour is, ought diligently to be obſerved.

Chap. XXI.

Of Compound Fevers, and Semi-Tertians.

Fevers compounded.

Beſides theſe ſimple Fevers hitherto mentioned, there are yet Compound Fevers, which is, when one Fever is complicate with another. They are divided into confuſed and explicite.

Confuſed

They are commonly called confuſed, when two Fevers begin and end at the ſame time, ſo that they can ſcarcely be diſcerned; namely, when ſeveral humours confuſed amongſt themſelves, putrifie in the ſame place, and each or every of them preſerves its own proper nature; which nevertheleſs how it might be done, ſcarce ſeems poſſible: But implicite are thoſe that are ſo joyned together, as that the nature and ſymptomes of either of them ſeverally and peculiarly may be known.

Implicite

That complication happens many ways; for firſt, a non-putred is joyned with a putred, as a hectick with a putred; moreover a putred with a putred, and that ſeveral ways; for firſt, continued are mixed with continued, and intermittent with intermittent; and that either of the ſame ſort, whence there are double Tertians, double and treble Quartans; or different, but that is rarer, as a Tertian intermitting with a Quotidian intermitting, and a Tertian intermitting with a Quartan intermitting, continued Tertians with intermitting, when a Tertian intermitting with continued Quotidian, or an intermitting Quotidian with a continued Tertian is mixed, which Fevers are called Semi-Tertians.

Three ways of compoſition of Fevers.

There are three ways of compoſition of Fevers, and three differences of compounded Fevers; Subintrante, Coalternate, and Communicant.

Subintrante are, when the fit of the one Fever begins before the termination of the other: Coalternate, when one paroxiſm being ended, by and by after a ſhort interval, another begins: Communicant are ſuch whereof the paroxiſme of the one doth begin forthwith after the end of the other, there being no interval.

Compound Fevers are known by the ſigns of ſimple Fevers,

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Signs of Compound Fevers. and principally by the returns of cold tremblings and ſhakings after reſt; and in caſe a cold fit happens, and ſweat do not follow afterwards, or that one ſweat happen after many fits. The pulſe alſo if in a continued Fever it be often contracted, motion of new matter, and of a new paroxiſm, and ſo 'tis a token of a compound Fever.

Prognoſticks. But theſe Fevers are for the moſt part more dangerous then others, ſince that they more afflict the patient then ſimple, and a ſet time for their paroxiſms is for the moſt part wanting, and eſpecially in caſe the compound Fevers conſiſt of ſeveral humours, and they are more difficult to be cured, ſeeing thoſe things that are accommodated to one humour, are not fit for another.

Cure But their cure depends on the manner of cure of their ſimples, and to every humour and Fever that is kindled, thereby are to be exhibited their oppoſite remedies.

But that we may ſay ſomthing of compound Fevers, we will add ſomwhat concerning a double and treble Tertian and Quartian, and likewiſe of a Semitertian

A double Tertian. A double or triple Tertian is cauſed by choler putrifying in two or three places in the meſeraick veins; and indeed, if choler putrifie in two places, a double Tertian is made, which afflicteth either every day once, or in one day twice, that the next day after the ſick may be free from the fit: But in caſe it putrifie in

A treble Tertian. three places, a treble Tertian ariſeth, which in the ſpace of two days afflicts thrice, one day once, the other day twice. Nay choler may putrifie in four or five places, and more, and ſo many, or ſuch Tertians then will enſue.

A double Quotidian. A double Quotidian is cauſed by Flegme putrifying in two places, and invadeth the ſick twice in the ſpace of four and twenty hours.

A double Quartan A double Quartan is cauſed by a melancholy humour putrifying in two places; and thoſe that are troubled therewith, are one day free from a Fever, and the two next are troubled with it. But ſuch as are troubled with a treble Quartan, are Feveriſh every day; Nay, 'tis not impoſſible but that thoſe that are troubled with a compound Quartan, ſhould be affected twice in one day.

A treble Quartan And indeed a double Tertian is often ſuch from the beginning, but a double or triple Quartan for the moſt part from the untimely uſe of medicines, eſpecially of hot ſodorifiques, 'tis become ſuch, becauſe the crude matter is only ſtirred up, but not diſcuſſed, but diſperſed over more parts.

Cure A compound Tertian and Quartan is cured as other Tertians and

and Quartans are: yet this is to be taken notice of, that the meats or medicines may be uſed at fit times in regard of the paroxiſme.

As for a Semitertian which by the Greeks is called a Semitertian fire, 'tis compounded of a Tertian and a Quotidian, the one continued, the other intermittent, and indeed principally of an intermitting Tertian, and continued Quotidian, and hath its continuity from Flegm, its horrour from intermitting, as commonly 'tis taught; whence theſe are alſo called horrid Fevers. But although I ſhould not deny that humours putrifie together in the vena cava, and the meſeraick veins, and that from thence there may ariſe complicate Fevers, which have various exacerbations and mutations in their ſymptomes; yet it ſeems not abſurd to call thoſe Fevers alſo Semitertians, which by their nature are indeed intermitting Tertians, yet when 'tis joyned with an inflammation of any Intral, a ſymptomatical continued Fever is ſtirred up; for when the Feveriſh part of the matter is thruſt out with the blood into the Guts, Stomack, Liver, and parts adjacent, an inflammation is cauſed, and thence a continued ſymptomatical Fever, which being complicate with an intermitting Tertian, conſtitutes a Semitertian, which in reſpect of the intermitting Fever is horrid, in regard of the ſymptomatical continued. That which Phyſitians obſervations teach us, by whom 'tis found out, by the diſſected bodies of ſuch as have died in Semitertians, that there are inflammations about the hollow parts of the Liver, as alſo in the Stomack, Guts, Meſentery, Kell or Cawl, Spleen; Whence 'tis eaſie to give a reaſon of a trembling or ſhaking fit in this Fever; for it happens ſomtimes ordinately, according to the nature of the intermittent Fever; ſomtimes inordinately, when the inflammation ſeizeth on ſome new part, or when quitture or purulent matter is made; according to *Hippocrates*, 2. *Aphoriſm.* 4. 7. Somtimes malignity happens to be joyned with theſe Fevers, and then for the moſt part they are popular, and there are many affected therewith. *Semitertian.*

This Fever is known, and if it be according as it is commonly deſcribed, compounded of a continued Quotidian, and an intermitting Tertian, by the ſigns of each Fever; for a continued Fever on the one humour, daylie brings a paroxiſm, but the other every third day, and ſo in one day there will be two fits, in the other but one. See *Galen.* 2. *de diff. Febr. cap.* 7. But if it proceed from an inflammation of any Intral adjoyned, ſigns of an inflammation are preſent, and together therewith *Signs:*

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the intermittent Fever keeps it likeneſs; malignity, if it be preſent, is known by its ſigns.

Prognoſticks. This Fever is altogether dangerous, both in regard of its continuity, and of its ſymptomes, as alſo of its inflammation or malignity.

Cure. The cure thereof depends either on the cure of an intermitting Tertian, or a continued Quotidian, or on the cure of a ſingle or double intermitting Fever, and of an inflammation of Intrals.

The

The Third Book.

Of a Hectick Fever.

Chap. I.

Of the Nature of a Hectick Fever.

A Hectick Fever.

And ſo theſe things of putred Fevers are handled, and conſequently the firſt ſort of Fevers, whoſe heat according to inclination, diſpoſition, or habitude, is in the living parts of the body; It ſtill remains that we ſpeak of Hecticks, wherein the Feveriſh diſtemper becomes as it were habitual, and ſo poſſeſſeth the living parts of the body, that although it be foſtered by no cauſe, yet nevertheleſs it can ſubſiſt without it.

Cauſes

There are two things neceſſary for the generation of this Fever, aptneſs of the ſubject to receive and entertain preternatural heat, and a continual and vehement action of cauſes heating and introducing Fevers. An apt habit of body to take this Fever, is a hot and dry body, whether it be natural, or from what cauſe ſoever it proceed.

Manner of generation.

Theſe Fevers are generated two ways; for either they follow other Fevers, whether burning or laſting, when their heat is vehement; or being durable, it poſſeſſeth all the parts, and conſumes their moiſture; or they ariſe from themſelves, and from evident cauſes, which if they are weaker or lighter, they produce Ephemeraes; if ſtronger, they bring forth Hecticks.

Differences.

But there are certain degrees of a Hectick Fever: The firſt is, when the rorid humidity is dried. The ſecond, when the fleſhy and fatty ſubſtance periſheth. The third is, when the heat likewiſe invadeth the fibrous parts: And indeed when the rorid humidity only grows hot, and is not as yet conſumed, 'tis called a Hectick without a Conſumption; but when that humidity is conſumed and dried up, 'tis called a Hectick with waſting or maraſmodes.

A Hectick alſo is ſomtimes ſimple and alone, ſomtimes 'tis joyned with putrifaction.

Chap. II.

Of the signs of a Hectick Fever.

Diagnostick signs. A Hectick Fever is known by its continual heat, causing no pain, as being equal; and Hectick which indeed at the first touch is weak, afterwards it appears sharper: It is perceived more in the Arteries then the other parts: And moreover, the heat after taking food, within an hour or two is increased, and the Pulse either is changed, as to greatness or swiftness, yet so, that its ascending appears strong and free, and none of those things precede which forego the fits of putred Fevers most commonly; and this mutation of pulse and heat, endures until the aliment be distributed. The pulse also in this Fever is little, frequent, and moderately swift; and by how much the more the strength receiveth this Fever, by so much the more the body is consumed, and the strength debilitated, so that the sick can scarce lift up the eye-lids, and together with it in the second place, fatness in Urine swims like cobwebs. Lastly, The same things which appear in an hippocratical face, as 'tis described by *Hippocrates*, are also discerned in a marasmodes or Hectick, with wasting.

Signs of differences.

Signs of a Hectick with a Putred. A Hectick with a Putred, and an Intermittent conjunct, is known from hence; That the fit declining, the heat nevertheless, although remiss, some is left thereof, and there is great languishing of the strength, and all the other parts are more temperate, only the parts where the arteries are become hotter, and the pulse loseth not its swiftness and frequency, and the sick takes food, but is not strengthned thereby. A Hectick joyned with a continued putrid Fever, is difficult to be known; yet it may be known from hence, namely, because the dry calidity remains after the end of the declination, or of the whole Fever, or its periods; and the body is more extenuated then otherwise it useth to be, the Urine also becomes oylie, as may appear.

Prognosticks. It is hard to know a Hectick in the beginning of it; 'tis not so difficult to cure at the first: but that which is neeret to wasting, or a consumption, is easily known, but hardly cured, and at the last it becomes plainly incurable.

CHAP.

Chap. III.

Of the Cure of a Hectick Fever.

LAstly concerning the cure: The hot and dry diſtemper indicates cooling and moiſtning, the ſtrength requires preſervation, and whatſoever of the humid and ſolid parts is conſumed and dried, is to be reſtored with moiſtning things; and indeed moiſtning things are more ſafe; but in giving cooling things we muſt be cautious, leſt that the native heat already being weak, ſhould by that means be extinguiſhed. But if a Hectick Fever have a Putred one joyned therewith, the Hectick cannot be cured, unleſs the other Fever be firſt taken away. *Indications and Cure.*

Medicines cooling and moiſtning are, Violets, Burrage, Bugloſs, Waterlillies, Roſes, Endive, Succory, Mallows the four greater cold ſeeds, Poppy. Out of which ſeveral medicines for preſent uſe may be prepared. *Medicines*

Externally, A Bath of fair water may be uſed moſt profitably, of which *Galen* 10. *Meth. Medend. cap.* 10. Which that it may moiſten the more, Mallows, Violets, Bearsbreech may be added: 'tis convenient alſo to uſe a Bath of warm milk. After the Bath, let the body be anointed, but principally the ſpine of the back, with oyl of Violets, ſweet Almonds, Water lillies, Roſes; Cooling and moiſtning medicines may be alſo applyed both to the Breaſt and Liver, as alſo to the Reins. *External things,*

But the greateſt hope of cure conſiſteth in Diet: The Ayr ſhould be temperate, or moderately cold: Meats ſhould be cooling and moiſtning, eaſie of concoction, and of good juice, having in them few excrements, and ſuch as is not preſently diſperſed. In the firſt place Milk is profitable, which as *Galen* 4. *de Simp. Medic. Facult. cap.* 17. teacheth, 'tis cold and moiſt, eaſie of concoction, of the beſt nouriſhment, and hath great power of moiſtning and refreſhing the ſubſtance of our bodies; Which leſt it ſhould be coagulated in the ſtomack, ſome Sugar or Salt ſhould be mixed therewith; and it ſhould only be taken in ſuch a quantity as may well be concocted by the ſtomack. Strengthning and Reſtorative Broths are alſo profitable, of which 'tis ſpoken elſe-where, as alſo food of Almonds, Pine, and Piſtack nuts, the four greater cold ſeeds, and of white Poppy. *Diet.*

But meats in ſuch as are ſick in Hecticks, ſhould be given in ſmall quantity, but often, by reaſon of the imbecility of their ſtrength. Their drink in our Countries ſhould be Ale or Beer,

Beer, or Water and Wine, white and ſweet. Their ſleep ſhould be ſomwhat longer. If a Putred be joyned with a Hectick, we muſt endeavour that the Putred Fever may be firſt taken away, yet the Hectick not to be neglected, leſt that whilſt we uſe remedies only for the Putred Fever, the Hectick may be encreaſed; if we uſe means only to cure the Hectick, the Putred may be increaſed.

The

The Fourth Book.

Of the Plague, and of Peſtilential and Malignant Fevers.

Chap. I.

Of the Nature of the Peſtilence.

Hitherto we have finiſhed the eſſential differences of Fevers; it remains that we now ſhould ſpeak of the accidental. Amongſt which, the principal and moſt neceſſary to be known, are thoſe that enfold the Peſtilence, peſtilential Fevers and malignant.

What the Plague is.

And indeed concerning the Plague, with which, although not alwaies, yet moſt commonly a Fever is joyned; That name is moſt noted to be attributed to the moſt pernitious and deſtructive of all others: But what the nature of that diſeaſe is, amongſt Authors is much controverted. For firſt of all, ſithence various and ſeveral kinds of diſeaſes and ſymptomes may appear in the Plague: Yet becauſe they are alſo often perceived without the plague, the nature of the plague is not to be placed in ſo many diſeaſes and ſymptomes differing in ſpecie, but in ſome peculiar ſort: Nor doth the being epidemical or contagious, conſtitute the nature of the peſtilence, ſince other diſeaſes alſo may be univerſal and contagious.

The plague a diſeaſe of the heart

But ſince that this is granted by all, that the Plague ſpreads moſt, when many are infected together with the ſame diſeaſe, and they die, and others are infected: Hence it may eaſily appear, that the plague is primarily a diſeaſe of that part on the which life depends chiefly, and the which being hurt, a man is in very great danger of his life, namely the heart, the fountain of life, and ſtore-houſe of vital heat: For although the humour wherein the venome inhereth may ſubſiſt in divers parts (whence the ſame diſeaſes and ſymptomes in every peſtilence are not the ſame to appearance) yet in what place ſoever it ſubſiſteth, it hath a po-

a peculiar antipathy with the heart, and thereby deſtroyeth a man ſo ſuddenly.

Whether the nature of the plague conſiſt in putrifaction.

But from whence that force and quality ſo miſchievous and inimicous to the heart, hath its original, and dependeth, of that there is a very great controverſie amongſt Phyſitians; and indeed, ſome do conceive that the Peſtilence only conſiſteth of putrifaction, and conclude, that by putrifaction the nature of the Peſtilence may be conſumed. But becauſe they themſelves acknowledge that all putred Fevers are not peſtilential, they ſtrive variouſly to determine it in putrifaction, and that they divers ways ſtrive to explain, but all in vain. Whatſoever therefore putrifaction is concluded to be, it ſufficeth not to conſtitute the peſtilence; for there are meaſures and degrees of putrifaction alſo whatſoever they are, ſince that they differ only according to *magis* and *minus*, they differ not in their kind, neither do they ſeparate the plague from the reſt of the putred Fevers. Moreover the Plague hurteth in another kind then a putred Fever doth; for it ſpreads it ſelf for the moſt part in a moment, and brings forth pernicious effects, it diffuſeth it ſelf in an aſtoniſhing manner, and into whatſoever it enters, a very little of the peſtilent venome may lie hidden any where a long time, and remain whole, and afterwards be taken into the body, and on a ſudden produce ſuch grievous ſymptomes, and brings forth ſuch effects as are not in the power of the primary qualities, on which the ground of putrifaction depends: Moreover, if the plague ſhould proceed from putrifaction only, a Fever alſo would never be without the peſtilence: yet ſince it is obſerved that a Fever is without the plague, as out of *Hippocrates* 3. *epid. comm.* 4. 25. 55. *Galen de ſimp. med. facult. de terra Armenia. Fac. de partib. in* 1. *quarti Avicen. cap. de Febre Peſtilent. Alex. Benedicto, Fr. Valleriola loc. comm lib.* 3. *c.* 18. and out of others it is manifeſt. Laſtly, the way of cure is far different from that of other putred Fevers, and the peſtilent poyſon indicates and requires alexipharmall means, which in other putred Fevers are neither indicated nor have any place.

Therefore we have determined that the plague doth conſiſt in a hidden quality, and in its nature wholly adverſe to the heart, and that the peſtilential poyſon is endued with ſuch a quality, which by the effects of it, as we lately ſaid, beyond the primary qualities doth prove.

Contagion is joyned with the peſtilence, and peſtilential poyſons have always contagion joyned with them as a proper accident, becauſe it belongs to all plagues, but not only to the plague.

Therefore

Therefore we define the peſtilence to be a venomous diſeaſe of the heart, from venomous matter, and in its whole ſubſtance peculiarly adverſe to the heart, and gotten by infection, and therefore is of it ſelf infectious, and ſuddenly and joyntly hurting all the actions of the heart, very acute, deadly, introducing deſtructive ſymptomes of all ſorts. *Definition of it.*

But what the ſpecifique nature of this venome is, and what its differences are in divers conſtitutions peſtilential, no man can eaſily explain. To me it ſeems probable to be the higheſt degree of corruption, which indeed the humours in our bodies can poſſibly receive; to which through many alterations, mutations, and fermentations it comes, and into which diſeaſes which went before, at length degenerate: Whence it comes to paſs, that when the Plague reigns, other ſporadick diſeaſes that come not by ordinary means, and all benigne diſeaſes for the moſt part are ſilent, and thoſe epidemical diſeaſes that reigned before ceaſe.

Chap. II.

Of the cauſes of the Peſtilence.

Concerning the cauſes of the Peſtilence, or this great corruption, they are twofold; ſome of them generating the Peſtilence, others propagating the ſame, which are comprehended under the name of contagion. In the former rank are Ayr, Stars, courſe of Diet, Poyſons, imagination and terror. *A cauſe*

For firſt, Ayr ſomtimes contains in it the ſeeds of the peſtilence, which when by drawing in the ayr by our breath, men draw in that therewith, and ſo the peſtilence is ſtirred up in them, and that when it happens, moſt grievous peſtilential conſtitutions are occaſioned, and is far more pernitious then to thoſe to whom the contagion of the plague is only transferred. Ayr becomes peſtilential, when there is in it exceſs of heat and moiſture, which diſpoſe bodies to putrifaction; ſuch a conſtitution of ayr *Hippocrates* deſcribeth 3. *epid. comm.* 3. yet the Plague may be bred alſo without ſuch a conſtitution of ayr, and that very corruption it ſelf is not terminated in the primary qualities; but 'tis neceſſary that certain occult qualities, and that ſomwhat divine, mentioned by *Hippocrates* ſhould concur, but it takes its venenoſity and peſtilential quality firſt from heaven, whilſt that the ayr by a peculiar influence from the ſtars, whether it be ſo diſpoſed in the firſt qualities, that it ſhould putrifie and be corrupted, or in an occult manner alſo it be ſo diſpoſed and affected, *Ayr.*

that

that in it poyſonous ſeeds are generated, which in their whole ſubſtance are adverſe to man.

To which thing Aſtrologers teach, that *Saturn* doth principally act his part. Moreover the Ayr may receive its peſtilential ſeeds from the caverns of the earth, whilſt from thence venomous ſteams exhale, being generated in the ayr long pend up before; to which purpoſe Earthquakes much conduce, which move venomous ſteams in that manner, and open ways for their evaporation; ſo out of a cheſt which hath been long ſhut, being opened, the plague cometh forth, as *Julius Capitolinus* hath noted in *Vero*: The ſame may happen in ſtanding pools and lakes, and corrupted waters in Wells. Laſtly, Hiſtories inform us, that the ayr hath been infected by the carcaſſes of ſuch as have been ſlain, and by the corruption of multitudes of dead locuſts.

Secondly, although the ſtars by corrupting of the ayr may be the cauſe of the peſtilence whilſt they ſo corrupt it, as that that peſtilence which is contained in it, the ſeeds or ſparks being communicated to man, they excite the plague in him: yet by it ſelf alſo, by affecting of mans very body, they may cauſe the plague, whilſt either they diſpoſe the ayr ſo, that whether by manifeſt or occult qualities, 'tis rendred not fit for the preſervation of mankind, but corrupteth the humours therein, ſo that they become of a peſtilential nature; or alſo proximately and immediately by occult influencies, they corrupt mans body, and principally the humours and ſpirits contained therein; concerning which thing Aſtrologers are to be adviſed with.

Common Diet. Thirdly, Peſtilential venome may be generated from common Diet. That which often happens in a long dearth of proviſion, in Camps and Sieges, where men are compelled to make uſe of corrupt and unwholſome meat, by reaſon whereof ill humours are generated; which being detained in the body, are more corrupted, and at length become peſtilential; as Hiſtories ſufficiently teſtifie.

Poyſonous things. Fourthly Unguents and venomous powders being ſpread abroad may cauſe the plague, being that which by miſchievous perſons hath been done and committed, as hiſtories again inform us: yet if any one would refer this kind of cauſe to contagion or infection, we will not contend with him.

Imagination. Fifthly, The cauſe is imagination, terror, and fear; and experience hath taught us, that ſome whilſt they have beheld thoſe that were infected with the plague, or dead of it, or ſeeing ſome go out of a houſe that was then infected, by reaſon of too much

terror

terror and fear, have fallen ſick of the plague: I have obſerved the ſame to proceed from anger.

CHAP. III.

Of Contagion.

AND theſe are the cauſes, by means whereof the peſtilent poyſon may be generated in the ayr, or in mans body; yet it often comes to paſs, that neither the ayr, nor evil diet, nor any of the reſt of theſe cauſes have ſtirred up the peſtilence, but otherwiſe from elſewhere being brought into ſome place by contagion, and afterwards by contagion alſo it is diffuſed into more places. For although there are other diſeaſes contagious alſo, yet the plague is the moſt infectious of all others. *Infection.*

Contagion is a production of the like diſeaſed or ſickly affect in another body, by pollution ſent out from a diſeaſed body, but there are three things required to perfect contagion: A contagious body it ſelf that may infect others, a diſeaſe or an affect contrary to nature, which is communicated to another, and the body which is infected.

Firſt, a contagious body is that which whilſt 'tis ſick of any diſeaſe, diffuſeth not the diſeaſe it ſelf (for the accident goes not out of the ſubject) but ſome of the morbifique cauſe out of it ſelf, and communicates it to another, and ſo in this manner excites the ſame diſeaſe in it. For that which is communicated to another from out of a contagious body, is not the diſeaſe it ſelf, but a certain body flying out of the diſeaſed body, and received into another, having power of ſtirring up the ſame in it. The Greeks call it *Noſeras apocriſeis*, and *aporroias*, and *miaſmata*: The Latines, the pollutions and ſeeds of contagion; and ſince that we ſee that ſuch ſeeds have not only hurtful qualities in the ſmalleſt quantities, and that they eaſily inſinuate themſelves into the body, but alſo they endure a long time, and retain their ſtrength entire, and they are moſt exactly mixed, and are ſome way ſpirituous, and 'tis neceſſary they ſhould ſowe their ſtore of ſtrength by ſome occult quality. *Infection how many ways it is ſpread.*

But contagion is not ſcattered after one manner, for ſomtimes it goes out by breathing, ſomtimes through the pores of the skin, or in the form of vapours, or of ſweat and filth adhering to the skin, and is communicated to other bodies. And this ſeed goeth out moſt plentifully from an infected body, when the poyſon is too ſtrong for nature, and overcomes it, which happens in thoſe that are dying.

The

The ſeeds of contagion are communicated either by immediate contact, or by ſome medium and vehicle. This vehicle is twofold; ayr, and ſome fewel, as they call it: Ayr, when it receives the ſeeds of contagion from infected bodies, it can carry them to places nigh, yea and ſomtimes more remote places. That hath the nature of fewel in it, which can receive the ſeeds of contagion, and communicate the ſame to another; which kind of bodies are thin and porous, as Flax, Cotton, Feathers, the hairy skins of animals, and garments made of them, feathers alſo of birds, and birds themſelves; and it is found out for a truth, that thoſe peſtilential ſparks have often lain hid in the cinders or aſhes; and it may come to paſs, that any one may carry the ſparks of it about him in his garments, and not be infected, and yet they being moved and ſhaked, may infect another.

But the ſeed of a contagious peſtilence when 'tis received into a body, it brings in that diſpoſition with it wherewith that body from out of which it came was afflicted, and that for the moſt part ſuddenly, yet ſomtimes it is found to lie hid ſome days in the body before it denudates it ſelf.

Thirdly, Concerning the body that receives the peſtilent treaſury, although no man can promiſe to himſelf immunity from the peſtilent venome, yet it is certain ſome are more eaſily, ſome more hardly infected. The cauſe whereof without all doubt conſiſteth in ſome peculiar occult quality of the heart, by the power whereof it hath or hath not ſtrength to reſiſt the venomous peſtilence; yet becauſe the venomous quality is not tranſferred without a ſubject out of the infected body into another, it will more powerfully inſinuate it ſelf if it be received into a body proportionable and like unto that wherein it was generated: whence kinſmen are ſooner affected then others. Yet there are alſo other things that occaſion the more facile reception of the peſtilence; for ſuch as breath ſtronger, and ſuch as have wide and open pores of their bodies, eaſier take in the ſeeds of the plague, inhering in the Ayr, or any place apt to retain it.

CHAP.

CHAP. IIII.

Of the signes of the Plague.

MOreover concerning the signs, that I may say nothing of approaching signs, desiring brevity, but only by what means it may be known we will speak. Indeed the plague when many have been infected, may easily be known; but before many have been overspread thereby, there is scarce any pathognomick signe by which it can certainly be known, that one or a few being affected are sick of the plague; afterwards when more are visited, it is not so difficult to be known, especially when all sporadick diseases for the most part are silent: For first, the plague seizeth on many, and the most it kills. Secondly, 'Tis contagious, and easily given to others, and 'tis more contagious then any other disease. Thirdly, by its violence it destroys the strength, and principally the vital spirits. Whence fourthly, when little, frequent, and unequal pulses are made, palpitation of the heart happens, lipothymie, syncope, and great anguish and perplexity altogether. Fifthly, If the disease be protracted, and the venome corrupt the humours, evils and symptomes happen of all kinds, and the whole order of the body is disturbed; Fevers happen, divers wheals or pustules, buboes, carbuncles; yet if there are no pushes, bubo, or carbuncle appear, we must not therefore conclude that the sick hath not the plague; for it often happens that before they come out, and can be drived out by reason of the debility of nature, the sick die with the violence of the disease. There happens likewise other symptomes of all sorts; for when the strength of the body is debilitated by the vehemency of the poyson, the humours and spirits are corrupted, the excrements are changed, and the urine either becomes crude, or fully corrupted, the sweats are stinking and untimely, filthy, fœtid, ill coloured excrements proceed from the belly, the qualities of the body are variously changed, and there is nothing at all in burning and malignant Fevers, which may not appear likewise in the pestilence: But there is no disease at all to which the Aphorism of *Hippocrat.* 19. *sect.* 2. doth more agree: for oftentimes when the plague flatters most, it brings unexpected death; and on the contrary, those that have seemed desperate, often recover when past hope.

Diagnosticks signs.

Prognosticks

But there is the more hopes when tumors come forth suddenly in a place that is not dangerous, and after their coming forth the

ſymptomes abate, alſo if the wheals are of a good colour, and with remiſſion of ſymptomes; if medicines, meat and drink are not vomited up again, if ſweats come out with lightſomneſs to the ſick, and other ſigns are diſcerned, which uſe to be preſent in ſalutary Fevers.

But the greateſt danger is, when tumors come not enough out, and carbuncles draw near to the heart, or vaniſh again; if giddineſs in the head, watchings, a coma, or convulſion fits are preſent, if the ſick ſhall ſay every thing ſtinketh, if trembling of the heart, fainting of the ſpirits be preſent, if all things are thrown up by vomiting, if the extremities of the body wax cold, if the ſweat be cold, if the excrements are of divers colours, black, and ſtinking, and if the other ill ſymptomes of malignant Fevers be preſent.

CHAP. V.

Of preſervation from the Peſtilence.

Preſervatives.

But becauſe 'tis ſafer to prevent the Plague, then being preſent to expel it out of the body, we ſhould therefore be careful firſt to prevent it. The way of preſervation (with Gods aſſiſtance, which we ought to ſeek by prayers) conſiſts in two things.

The firſt is, That all thoſe cauſes that may occaſion the ſickneſs may be avoided.

Furthermore, that the force of thoſe cauſes when they cannot be avoided, may be broken, and our bodies rendred leſs apt to entertain them, and more able to reſiſt them.

Firſt therefore if the Plague reign any where, all commerce with the infected is to be avoided, and if any one be certainly infected, he ſhould be ſeparated from the reſt with all his houſhold-ſtuff, indeed for many weeks, and the houſe infected (as hereafter ſhall be ſhewed) cleanſed; and in caſe it be doubtful whether any one be ſick of it or no, 'tis better to be too cautious then careleſs.

But if the peſtilence be now ſown in any place, 'tis ſafeſt to remove from thence, according to that common verſe,

Mox longe tarde, cede recede redi.
Forthwith far from it go,
Returning come back ſlow.

The reaſons of which do not prove that he ſhould change his place, the aſſiſtance of God being implored, he ſhould often uſe

medicines

medicines against poyson, and fortifie the body with those things that resist contagion, as also he should endeavour that his body should be free from all excrements, and preserved in its natural state.

Purging.

And that we may begin *a posteriore*, the body is not to be rashly weakned with strong medicines; yet if any vitious humour shall be in the body, lest that the force of the Alexipharmacal medicines should be debilitated, or the venomous poyson should easily take root in the body, it is to be purged by little and little with lenitives; to which purpose the most profitable are pills of Ruffi, so called from the authors name, and by custome called Pestilential pills; out of which also is made the Elixir proprietatis, oyl of Vitriol being thereunto added: Syrup of Roses solutive is also profitable, and Rhubarb, Agarick, and medicines compounded with them, which are every where extant. If blood abound, it may be abated by opening of a vein.

Diet.

The Diet ought to be such, whereby vitious humours may not be cumulated; and with meats and drinks most principally things good against poyson should be mixed; and also, if as it may easily happen, any of the vitious humours be cumulated, let them be purged by the said medicines.

And for asmuch as Fontanels take away excrementitious humours by little and little, and hence take away the provision for the plague, they also in pestilential times are profitable.

Mediocrity also is to be kept in exercise and rest, sleeping and waking, and the passions of the mind, and principally as much as 'tis possible, intentive thoughts of the plague, and fear of the same is to be shaken out of our minds.

Besides these, two things more are yet necessary for our preservation from the plague: First to take heed that none of the pestilential seed be attracted; Furthermore, if that happen, we being ignorant thereof, our bodies should be fortified against it.

The Ayr how to be purified.

First therefore we should endeavour that the Ayr wherein we live be pure; and therefore first publike places are to be cleansed from all filth, and the ayr should be purified with fire, principally of the wood of Juniper, Oak, Pine, Bays, and odoriferous plants being kindled; furthermore, every one should avoid company, and therefore solemn and frequent meetings are justly forbid by the Magistrate. The windows likewise towards places infected should be kept shut, and the ayr (as I newly said) with burnt woods, or with vinegar bezoarted, being poured upon hot bricks, or with suffumigations, or with pyrion powder kindled, should be purified.

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How every man ought to fortifie himſelf againſt the Plague.

No man ſhould go abroad until the Sun be an hour or two high, neither faſting, nor unarmed with alexipharmacal things, therefore balls of Amber, Nodules, ſweet Limments mixed with Treacle, oyl of Rue, Znczedoaric, Angelica, Citron, Juniper, and ſuch like ſhould be held to the noſtrils, and under the tongue convenient troches ſhould be held, cordial bags ſhould be applied to the region of the heart.

Amulets

Amulets likewiſe of poyſonous things are commended by many, as Arſnick, powder of a Toad, Quickſilver and ſuch like being prepared, deſcriptions whereof are every where extant: which whatſoever they do, without queſtion they perform in ſuch manner, that they draw the venomous poyſon to themſelves, by the ſimilitude of their own ſubſtance, and turn it from the heart; as thoſe that are wounded with a Scorpion, with the oyl thereof being externally anointed, are forthwith healed: yet you muſt take heed that thoſe bags, or maſs of ſuch things be not heated by motion, leſt the ſtrength of the poyſon ſhould be communicated to the heart through the pores of the skin.

Alexipharnicks.

But the greateſt hope of health and ſecurity, is in medicines that reſiſt poyſon, out of which thoſe are to be ſelected which by long experience have been approved; The ſimples are, Angelica, Valerian, Tormentil, Carduus Benedictus, Sorrel, Dittany of Crete and white, Rue, Swallow-wort, Scordium, Scabicon, Diveis-bit, Burnet, Oſnicium, Fluellin, Vipers-graſs, Marigolds, Wormwood, Tanſie, Zedoary, Maſterwort, Gentian, Juniper berries, Walnuts, Hartshorn, Bolealmanick, Terra ſigillata, an Emerald, a Hyacinth.

Out of which are various compounds; amongſt which thoſe that excel, and are approved by long uſe, are Mithridate, Treacle and Confectio Liberantis, as alſo that antidote which is aſcribed to King *Mithridates*, of which *Pliny lib.* 23. *cap.* 8. as alſo Theriaca Diateſſaron, to which the moderns have added many more, as the Electuary of Saffron, or of an Egg, as 'tis called, Dioſcordium, Tracaſtory, Antidotus Saxonica, Antidotus Guidonis de Cauliaco, Pulvis Cæſaris rubeus, and Gryſeus Electuarium Camphoratum Kigleri, and many more, which the Tracts of divers Authors concerning the peſtilence afford ſuch as are profitable, as well for preſervation from the Plague, as for the cure thereof; ſo that it becomes us to be more ſolicitous about the choice of them, then the ſtore of them here: And amongſt ſo great plenty, 'tis more ſafe nevertheleſs to depend on thoſe that have been approved by long uſe and experience, then ſuch as are newly invented, what colour or pretence ſoever they afford themſelves.

ſelves. But becauſe thoſe ſtrong and hot medicines are not proper for women with child, nor children, they ſhould have medicines of Harts-horn, the bone of the heart of a Stag (or Deer) the roots of Tormentil, Pearl, Bole Almenick, Coral, Bezor, and precious ſtones: And ſince that there is no ſmall difference amongſt Alexipharmacal Medicines according to the qualities they have beſides their occult ones, every one of them doth not agree with every age and ſeaſon: for in a hotter Ayr, medicines that are not ſo hot are to be uſed; which muſt alſo be obſerved in thoſe which in regard of their age or conſtitution of body are hotter, leſt that humour ſhould be kindled, and a Fever from thence ariſe afterwards; or if ſome are hotter, they ſhould be prepared with Vinegar, or taken with Syrup acetoſ. Citri, Sorrel great or ſmall, Pomgranates.

For there is no depending upon one medicine againſt poyſon, but they are to be varied, leſt that nature ſhould be accuſtomed to it, and thereby can receive little benefit by it.

Chap. VI.

Of the Cure of the Peſtilence.

Cure.

IF in any diſeaſe in the world, certainly in this an exact way of cure is to be uſed, ſince that the ſmalleſt fault being committed by any, may become an irreparable damage: But becauſe the right reaſon of Cure depends on indications, and ſeeing that the Plague is an occult diſeaſe, and its nature conſiſts in an occult quality, which by its peculiar force is miſchievous to the heart, and is very contagious; but that is introduced by a cauſe endued with the ſame quality; Hence 'tis manifeſt, that that occult quality indicates a medicine alexipharmacal contrary to it, and ſhews that the cauſe in the body, whether taken by breathing in, or contact, or by what means ſoever contracted, ſhould be removed and eradicated; But how that ought to be done, is controverted amongſt Phyſitians.

Breathing a Vein.

For firſt, ſince that neither Phlebotomy, nor Purgation are indicated by the peſtilence, quatenus 'tis the peſtilence, whether they are to be uſed or not is controverted.

Firſt, Concerning the opening of a Vein, ſince that it neither cures the diſeaſe, nor takes away the venome, nor the cauſe, 'tis rarely to be uſed, and in that Peſtilence which is occaſioned by evil Diet, 'tis wholly to be omitted, as alſo in that which ariſeth from a peſtilential conſtitution of Ayr, unleſs there be very

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great ſtore of blood which muſt be diminiſhed, and its heat mitigated: But if the Plague come by infection, and there be that plenty of blood as may cauſe us to fear leſt that a putred Fever ſhould happen, which may become no leſs dangerous to the ſick then the Plague it ſelf, or that it be obſerved that the blood flows violently to inconvenient places, and that the ſtrength is rather oppreſſed by its plenty, then diſſipated, you may breath a Vein, yet only bleed what the ſtrength can well bear with; and that ſhould be in the beginning, for when twelve hours or more are paſſed away, 'tis ſafer to omit bleeding, becauſe the ſtrength being debilitated with the violence of the poyſon, it cannot well bear it. Concerning the place for breathing of a Vein, ſuch a place is to be choſen, as may help the motion of Nature, not hinder it, and may together divert the peſtilent matter from a noble part; Therefore if a Parotis break out behind the ears, or a Bubo under the Arm-pits, or a Carbuncle in the ſuperiour parts, a Vein ſhould be opened in the Arm on the ſame ſide; but if a Bubo come in the Groyn, a Vein ſhould be opened in the foot on the ſame ſide. But if a Carbuncle ſhould ariſe in either of the Legs, ſeeing that uſeth to cauſe an inflammation, and great pain, by which the ſtrength is weakned, 'tis convenient to open a Vein in the contrary leg; for neither is the motion of nature hindred by this means, but the matter is drawn from the ſuperiour parts towards the inferiour, and a great flux to the part affected, and the increaſe of the inflammation is hereby prevented.

Purgation. Moreover Purgation alſo is not indicated by the peſtilence, nor can the ſeeds of the Plague be eradicated by any purging medicine, unleſs perhaps a great diſturbance of nature being made, which muſt then be joyned with danger: and for as much as Nature for the moſt part expels the peſtilent venome to the outparts of the body, this motion of Nature by Purgation is hindred, and the peſtilent venome is drawn into the internal parts, and is more mixed with the humours, and the motion of humours being ſtirred up, moſt dangerous, nay deadly vomits and fluxes are occaſioned: And therefore not in purging, but in medicines that reſiſt poyſon, principally, and next under God the hope of health and ſafety is to be placed.

Uſe of Alexipharmacks. Wherefore it will be ſafeſt for any one that ſhall think himſelf to be infected with the Plague, having firſt implored the aſſiſtance of almighty God, to fly to thoſe medicines reſiſting venome, mentioned in the fifth chapter before, and to take ſome one experienced and approved medicine; and in caſe it be vomited up

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at the firſt, then 'tis beſt to take of it again forthwith; nay, in caſe it be retained, it will not ſuffice to take of it but once, but the Alexipharmacal medicine ſhould be repeated thrice in the ſpace of four and twenty hours, and ſo to continue for two days, until that the force of the poyſon ſhall be broken. The medicine being taken, the ſick ſhould forthwith compoſe themſelves to ſweat, eſpecially the ſecond time after taking, they ſhould keep out the cold Ayr, and if the ſtrength will bear it, they ſhould continue their ſweat for two hours ſpace: The ſick ſhould by no means ſleep, until he hath ſweat twice, and between the ſweats ſhould be refreſhed with Conſerve and Syrup of Roſes, Sorrel, acetoſ. Citri, of Pomgranates, red Gooſeberries, with cordial and odoriferous waters applyed to the Noſtril, and ſprinkled about the Bed-chamber. It ſhall be profitable alſo to take warm bread out of the oven, and fill a hollow part of it with Treacle, and apply it to the Navel, or to the Arm-pits, that it may draw the venome to it; The ſweat being ended, the body ſhould be rubbed and dried with clean warm linnen clothes, being careful that no cold ayr be admitted, and the ſheets and coverings of the beds ſhould be changed. After the ſweat, the ſick ſhould be nouriſhed with meats that afford good juice, and eaſie of concoction, yet taken but in a ſmall quantity.

When the ſick hath ſweat once, if there be need of opening a vein, let it be done in that manner as is already heretofore expreſſed: And when the Alexipharmicks have been taken of two days by the ſick, and the body is Cacochymick, or the Plague depend upon ſome internal default of humours, and that great danger of a Fever be to be feared, it will be convenient to adminiſter a purge, that ſome part of the matter putrifying and increaſing, the Fever may be abated; ſo that Nature may overcome the reſt more eaſily: they ſhould be gentle, as Syrup of Roſes ſolutive Tamarinds, Rhubarb, Agarick, Peſtilential Pills, Tryphera Perſica, Syr. Diaſeicos.

Afterwards if it be not needful to cauſe ſweat (which nevertheleſs ought not to be hindred if it come on a critical day) ſuch medicines are to be continued as hinder putrifaction, reſiſt a malignant Fever, and extinguiſh the flames in the bowels and humours.

And then we muſt be wary how we uſe Treacle, or any of the other hot medicines, without any reſpect of the diſeaſe, nature, age, and other circumſtances; wherefore when the Fever hath ſet upon the body, ſuch things are not to be exhibited, unleſs they are mixed with cold things, or elſe cold things alone may be

given, ſuch as Syrup, acetoſ. Citri, of Sorrel, Pomgranates, red Gooſeberries, rubi Idæi, as alſo Pearl, Coral, precious ſtones, Bezoar.

Cure of Buboes. But ſince that Nature for the moſt part uſeth to ſend the moſt venomous part of the matter to the out-parts of the body, and occaſions Buboes and Carbuncles: If the venome perfectly, or moſt part of it be driven out into a Bubo, which may be known by the remiſſion of the Fever and Symptomes, we muſt expect tipening, although not perfectly, as in other tumors, yet it muſt be helped by all means; for if either a Bubo come not enough out, or be encreaſed over-much, and ſtill the Fever and ſymptomes abate not, and the ſick no ways mends, we muſt endeavour that a way may be opened for the letting out the venome.

Therefore either veſiccatories muſt be applyed, or the skin muſt be ſcarrified, that the poyſon may freely expire, and the peſtilent humours fly out; a young chicken alſo, or pigeon, the feathers about the rump being pull'd off, ſhould to the great advantage of the ſick be applyed to it, although no inciſion be made, and that ſhould be often repeated; or a dryed Toad being moiſtned with wine, ſhould be applyed: afterwards we muſt endeavour that the reſt of the matter may be brought to maturity by proper medicines deſcribed every where up and down; into the place opened by Inciſion, convenient digeſtives ſhould be put; and if the inciſion be not made deep enough, and the quitture be ſtill therein detained, the tumour muſt be opened with an Inciſion knife, and the Ulcer mundifyed with proper medicines, and it muſt not be healed up, until all the venome be come out.

Cure of Carbuncles But Carbuncles are forthwith to be ſcarrified, and that deep enough, that the peſtilent and corrupt humour may come forth, afterwards ſome convenient plaiſter muſt be applyed, ſuch as may be of the ſoot of a chimney, and others, deſcribed up and down in Authors: Some apply the plaiſter de Magnete Arſenicali, 'tis proper to apply a dryed Toad alſo, being firſt powd'red, in wine, to the places adjacent, leſt the venome ſhould return to the internal parts; ſome defenſitive of cooling, drying, and binding things muſt be applyed; ſome make a circle with a Saphire ſtone about the Carbuncle, leſt the poyſon ſhould creep farther, and thereby extinguiſh the ſame; and if the Carbuncle be too much encreaſed, and cauſe great pain, a vein ſhould be opened under the ſame, that ſo the corrupt blood may be evacuated, and to abate the heat, a plaiſter of Houndſtongue is to be applyed.

When an Eſcar ſhall be generated, it muſt be taken away with a convenient Unguent, and the Ulcer muſt be mundified and cured

cured in due manner; but during the whole time of the cure, twice every ſeven days a potion of the temperate medicines that reſiſt venome ſhould be drunk, leſt any of the malignity ſhould remain in the Body.

Chap. VII.

Of the Nature of a Peſtilent and Malignant Fever, and of the difference of them from the Plague.

Foraſmuch as the higheſt degree of corruption of humours is in the Peſtilence, we muſt as it were aſcend to it by the malignant and peſtilent Fevers: of them therefore we will now ſpeak, in what reſpect theſe three, the Peſtilence, a peſtilent and malignant Fever differ.

The plague peſtilent and malignant Fevers, how they differ:

That the peſtilence conſiſts in a certain occult quality meerly adverſe to mankind, and that it is infectious, and that a Fever is not of the ſame eſſence therewith. but yet commonly accompanies it, is already ſhewed: And therefore the Plague it ſelf alſo, when it hath a Fever joyned with it, may not without cauſe in ſome meaſure be called a peſtilential Fever: yet other Fevers alſo are called peſtilent without the plague, wherein the corruption of humors hath not yet attained that high degree which may conſtitute the nature of venomous peſtilence, yet they contain in them ſomwhat like to that venomous and malignant peſtilence, and moreover either are not pernitious, or contagious as the plague, if they are both of them, yet they are leſs deſtructive then the plague; for the difference of a peſtilential Fever, ſo called in particular, and of the venomous peſtilence (ſince the nature of them both is unknown) betrays it ſelf in this, by the vehemency and contagiouſneſs of it, which is perceived to be leſs, not only in ſporadick Fevers, but in epidemical peſtilentials, then in the plague it ſelf: But concerning malignant Fevers, although they by a general name ſignifie truly peſtilentials, yet in particular thoſe are called malignant, wherein there is a leſs degree of corruption then in thoſe that are truly peſtilential, and wherein the humours which kindle the Fever contain in them ſome occult quality tending to venenoſity; whence there is leſs deſtruction and infection, ſometimes there is none.

And that the matter may be handled in few words, if it appear by the ſymptomes in any Fever, that beſides putrefaction there is alſo ſome occult and maligne quality, and yet but few die thereof, whether they are epidemical Fevers, or ſporadick, or contagious,

contagious, or not contagious; this is the firſt degree of corruption, and ſuch a Fever in particular is called malignant; but in caſe many die, and yet others are not infected, or although there be ſome contagion, and ſome deſtruction, and yet neither the contagion nor deſtructive power have attained to the higheſt degree, and many continue well in health, 'tis a peſtilent Fever in particular. Laſtly, if ſo be many which begin to be viſited die, and that moſt every where are infected, and that the contagion be ſpread over remote places, 'tis the plague.

CHAP. VIII.

To what kind of Fevers Peſtilent and Malignant ones pertain.

To what kind of Fevers peſtilent and malignant ones belong.

MOreover ſince there are three kinds of Fevers, Ephemeral, Putred, and Hectick, and again of putred Fevers, there are ſome differences: 'tis now enquired to what kind of Fevers malignant and peſtilent do belong, or whether malignancy and peſtilency belong to all Fevers, or to ſome certain kind only.

But we have already determined that there are no Ephemeraes nor Hecticks peſtilent and malignant, becauſe that in all peſtilent and malignant Fevers, there are manifeſt tokens of corruption or putrefaction of humours, although that malignant and peſtilent humour have likewiſe a manifeſt antipathy with the ſpirits, and may ſtir up a dangerous Fever.

But all putred peſtilential Fevers are continued, ſince the force of the venomous putrifaction is ſuch, as that it can eaſily diffuſe it ſelf into all the veins and arteries, and may eaſily corrupt the humours.

But malignant Fevers in particular ſo called, may alſo be intermittent, as experience ſheweth: Neither is it impoſſible, that even in the firſt paſſages of the body, the putrifying humours may acquire ſome malignity; and ſeeing that in ſuch Fevers the force of the venome is not ſo great, nothing hinders but that Nature may appoint certain excretions at appointed periods.

Continued peſtilent and malignant Fevers, are particularly addicted to no ſort of them, but according as putrefaction happens into this or that ſickly preparation, ſo this or that continued Fever is ſtirred up, ſomtimes a Synocha, ſomtimes a periodick; whence various ſymptomes likewiſe do ariſe, according to the ſickly proviſion.

Moreover

Moreover concerning the differences of malignant and peſtilential Fevers, ſince that in every ſuch Fever there are found two things, the putrifaction it ſelf, from whence the Fever ariſeth, and malignity; in reſpect of theſe alſo, do the Fevers differ For ſomtimes equally from putrefaction and malignity, danger is at hand; which Fevers, if the putrifaction and malignity be great, are exceeding dangerous; but if neither the malignancy nor putrefaction be much, the Fevers are not dangerous. Somtimes there is more putrifaction, but the malignancy is not much; and then the Fever comes neerer to the nature of other putred Fevers: but ſomtimes the putrifaction is not much, but the malignant quality vehement, and ſuch Fevers ſeem to be milde but they are moſt fraudulent and dangerous. *The differences of peſtilent and malignant Fevers.*

Concerning the nature of Peſtilency and Malignity, although it be occult, yet from its effects we may apprehend a certain variety, whilſt ſomtimes ſpots, ſomtimes Meaſles, ſomtimes wheals come forth; ſomtimes too great ſweats, ſomtimes Catarrhs, Pleuriſies and other evils, according to the antipathy which the venome hath with this or that particular part.

CHAP. IX.

Of the cauſes of a Peſtilent and Malignant Fever.

AS for the cauſes of theſe Fevers, becauſe their malignancy is leſs then theirs of the peſtilence, and through this, as it were by degrees, we aſcend to the Peſtilence, thoſe which are the cauſes of the Plague, for the moſt part, are the ſame with thoſe of malignant and peſtilent Fevers; but more mild, as principally ayr, heaven, courſe of diet, and contagion. *Cauſe.*

Namely malignant Fevers in the firſt place do ariſe from a ſickly proviſion of the body; for it ariſeth from meat that is bad, fit for corruption, and very obnoxious to putrifaction, whereof *Galen* may be ſeen, in his book of Meats affording good and bad juice, and the humours may be ſo corrupted in our bodies, as that they become venomous, of which I have ſpoken in the Inſtitutions in the ſecond book, part 2. cap. 12. Furthermore from common cauſes likewiſe, namely unprofitable conſtitution of Ayr, as alſo from the influence of Stars.

But peſtilent Fevers ſo called in particular, have the ſame cauſes, but more grievous, which at length if they are increaſed, produce the peſtilence; whence Fevers malignant and peſtilent long continuing, at length turn to the plague.

CHAP.

Chap. X.

Of the Signs of Malignant and Peſtilent Fevers.

The Diagnoſtick ſigns of peſtilent Fevers.

In the ſame manner is it about the Diagnoſtick ſigns: for in a peſtilential Fever peculiarly ſo called, the ſame ſigns almoſt appear as in the plague, only fewer, or more gentle; and ſuch Fevers are not ſo dangerous nor ſo infectious as the Plague it ſelf.

But as to the ſigns of their differences, if both malignity and putrifaction be very much, the ſtrength will be much weakned, and grievous, nay the moſt dangerous ſymptomes appear: If the putrifaction be very great, the malignancy little, the feveriſh ſymptomes which accompany putrifaction are vehement enough, but the ſtrength is not ſo much debilitated. But if the putrifaction be not great, but the malignant quality vehement, the ſymptomes which accompany the Fever are gentle enough, but the ſtrength is exceedingly weakned.

If the humours only are affected, there appear Buboes, Carbuncles, Impoſthumes, Spots, Puſhes, and other tokens of putred Fevers, if the ſpirits are much infected, theſe ſignes are wanting, neither is the heat great, the ſtrength ſuddenly languiſheth, and the ſick are troubled with faintings, the pulſes are unequal, weak, and languiſhing, and the Fever it ſelf in one two or three days ſpace is terminated by health or death. Laſtly, if the heart be much infected, great defect of the ſtrength is preſent, and the ſick do not complain of any great heat.

Of malignant.

As concerning Malignant Fevers, they are very difficult to be known at the firſt, becauſe the malignity often lies hid, and ſhews not it ſelf, unleſs when it take ſtrength; wherefore all ſigns are diligently to be weighed, and if any thing be ſuſpected, it muſt be ſeriouſly pondered; but all the ſigns of a malignant Fever are greater then thoſe of a Fever; and the ſymptomes which appear, are more vehement then thoſe which can proceed from a Fever, namely weakneſs of ſtrength, unquietneſs, more anxiety then the feveriſh heat would occaſion; the pulſe is freqnent, little, weak, or if it ſeem to be natural, other evil ſymptomes are preſent, the Urine ſomtimes is like unto thoſe who are in health; ſomtimes thin and crude, having in it no ſediment, or in caſe it have any, 'tis more like an excrement then a ſediment; ſomtimes 'tis thick, diſcoloured, troubled, muddy, having a red and troubled ſediment; the heat is more milde then the nature of the diſeaſe

diſeaſe, and ſymptomes ſeem to afford: the face or countenance is much changed from its lively and natural ſtate; and therefore by theſe ſigns peſtilent and malignant fevers may be eaſily known: yet there are other things happen, heavineſs to ſleep, watchings, diliriums, pains of the head, noiſes and deafneſs of the ears, loathing or vomiting, flux of the belly, hemorrhodes of the noſe, tumors ariſe behind the ears, under the arm-pits, and about the groin, alſo divers ſpecks, and almoſt no evil which can be obſerved in other perillous Fevers but may here be diſcerned.

Concerning the prognoſticks, and firſt of peſtilential Fevers, there is the ſame with them for the moſt part as of the peſtilence; for by how much the more grievous the ſymptomes are, and the ſtrength more debilitated, by ſo much the more danger is portended; but by how much the milder the ſymptomes are, and the ſtrength firmer, by ſo much is there the more hope of health. *Prognoſticks.*

There is the ſame reaſon in malignant Fevers for the moſt part, and what is to be hoped concerning the event in every ſuch Fever, is manifeſt out of thoſe things which are ſpoken in the Inſtitutions, Book 3. part 3. chap. 4, 5, 6, 7, 8.

Chap. XI.

Of the Cure of Malignant and Peſtilential Fevers in general.

Concerning the cure of peſtilent and malignant Fevers, ſince there are two things in theſe Fevers contrary to nature, venome, or malignity, and the Fever; by what means the Fever may be reſiſted, is manifeſt from thoſe things that have been ſaid hitherto concerning Fevers: how malignity alſo may be reſiſted out of thoſe things which are already ſpoken concerning the peſtilence, is plainly ſhewed. *Cure.*

The greateſt difficulty here is in this, to which of them we muſt have an eye firſt, and which laſt, and how the malignity may be taken away without increaſing the Fever, and on the contrary, the Fever may be regarded without increaſing the malignity. Which that it may rightly be done, the peſtilent venome and malignity, and the putrifaction and Fever are to be conſidered and poiſed together amongſt themſelves, and regard to be taken whence the greateſt danger may ariſe; and in the firſt place look to that, yet ſo, as that the other may not totally be neglected.

Where-

The Cure of the plague in particular.

Sudorificks

Bleeding

Wherefore in a peſtilential Fever, as being that wherein malignity moſt troubleth, preſently we ſhould fly to Alexipharmicks and Sudorifiques; yet thoſe are to be rather choſen which are the more temperate, ſuch as were formerly propoſed againſt the peſtilence; afterward if need be, a vein ſhould be opened, and that timely, and ſcarce after the fourth day, before all things ſhall be diſturbed in the body, and the ſtrength be weakned, namely, when blood doth either abound in quantity, ſo that it diſtendeth the veſſels, or it is a burthen to the ſtrength, or is ſtirred by ſome motion, that it may be feared leſt it ſhould be carried to ſome principal part; but if the diſeaſe have made ſome progreſs, and the ſtrength now labours, the breathing of a vein is more ſafely omitted then untimely appointed; but in caſe the ſtrength will not ſuffer a vein to be opened, cupping with ſcarrifying is fit to be uſed to the inferiour parts.

Purging.

But purging at the beginning of theſe Fevers is not convenient, unleſs ſuch as may purge only the firſt ways without any manifeſt agitation of the reſt of the humours; but ſtronger are not convenient, becauſe they ſtir the humours, and mix the venome with them the more, and often cauſe dangerous fluxes of the paunch.

Vomits.

If the matter tend upwards, and there be any nauſeouſneſs, vomit is to be provoked by the weaker ſort of medicines cauſing them.

Hence we are to come again to the Alexipharmacal medicines, which notwithſtanding ſhould be ſuch, as that the humours ſhould not thereby be increaſed: Therefore thoſe are to be exhibited that are more temperate, and together do reſiſt putrifaction; ſuch are Sorrel, Citrons, Pomgranates, Cinquefoyl, Tormentil, Hartſhorn, the bone of a Harts heart, Bezoar ſtone, Bolealmenack, Terra Sigillata, and ſuch like, and medicines prepared of theſe, but principally Bezoar water is often to be adminiſtred, as being that which doth forthwith penetrate, which may be ſo tempered, as that it may reſiſt the Fever and putrifaction; and therefore with ſuch medicines, Syrup of Sorrel, Limmon, Pomgranates, Sorrel, and young Sorrel, and ſuch like are to be mixed.

Veſicatories.

The matter being diminiſhed, veſiccatories may be applied to the Legs and Wriſts, to the advantage of the ſick, ſince that they draw the venomous matter from the interiour parts to the exteriour, without any trouble or weakning of the ſtrength.

Cure of a malignant Fever in particular.

Purging,

But if it be a malignant Fever in particular ſo called, and the putrifaction more then the malignity, the firſt paſſages are firſt to be purged, and not only with lenitive Cliſters, but lenitives

alſo

alſo are to be given, as Syrup of Roſes ſolutive, Manna, Caſſia, Tamarinds, Agarick, Rhubarb, Tryphera Perſica, eſpecially if the matter ſwell: But we muſt wholly abſtain from the ſtrongeſt, as Scammony, Coloquintida, Turbith, and ſuch like. And indeed, if the putrefaction preſently increaſeth, and a more vehement Fever is thereby kindled, and eſpecially if the humours ſwell, preſently that is to be done, and that before the third day.

But theſe things in general cannot ſufficiently determine; theſe tracts in particular of theſe Fevers, ſhew the way more clearly; for ſuch peſtilent and malignant Fevers are ſomtimes propagated by infection, when it is moſt ſafe that the pollution in what manner ſoever taken, ſhould be expell'd by Sudorifiques and Alexipharmicks out of the body, and afterwards, if occaſion do require, to appoint purgation and Phlebotomie; ſomtimes likewiſe nature it ſelf expells the matter to the circumference of the body, as it uſeth to happen in the Meaſles and ſmall Pox; but then Nature is alſo troubled in her work, and the matter which is thruſt out to the exteriour parts of the body, ought not to be called in again by purging, but 'tis rather to be helped by Sudorifiques and Alexipharmicks in its work; but ſomtimes the Fever is occaſioned by vitious preparation of the humours, or is cheriſhed thereby, and the peccant matter in the Stomack, near the Midriff and firſt paſſages, manifeſteth it ſelf by vomit, pain, heat, bitterneſs of the mouth, anxiety, and other tokens, which neceſſarily ſhould be avoided by vomit or purgation.

Bleeding. The firſt paſſages being opened, and the body evacuated, preſently the opening of a vein is to be appointed, if it be needful, and that before the fourth day.

Sudorificks. After purging the body and opening a vein, if occaſion require, 'tis convenient to uſe ſome Sudorifique, but ſuch as may not increaſe the Fever, ſuch as we have already propoſed; and although ſweat doth not always follow, yet ſuch medicines are to be continued and exhibited daylie, that ſo the body may by degrees be apt to ſweat, and that nature at length of its own accord, in its own time, may expel peccant humours by ſweats; but the ſtronger Sudorifiques at the firſt, debilitate Natures ſtrength; and ſince the humours in theſe Fevers are not alwaies ſo diſpoſed that they can be diſcuſſed by ſweats, yet the thinner are diſperſed, and the thicker remains behind. Wherefore preparation and alteration of the humours is to be ordered by thoſe medicines which open, and if occaſion require, may cut thoſe humours, and may reſiſt ebullition and putrifaction, extinguiſh

Altering preparing medicines.

the

the heat of the Fever, and reſiſt malignity, and may by degrees diſpoſe nature to ſweats; ſuch are Sorrel, Scordium, Carduus Benedictus, Scorzoneca; the ſeed of Citron, Roots of Tormentil, Cinquefoyl, juice of Citron, Pomgranates, and Syrups of theſe, Spirit of Vitriol: when the humours are ſufficiently prepared, unleſs Nature expel alone, they are to be evacuated by a convenient paſſage, but then alſo lenitive medicines muſt be uſed, and purgation ſcarce to be ordered before the fourteenth day.

Cauſing Urine. If Nature tend to evacuation by urine, it is to be helped by an emulſion of the ſeeds of Melons, Citron or Limmon, Carduus benedictus, with the water of Sorrel, Mayden-hair, and ſuch like.

Topical things. But during the whole time of the ſickneſs, as well in malignant as in peſtilent Fevers, medicines are to be applied to the Pulſes and heart, ſuch as ſtrengthen the heart, and reſiſt malignity, which are very where extant; Symptomes alſo, if any urge and debilitate the ſtrength, are to be taken away and mitigated, as in their own place ſhall be ſhewed.

Diet. Concerning Diet, the meat ſhould be of good juice, and of eaſie digeſtion; and to beware that when the ſtrength languiſheth Nature be not over-burthened; the meats alſo ſhould be mixed with ſuch things as reſiſt this Fever, we muſt abſtain from wine, unleſs ſwooning fits happen, but 'tis more convenient to uſe ſmall beer, a decoction alſo of Harts-horn may well be given, with ſuch a quantity of Spirit of Vitriol as may render it grateful to the taſte, to which alſo ſome Juleps of Roſes and Violets may be added: It allays thirſt, likewiſe opens obſtructions, drives away putrifaction, and reſiſteth malignancy; of *Ægyptii*, as *Proſper Alpinus* in his fourth book of Medicines *Ægypt.* chap. the fourth. Pulp. of Tamarinds and Barberries, the fruits being dryed, with the ſeeds of Fennel or Limmon, they pour them into abundance of fair water, and ſo prepare a Drink, which they adminiſter to the ſick during the whole time of the diſeaſe in malignant and peſtilent Fevers, and confide much in the uſe of this Drink, ſince that it is found that Tamarinds and the fruit of Barberries do exceedingly reſiſt putrifaction in Fevers.

CHAP.

CHAP. XII.

Of a Malignant Fever, with the Measles and Small Pox.

Small Pox and Measles.

ALthough the nature of malignity, from whence malignant Fevers are denominated be occult, and therefore much cannot be spoken of the differences of these Fevers, yet there is not one reason only even of the same, but some variety shews it self by the effects and symptomes, whence also certain differences of malignant Fevers are appointed, of which we will now speak in particular.

First, there happen Feavers wherein pushes or eminent tubercles break forth, and sometimes certain spots shew themselves: the Greeks call them *Exanthemata*, and *Ecthumata* the Latines *Papulas* and *Pustulas*, and at this day they are called the Measles and Small Pox; which names, although they are not used in the same manner by all, yet the most at this day call *variolas*, *parvos varos*, little spots or Measles, and they give this name to those pushes full of humours, which for the most part suppurate, which the Germans call **die Bizatterne** and **Bocken**; but they call those *Mobillos*, which are spots only in the skin, or rather small tubercles in the skin, which the Germans call **die Masserne**.

Definition

Variolæ are pustules breaking forth in the skin and parts adjacent, with a continued Fever occasioned by the fervency of the blood, and sent forth by the expulsive faculty; but *Morbilli* are little red spots or tubercles coming out in the skin with a continued Fever, bred by the ebullition of the blood, and sent out by the expulsive faculty.

Of both kinds there are some differences; for of *Variolæ*, some are greater, some less; some white, others yellow, or of some other colour; some break out forth with, and rise high, and are ripened and encompassed with a red circle, and come forth without any grievous symptomes, and are not dangerous; others are yellow, come forth slowly, and presently pitch again, and have a livid circle about them, and are dangerous.

Differences.

To the *Variolas* belong those pustules also which break out of the body, and are about the bigness of Lupines; and shining like Christal, out of which a certain waterish substance

 issueth;

iſſueth; which ſome therefore call Chryſtals, the Germans call them **Shaffsblattern, oder Windbocten**, which are leſs dangerous, and without any manifeſt Fever for the moſt part they do appear.

Moreover to the *Variolaes* belong thoſe tubercles coming out here and there in places, and are free from quitture, which the Germans call **Steinbocten**, and are for the moſt part the leaſt of all the kinds of *Variol.* and freeſt from danger, which befals children often without a Fever, and are preſently healed; ſo that Infants ſeldome take their beds for them,

To the Poxes or Meaſles certain ſmall red tubercles do belong, which invade with heat, and a cough and other ſymptomes of the Pox, yet leſs dangerous then the pox; the Germans call them **die Ritteln**, or **die Rottein**, becauſe they are red; ſomtimes they come alone, ſomtimes are mixed with the Pox, and ſomtimes come after the Pox is healed; which diſeaſe *Halyaabas* calls *Rubeolam, lib. 8. Theoric. cap.* 14. Moreover there are other breakings out which ſeem to be referr'd to Poxes, which the Neapolitans call *Roſſonias* and *Roſſaliam*, as *Johannes Philippus Ingraſtias* of tumours ſpeaks; by others they are called Purples, and Eruthemata, yet ſome call the red ſpots or Patechii, purples: They are red, and as it were fiery ſpots, becauſe ſcarce worthy to be called tumours, coming out over all the body, as it were certain ſmall Eryſipelaes at the beginning of the ſickneſs, or on the fourth or fifth day: In the progreſs of the diſeaſe it ſpreads over all the body, as if it were on fire, or as if one were ſick of an univerſal Eryſipelas, which colour, as in the beginning, ſo in the declination, is turned into ſpots, which again on the ſeventh or ninth day vaniſh, falling away from the skin like ſcales of Fiſhes.

Subject. The ſubject of ſpots and puſhes is the skin, and other parts anſwering to the skin in proportion; for it hath been found in dead bodies, that the ſuperficies of the Intrals, and on their skin without ſide the Pox have been ſetled.

Cauſe. Concerning the cauſe of theſe, there is difficult and great controverſie amongſt Phyſitians; The Arabicks, and thoſe which follow them, attribute the cauſe of the ſmall Pox and Meaſles to the uncleanneſs of the blood, contracted from the menſtruous blood in the womb, by the Infant which was there nouriſhed with it; for they ſay, that this filth being left in the body, doth lie ſtill, like unto leven, until ſtirred; ſo that the

the whole blood, boyls like new wine, and ſo whatſoever is in it of impurity, is ſeperated and ſent to the out-ſide of the body; and they therefore ſay ſo, becauſe they obſerved that almoſt all men at ſome time are troubled with the Pox or Meaſles; and thoſe which have had them once or twice, for the moſt part are free from them ever after.

Others are againſt this opinion, and ſay, that it proceeds from ſome occult celeſtial cauſe, whoſe impreſſion, children being more infirm, are apter to take, then thoſe that are ſtrong and in years; neither do they think it probable, that Infants are nouriſhed in the womb with unclean blood, or that this impurity can lie hidden ſo long in mans body, ſince 'tis known that not only Infants, but youths, nay ſuch as are well in years, and old men alſo ſome times fall ſick of the ſmall Pox, which formerly have been ſick of Fevers, and troubled with ſcabs, in whom (in caſe any impurity had been in the blood, it ought to have been then taken away.

But in regard both opinions contain difficulties in them, and both ſeem to be held up with probable arguments; let us joyn them together; for if the Pox and Meaſles are epidemical and infectious, 'tis not to be denied but that they then ariſe from a certain peculiar malignant diſpoſition of ayr, : Then Infants, as being more tender, ſooner are infected; although it cannot be denied, that from an external cauſe, an infirmity lying hidden within, may be brought forth into action, yet if the power of the malignity be greater, thoſe of ripe years may ſometimes be afflicted: But if the Pox or Meaſles come forth ſcattered here and there, 'tis probable that they proceed from the impurity of the womb, whereby a vitious diſpoſition of the body is contracted by the party in the infancy, eſpecially if there be no fault in the Ayr; for although an infant in the womb be nouriſhed with the pureſt blood of the mother, yet when it becomes bigger, and wanteth more nouriſhment, it cannot be but that it muſt draw ſome of the depraved humours which are cumulated in the womb with it. Whence it is known, that Infants have been born ſick of the ſmall Pox, or had them come forth preſently after they come into the world: Yet 'tis not impoſſible but that from ill Diet the ſame vitiouſneſs may be contracted, as from the menſtruous blood in the womb, and that may happen to thoſe that have had the ſmall Pox twice or thrice, although it may likewiſe happen by reaſon of the firſt pollu-

tion and defilement, of which ſome reliques were left.

Whether any and what Fever may be joyned with the Small Pox and Meaſles.

The ſmall Pox and Meaſles alwaies come forth with a Fever; for they are ſtirred up by a certain criſis, and that ebullition not only happens to the ſubcutanial veins, but alſo to the greater; whence heat is communicated to the heart, and a Fever is kindled, and that Fever is made a putred Synocha, as may appear by the equal heat, and the matter contained in the Pox; and that which is gentle, often vaniſheth within a few days, neither is it regarded by Infants, nor the ſtanders by; but that which is more vehement, if the diſeaſe be to determine with ſafety, will abate when the Pox comes forth; ſomtimes theſe Fevers become peſtilential, and then many Infants are extinguiſhed.

And thus the ſmall Pox and Meaſles are generated from internal cauſes; yet external cauſes likewiſe do often concur, as humours corrupting in this manner, or lying hidden, have force of moving: The firſt is Ayr, by reaſon of the influence of Stars, or cauſes otherwiſe ſo diſpoſed, as that they may corrupt the humours in this manner. Moreover contagion, when a certain ſickly effluvium or ſteam from bodies diſeaſed of the ſmall Pox or Meaſles, is communicated to another body, and cauſeth the ſame diſeaſe therein.

But of Poxes and puſhes there is certain differences, as hath been ſaid, in ſubſtance, quantity, and quality. According to ſubſtance, ſome conſiſt of this, ſome of that humour; according to quantity, ſome are big and many, others ſmall and few: according to quality, ſome are white, others red, yellow, livid, violet colour, &c. Some come out ſuddenly, others ſlowly; ſome are preſently healed and vaniſh, others continue long; ſome afflict only the external parts of the body, ſome the internal alſo.

Diagnoſtick ſigns.

But when the Pox or Meaſles are coming, there is preſent pain in the head, eyes, and throat, an itching of the noſtrils, ſneezing, terror in ſleep, fits like epileptical ones, pain on the back, burning and pricking in the skin, difficulty of breathing, a dry cough, trembling of the feet, yawning, retching, palpation of the heart, which actions ſo hurt, proceeds from the ebullition of the blood, and fuliginous vapours ſent from the heart, and diſperſed over all the body. Their Urine is often like unto theirs who are in health, the peccant matter being thruſt out to the extremities of the body; yet ſomtimes 'tis troubled by reaſon of the great ebullition of humours, the hemorrhodes

morrhodes of the Noſe are frequent, tears uſe to fall from the eyes of their own accord, or the eyes ſhew as if they were ready to weep; ſomtimes vomiting happens, the face and eyes are red, the skin rough, the voice hoarſe, and laſtly, a Fever by the ebullition of humours is kindled; If theſe ſigns therefore for the moſt part are preſent, and are encreaſed on the third or fourth day, and certain red ſpots appear in the skin, 'tis a ſign that the Pox or Meaſles are at hand; and this ſuſpition is increaſed if the Pox reign thereabouts. A little afterwards thoſe ſpecks are exalted like grains of Meller, and afterwards changed into puſtules full of quitture, and are become Pox, or are extended abroad, and ſmall tubercles are made, and the Meaſles are produced.

Signs of Cauſes, and of the part affected.

The nature of humours is principally known by the colour, for if the pox proceed from a cholerick humour mixt with blood, they are more red, and do itch more; from Flegm, they are whiter, from melancholy blacker: ſomtimes likewiſe they are of violet colour, green, lead colour, and with greater corruption of humours: If they poſſeſs not only the skin, but alſo the internal parts, the Fever is greater, thence comes great difficulty of breathing, ſtraitneſs of the breaſt, a greater cough, pain in the ſtomack and guts, moſt vehement.

Prognoſticks.

Small Pox and Meaſles are numbred amongſt acute diſeaſes, and are terminated within fourteen days; they come forth commonly about the fourth day, they increaſe till the ſeventh, the height is manifeſt the eleventh, and from thence to the fourteenth is the declination; but the drying of them continueth till the twentieth day ſomtimes.

The Fever adjoyned, the magnitude of ſymptomes, the manner of the Pox, and the ſtrength or the ſick ſhew the event. For if the Fever and all the other ſymptomes after the coming out of them do abate, if large hemorrhodes of the noſe have preceded, if the puſtules are great, white and red, ſoft, eminent, not alike, come forth quickly, and are ſoon ripened, a good event is to be hoped for.

On the contrary, the Fever if it be great, and be not mitigated after the coming out of the Pox, and the tubercles are violet colour, green, livid, hard, contiguous, come forth and ripen ſlowly, and the ſymptomes which uſe to be in malignant Fevers be more grievous, the ſtrength weaker, they portend danger, and either bring death, or ſome great evils in the eyes, noſe, chops, gullet, lungs, guts, liver, reins, and leave filthy pits and ſcars in the skin.

There is in a manner the ſame reaſon of the Meaſles, which the more milde the Fever and ſymptomes are, the leſs danger; but by how much the greater, the more danger is adjoyned with them; they are ſooner diſcerned, neither are they ſo lothſom to the ſight; red ones likewiſe, and thoſe that ſoon appear are more mild, but thoſe that are green, violet colour, black and come forth ſlowly are worſt.

But the worſt is, when the Pox or Meaſles come not throughly out, or do vaniſh again, for then by the matter left within, or returning in, a greater Fever is kindled, ſymptomes become greater, and the ſick, for the moſt part, periſh.

Indications and Cure.

The chief ſcope of the cure muſt be, that ſince Nature ſtrives to expel the matter to the remote parts of the body to aſſiſt it: the ſecond is, That the pravity of the matter may be corrected: The third, That the ſtrength may be fortified: And laſtly, To take care that no part of the body receive any detriment.

The endeavours of Nature are furthered if the humours are driven out to the circumference of the body, and the impediments that may diſturb the matter in its coming forth, whether it be ſtore of matter, or pravity of it, or obſtruction of the bowels muſt be taken away.

Bleeding.

But becauſe this evil principally invades Infants, breathing of a vein is not neceſſary, ſince their age will not tolerate it, but if it happen in an age that will bear it, and the abundance of blood require evacuation, preſently at the beginning before the becoming out of them, a vein is to be opened, that nature being eaſed of part of its burthen, may the eaſier expel the remainder.

Strong Purges are not to be uſed, leſt nature ſhould be hindred in its endeavour, or a dangerous looſeneſs ſhould be occaſioned; yet if the body be bound, it may be relaxed by a lenitive Medicine or Cliſter, which together allays the heat of the humours, and ſtrengthens the internal parts.

Expelling things.

Moreover we muſt obſerve whether Nature do its office in expelling; for then there is no need to help it with many medicines, eſpecially heating ones.

But if the Pox come out ſlowly, Nature ſhould be helped with expelling Medicines; yet ſuch things ſhould be mixed therewith, as may ſtrengthen the internal parts, mitigate the heat of the humours, and reſiſt malignity.

The expelling Medicines are, Roots and Seeds of Fennel, Turnip,

Turnip, Carduus benedictus, Columbine, Limmon, the Roots of white Dittany, Burnet, Maidenhair, Marigold flowers, decoction of red Parſnips, Scordium, Scabions, Myrrhe, Figs, Lentiles, and other things that reſiſt malignity.

Cooling things.

Theſe things cool and reſiſt malignity, Sorrel, young Sorrel, Lettice, Waterlilies, Purcelane, Barley, Tormentil, Endive, Cichory, Juice of Limmons, Oxyſaucharum, Rob of Currans; In giving of which, regard muſt be had to the malignity and Fever together, and according as need ſhall require, the medicines muſt be choſen or mixed.

Medicines of Figs, Lentiles, Lacca, and Tragacanthwere, in uſe amongſt the Arabians, which were likewiſe uſed by latter Phyſitians; yet if the malignity be great, you may fly to more exquiſite reſiſters of poyſon.

But principally we muſt endeavour to beware that the ſick take not the freſh ayr, but be rather placed in a hot place, that the pores of the skin may be kept open, and that nothing may hinder Nature in expelling,

How the parts are to be defended.

And we muſt be careful alſo, that the eyes, noſtrils, and internal parts may not be hurt; and therefore the Lungs are to be fortified and ſtrengthned with medicines of Poppy, Lentiles, Violets, Tragacanth Roſes, the guts with ſtrengthners, and moderate binders, the eyes, and noſe with ſuch like, as their infirmities do ſhew they have need of. The mouth and chops ſhould be waſhed with decoction of Plantane, red Roſes, flowers of Pomgranates, Prunellas, Syrup of Pomgranates, and ſuch like.

Whilſt the wheals are ripening, there will be much itching, but beware of ſcratching, leſt you thereby cauſe ſcars in the skin; if the quitture be white, and the puſtules not too great, 'tis beſt to commit the whole buſineſs to nature; but if they are great, or many of them joyned together, when by their whiteneſs, ſoftneſs, and freeneſs from pain they ſhall appear to be ripe enough, they may be opened with a ſilver or golden needle beſt.

Diet.

Concerning Diet, the ſick by all means muſt be kept from the cold ayr, neither muſt he be kept too hot, leſt it make him faint: The manner of Diet as in other acute Fevers, is to be appointed, namely thin; yet to Infants, if their ſtomacks will bear it, ſome meat may be given, becauſe their bodies are not diaphoretick, and by reaſon of their ſtore of innate heat, cannot ſo well endure faſting: from meats that are ſalt, acrid, flat,

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flat, which may increaſe an ebullition of humours, we muſt refrain, and thoſe that moderately cool and bind, and allay the heat of the blood, muſt be adminiſtred. Wine at the firſt is not convenient, but rather ſmall Beer, or Barley water; but in the progreſs of the diſeaſe, when the ſymptomes ſlacken, to thoſe that are accuſtomed to it, a little of the ſmalleſt wine may be granted.

There ought to be temperate moderation of the other non-naturals likewiſe, watchings and ſleep, the ſick ſhould ſleep moderately: In the beginning of the Pox or Meaſles, there ſhould be gentle frictions of the legs and arms uſed, whereby the humours might be called out to the circumference of the body. 'Tis in uſe to put a red cloth to the bed in the ſight of the ſick, to cauſe motion of humours to the exteriour parts. The Belly ſhould be kept open with a gentle Clyſter, if need require: Laſtly, all vehement perturbations of the mind muſt be avoided, eſpecially anger and fear.

CHAP.

CHAP. XIII.

Of the Spotted Fever.

MOreover, another ſort of malignant Fever is, when certain ſpots like the biting of gnats appear in the skin; There are of divers colours, but principally red, called by Authors *Puncticulæ*, *Peticulæ*, and *Patechiæ*, whence the Fevers are alſo called *Peticulares*, *Patechiales*, *Lenticulares*. *Patechiæ*

Theſe ſpots are without all itching, extuberancies, and ulceration, as in Poxes; and theſe ſpots in theſe Fevers appear principally in the back, arms, legs, and breaſts, namely in places through which the moſt eminent veins and arteries do paſs, but in the face they do ſeldom appear, becauſe it is alwaies obvious to the external Ayr.

Theſe ſpots have their original from the thinner parts of the putred and corrupt humour, whence they ſuddenly come out and vaniſh; but although they are made by the expulſive faculty, driving this part of the corrupt humour to the extremities of the body; yet that ſeldom happens critically, becauſe they come out for the moſt part at the beginning, the matter being not as yet concocted, neither is there any notable evacuation of the matter made by them, nor the ſick are not the better for them, but for the moſt part by how much the more plentifully they come forth, by ſo much the greater ſtore of corrupt matter is indicated, which notwithſtanding as is ſaid already, is not ſufficiently evacuated by thoſe ſpots. *The cauſe.*

There are of thoſe ſpots ſeveral differences; for firſt, they differ in colour, ſome are red, ariſing from the more temperate blood putrified; others yellow & green, when choler is putrified; others, Pomgranet colour and black, when melancholy, putrifieth. Moreover they differ in quantity, for ſome come out more plentifully, others more ſparingly; ſome are greater, others leſs, according to the quantity and thickneſs of the humour, and ſtrength or weakneſs of nature: ſome come out at the beginning, others in the progreſs of the diſeaſe. *Difference.*

This Fever is known by the ſigns of Malignant Fevers in general already ſet down; and when the ſpots joyn together, they ſhew malignity more plainly. *Diagnoſtick ſigns.*

But what event of theſe Fevers may be hoped for, is manifeſt

Prognosticks. ſeſt by the prognoſticks of malignant Fevers in general. Concerning the ſpots themſelves, although it be good that the peccant matter be carried to the extremities of the body, yet by theſe ſpots they cannot ſufficiently be evacuated; therefore although if they are plentiful, they ſhew that ſtore of matter is preſent; yet they ſhake it not of, and therefore they portend danger rather then health: Neither is their paucity always good, and although it ſignifie no ſtore of matter, yet it alſo denotes debility of nature: Theſe ſpots (if they lie hidden) are evil ſigns; becauſe they ſhew that the matter which before was coming to the outſide of the body, does now tend inwards, and go to the head, heart, or ſome internal part. Red ſpots are moſt ſafe, yellow and green worſe, and pomgranate colour and black moſt dangerous. Although ſuch as come out at the firſt appear ſymptomatical, yet thoſe that break forth the ſeventh day, or thereabouts, are critical; yet unleſs other good ſigns are preſent, put no confidence in them, becauſe they do not ſufficiently evacuate the matter; but if they come out ſlowly, 'tis evil; for that happens either by reaſon of the thickneſs of the matter, into which if the malignity fall, 'tis not eaſily overcome, or elſe by reaſon of denſity of the skin, which hindreth free tranſpiration.

Cure. Laſtly concerning the cure, thoſe things that are ſpoken about the cure of malignant Fevers, are here alſo convenient, namely, the belly is to be looſned either by Cliſter or lenitive medicine; or if the matter tend upward, and the ſick be inclinable to vomit, a Vomit muſt be given.

Bleeding. Then if occaſion require, a vein is to be opened before the fourth day, or elſe afterwards to be omitted; but whether the ſpots now coming forth do hinder the breathing of a vein, is ſhewed in the *Inſtitutions lib.* 5. *part.* 2. *ſect.* 1. *cap.* 17.

But ſince nature it ſelf ſtrives to protrude the matter we ſee to the extremities of the body, and 'tis profitable in all malignant diſeaſes to drive out the matter from the greater to the leſſer veſſels, and to free the bowels from vitious humours, the

Sweats endeavours of nature is here to be aſſiſted, and the matter tending to the outmoſt parts of the body, is by it to be evacuated; becauſe that otherwiſe that which is malignant will admit of no concoction.

Therefore let the ſick be kept in a place moderately hot, and forthwith ſome Sudorifique medicine, and which alſo may reſiſt malignity given, ſuch as are before propounded for the plague

plague and malignant Fevers in general, and for the Meaſles and ſmall Pox; yet thoſe are to be ſelected amongſt them that may not increaſe the feveriſh heat; and the Fever and the malignity are to be weighed together, and of that which moſt requires it, regard muſt be taken.

When a looſeneſs comes, what muſt be done.

Sometimes a looſeneſs happens in this Fever, which unleſs it be too great, ſhould not be ſtopped, but the buſineſs ſhould be committed to nature, and in the interim, only with altering medicines, and ſuch as reſiſt malignity, the morbifique cauſe muſt be reſiſted.

Afterwards to fortifie nature, Pearls, Coral, Hartshorn, juice of Pomgranates, Citron, Confectio de Hyacintho, Alkermes, and ſuch like are to be exhibited.

Topical medicines.

Externally likewiſe medicines are to be applied to the region of the heart, and to the pulſes, which draw venome from the heart, and reſiſt malignity, and ſome uſe an unction ex Hydræolo, and niter to relax the skin, and draw out humours.

Veſiccatories.

Neither is it unprofitable to apply veſiccatories to the arms, eſpecially if the external parts are cold, and the internal burn, and that pains in the head, deliriums, a lethargy, and other ſymptomes in the head are preſent; for ſo both the humours are called from within outwards, and are likewiſe refelled from the head.

CHAP.

Chap. XIV.

Of the Engliſh Sweat.

The Engliſh ſweat

There was a kind of Fever malignant, which began in *England* in the year 1486. and thence it took the name of the Engliſh Sweat, and it reigned there about forty years, and killed almoſt an infinite number of Engliſhmen: Hence being ſpread through the Netherlands, Germany, the Low Countries, Holland, Zeland, Brabant in Belgia, Flanders, Dane, Norway, France, it continued until the year 1530.

The ſame Fever was accompanied with Sweats, and was called the Sudatory Fever; for thoſe which were troubled with this Fever, abounded with Sweat, without Bubo, Carbuncle, or puttings forth; the ſweat perpetually and in great abundance coming out, until the diſſolution of the diſeaſe, which hapned within twenty four hours ſpace: Together the ſick languiſhed, deficient in mind, with unquietneſs, troubled at heart, pain in the head, and alſo with palpitation of the heart, and they had a pulſe, thick, frequent, ſwift, and unequal; and the palpitation of the heart accompanied thoſe that eſcaped, oftentimes ſome years, ſomtimes till death.

The cauſe

But the cauſe of this diſeaſe was inherent in the moſt ſubtile parts of the blood and ſpirits, which were together affected, which the ſhortneſs of the diſeaſe argues, and without doubt the blood and ſpirits contracted this malignity from ſome evil diſpoſition of Ayr, and other corruption; whence alſo this diſeaſe in many places in the Low Countries with cloudy ayr, ſuddenly invaded men, and the birds alſo were found dead under the Trees, and 'twas obſerved that they had puſtules under their wings like Vetches or Tares: But what manner of corruption of the Ayr it was, can ſcarce be explained.

Prognoſticks.

For this was a moſt cruel diſeaſe, and within the ſpace of twenty four hours, it either killed men, or left them ſenſeleſs: and indeed at the firſt when this diſeaſe did invade any City, it troubled them fifty or ſixty times, but it ſcarce troubled them the hundredth time.

Cure.

But the chief buſineſs of the cure conſiſted in the promotion of ſweat, and weakning venome, which nature of its own accord endeavoured; for all thoſe that did not further the ſwears, nor

nor uſe cordials, and took freſh ayr, died within four and twenty hours.

In occaſioning Sweats, the ſtrength muſt be regarded, which in caſe it be weak, the ſweat muſt ſo be moderated, that thereby it may not be debilitated more, and dejected: for 'tis obſerved, that by too much cauſing ſweat, and whilſt the ſick beyond their power to ſuffer, are cover'd in their beds, abundance of men have been ſtifled: During ſweating, the ſick ſhould be hindred from ſleep.

They uſed to occaſion ſweat, and infringe the malignity, water of Sorrel, Scabious, Terra Sigillata, Bolearmenick, Dittany, Carduus benedictus, Zedoaric, Tormentil, Waterlillies, Burrage; Species liberantis is alſo proper, and ſuch like, which uſe to be applied in malignant Fevers, and the Pox. During the Sweats, the ſick ſhould be refreſhed with the juice of the Syrup of Citron, Pomgranates, Sorrel, and other things before mentioned about the plague. Odoraments ſhould alſo be applied to the Noſe. When the ſick hath ſweat enough, ſome of the weight of the clothes ſhould be abated by degrees, and the ſweat at laſt diligently wiped off and cleanſed.

CHAP.

CHAP. XV.

Of the Ungarick Diſeaſe.

Of the Hungarian diſeaſe.

AMongſt the malignant Fevers, there is alſo a diſeaſe called the Ungarick, becauſe it was firſt known in Hungary in the year 1556. and thence 'tis thought 'twas ſpread almoſt over all Europe; Indeed ſome think the patechial Fever, and the Ungarick Diſeaſe are the ſame; and 'tis true that ſpots often happen in that, but not alwaies is it ſo, and the name of a patechial Fever is extended larger then the Ungarick diſeaſe; for this is a certain kind of malignant Fever, or if it have ſpots, and is patechial, yet this diſeaſe is bred in Camps by reaſon of evil Diet, whence we think it to be properly called the Military diſeaſe, or the Diſeaſe of the Camps, becauſe that not only in former times in Hungary, but elſewhere, it wandred up and down in the Camps hitherto, and thence is diſperſed up and down. But there is a malignant and infectious Fever called *Morbus Ungaricus*; 'tis continued, and hath great ſtore of vitious humours about the ſtomack and firſt paſſages joyned therewith.

The cauſes.

The proximate cauſe of this Fever is putrefaction, the cauſes and malignant corruption of the humors in the vena cava. But they are cumulated and corrupted by errors of Diet, and firſt by default of the Ayr, which in *Hungary* is extream thick and in the night filled with clouds, or if they are diſcuſſed, 'tis very thin and in the Summer time moſt hot; and otherwiſe, likewiſe in the Camps 'tis not moſt profitable; becauſe that in them it is moſt common to lie under the open canopy, and to draw the vapours which come from the ayr and the rain, and when their clothes are wet, cannot change them, and in winter time are often penn'd up in little hot-houſes. Moreover bad diet may be a cauſe of this diſeaſe, wherewith Souldiers (for want of better) are forced to make ſhift with, and thoſe for the moſt part which are accuſtomed to fare better; hence becauſe good chyle cannot be generated by evil diet, and the errors of the firſt concoction cannot be corrected in the ſecond, many filthy humours are collected within the firſt paſſages, which with the chyle are carried to the Liver, and thence into the veins, and from that evil chyle bad blood is generated, which even voluntarily tends

to corruption and putrifaction, and at length an unprofitable diſpoſition of ayr coming, it doth not only putrifie, but becomes maligne. Whence not only a putred continued Fever, but alſo a malignant is ſtirred up, and one that is alſo infectious, which may alſo infect thoſe that have no ill humours in their bodies, whence the ſymptomes do ſomthing differ. And as according to Diet, ſcituation, and other circumſtances, the matter occaſioning a diſeaſe is not alwaies the ſame, ſo there happens differences in the ſymptomes joyned with the Fever. Nay in the Fever it ſelf there ariſeth certain differences in regard of the peccant humour, whence from ſome ariſe putred Synochas, from others burning cholerick Fevers: But although great ſtore of peccant matter, as hath been ſaid, occaſioned by evil diet, be collected for the moſt part in the ſtomack and firſt paſſages, yet that is not the containing cauſe of the Fever, but only ſymptomatical, ſtirr'd up by the Feveriſh heat, eſpecially in the beginning of the diſeaſe, that it cauſeth pain in the heart, anxiety, burning about the midrif, and vomiting, and increaſeth and cheriſheth the Fever it ſelf. *Nature of the Ungarick diſeaſe.*

And all other ſymptomes which appear in other malignant Fevers, may here alſo be preſent, and for the moſt part ſpots and ſpecks appear; but amongſt other things, the pain of the head for the moſt part is exceeding troubleſome; thence this diſeaſe amonſt the vulgar took its name **die hauptcrancketheit.** Moſt that take this diſeaſe from ill diet, do complain of pain in the ſtomack, and under the pointed griſtle, where a certain retention and hardneſs is likewiſe obſerved. There is great thirſt preſently at the beginning, and the tongue dry and rough, a little after they are troubled with deliriums, which are gone again when the matter falls down to the ears, and then deafneſs enſueth. *Diagnoſtick ſigns.*

'Tis an acute diſeaſe, and is terminated at moſt in about fourteen days commonly, yet in ſome not until twenty days. But what event of this diſeaſe may be hoped for, is manifeſt by what hath been already ſaid concerning malignant Fevers in general; namely, by how much the ſtrength is the greater, and the ſymptomes leſſer, by ſo much is there the more hopes of recovery; on the contrary, by how much the ſymptomes are the greater and more, and the ſtrength weaker, by ſo much the more danger; with ſome when a looſeneſs happens, 'tis a good criſis, but to moſt when the matter aſcends to the head, and thence down to the ears, and deafneſs followeth, 'tis an argument of health. *Prognoſticks*

But

But as in other malignant Fevers, ſo likewiſe in this, the curing muſt be performed by taking away what feeds it, and reſiſting the malignant quality, yet the ſymptomes are not to be neglected.

Purging. And firſt concerning the Fever, and its cauſe in thoſe that have contracted this diſeaſe from ill diet, or in the camps, this thing happens that the vitious humours are not only contained in the vena cava, as in other Synochas and burning Fevers, but there is great ſtore of humours lies hidden in the ſtomack, and about the firſt paſſages, which is known by the antecedent diet, pain in the ſtomack, anxiety, heat about the midrif, and vomiting; for then that matter is forthwith to be evacuated, as being ſuch as doth ſeverally exiſt, ſeparated from the other humours, it will not come to any concoction, but corrupts both meat and medicines being taken, and Sudorifiques and other medicines which are taken, are carried into the more deſtructive parts of the body, and it increaſeth the Fever.

Purging But this may be done by purging, amongſt the medicines Agarick is principally commended, then alſo Vomits, by which oftentimes great ſtore of Flegmatick and Cholerick humours, of all kinds are evacuated, which lay hidden about the ſtomack: But for thoſe which took the diſeaſe only by infection, and in whom peccant humours are not collected in the ſtomack by reaſon of ill Diet, there is no need of Vomits or Purgation, but 'tis ſufficient only to evacuate the firſt paſſages by lenitives.

Bleeding When the firſt paſſages ſhall be freed from peccant humours, forthwith the firſt or ſecond day a vein muſt be opened, if it be neceſſary, and the ſtrength of the ſick will bear it; but in caſe ſome days are ſlipt over, and the ſtrength be weakned, and the party be troubled with vomiting, or have a looſeneſs, the breathing of a vein is to be omitted. The vein ſhould be opened in the arm, or if the party be weak, in the ancle, which likewiſe conveniently refels the matter from the head, and in this diſeaſe is very profitable.

Sudorifiques. Nature being thus eaſed of its burthen, forthwith Sudorifiques, and ſuch medicines as reſiſt malignity are to be given, yet they are ſo to be temper'd, as that they may not increaſe the heat of the humours, nor augment the Fever. Here Harts-horn prepared, Bezoar ſtone, Antimonium, Diaphoreticum, Bezoardicum minerale, Terra Sigillata, Pulvis Cæſaris

ſaris rubeus, Montaynanæ, Species liberantis, and other ſuch like before mentioned about malignant and peſtilent Fevers in general is manifeſt. If we may uſe Mithridate, Treacle, and ſuch like, that are hot, by reaſon of the vehemency of the malignity, leſt the heat ſhould be increaſed, they are to be allayed with cold waters and vinegar, to which there may conveniently be added ſpirit of Vitriol and Tartar, but 'tis not ſufficient once only to uſe ſuch medicines to provoke ſweat, or twice, but again and daylie to corroborate the ſpirits, reſiſt maligniety and putrifaction, yet in a leſſer quantity then uſual; and moreover ſpecies Elect. de Gemmis, temperate Cordials, Diamargarit. Frigid. Confectio de Hyacintho, Sper. Vitriol and Tartar, Bezoar water, and other things before mentioned in the cure of the Plague, and other malignant Fevers.

Externally likewiſe to the heart is to be applied, and to the Pulſes Medicines, as alſo the ſpirits are to be preſerved with odoraments, and the malignity to be reſiſted; which were alſo mentioned before in the cure of the Plague, and other malignant Fevers. *External things.*

Laſtly, the Diet ſhould be the ſame as in malignant Fevers is expreſſed, and indeed the aliment to reſiſt putrifaction ſhould be dry; to abate the Fever, cold, and mixed with Cordials, or have cordial qualities: Wine in this Fever is hurtful, and for the moſt part thoſe that refrain it not, die. *Diet.*

I CHAP.

CHAP. XVI.

Of a Malignant Fever with the Cramp.

A malignant Fever with the Cramp.

THere are likewiſe other malignant Fevers, which had accompanied with them certain other diſeaſes, namely the Cramp, Catarhs, a Cough, and the Squincy; for in the year 1596, and 1597. in the Biſhoprick of *Collen, Weſtphalia*, the County *Waldeſtein, Wittenſtein*, and *Haſſia*, there reigned a diſeaſe joyned with a Fever, which they then called die Kriebeltcrancrheit, Kriempſtſucht, oder Wichende Senche.

It ſeized upon men with a twitching and kind of benummedneſs in the hands and feet, ſomtimes on one ſide, ſomtimes on the other, and ſomtimes on both: Hence a Convulſion invaded men on a ſudden when they were about their daylie employments, and firſt the fingers and toes were troubled, which Convulſion afterwards came to the arms, knees, ſhoulders, hips, and indeed the whole body, until the ſick would lie down, and roul up their bodies round like a Ball, or elſe ſtretch out themſelves ſtraight at length: Terrible pains accompanied this evil, and great clamours and ſchrietchings did the ſick make; ſome vomited when it firſt took them. This diſeaſe ſomtimes continued ſome days or weeks in the limbs, before it ſeized on the head, although fitting medicines were adminiſtred; which if they were neglected, the head was then preſently troubled, and ſome had Epilepſies, after which fits ſome lay as it were dead ſix or eight hours, others were troubled with drowſineſs, others with giddineſs, which continued till the fourth day, and beyond with ſome, which either blindneſs or deafneſs enſued, or the Palſie: When the fit left them, men were exceeding hungry contrary to nature; afterwards for the moſt part a looſeneſs followed, and in the moſt, the hands and feet ſwell'd or broke out with ſwellings full of wateriſh humours, but ſweat never enſued. This diſeaſe was infectious, and the infection would continue in the body being taken once, ſix, ſeven, or twelve moneths.

The cauſe

This diſeaſe had its original from peſtilential thin humours firſt invading the brain and all the nerves; but thoſe malignant humours proceeded from bad diet when there was ſcarcity of proviſion.

This

This diſeaſe was grievous, dangerous, and hard to be cured, for ſuch as were ſtricken with an Epilepſie, were ſcarce totally cured at all, but at intervals would have ſome fits, and ſuch as were troubled with deliriums, became ſtupid. Others every yeer in the month of *December* and *January*, would be troubled with it.

The Cure conſiſted in evacuating of the peccant humors, and corroborating of the Nerves. Firſt, therefore the vitious humors are to be purged out of the firſt paſſages with Hermodactils, Turbith, Spurge prepared, Diagrydium Electuary, called Diaphenicum, of the juyce of Roſes, there being added Caſter, Coſtus, ſeed of Rue and Commin. *Cure.*

Afterwards Medicins againſt the Convulſion, were given of Piony, Birdlyme of the Oak, Caſter, Sage, Mans skull adding thereto medicines reſiſting malignity, with the root of Swallow-wort, Divels bit, Treacle, Mithridate; and ſo purging and altering medicines are to be taken by turns, and continued: The external parts were anointed and fomented with thoſe medicines which were proper for other Convulſions.

CHAP.

CHAP. XVII.

Of a malignant Fever, with a Catarrh, and a Cough, and the Squincy.

A malignant Fever with a Catarrh and a Cough.

SOmtimes an Epidemical Catarrh and Cough accompany Malignant Fevers; such a Fever in the year 1510. 1557. 1580. and 1591. and especially in the year 1580. spread over most parts of Europe under the Northern Equinoctial. And that disease was then called a Feverish Catarrh, and a Chatarrish Fever, also a suffocating Fever, der Bien und Schafshusten, Hatterancheit und hus Herwehe.

This Fever came with heavines in sleep, pain of the head, a dry cough, pain of the breasts, hoarseness, pain of the stomack, difficulty of breathing, which even when the cough ceased would continue till the fourteenth day.

The causes.

This Fever proceeded from the moistness of the fore-going years; for when peccant humours were cumulated in the body, by reason of that irregularity of the ayr, and at length became putred, and malignant, and adverse to the head and breast; thence a continued Fever was kindled, and with part of the peccant humours gotten into the brain and breasts, a catarrh and cough was generated.

This disease, although most men had it, yet it was not mortal; for almost all men had it, and scarce one of a thousand died therewith.

Cure.

This Fever was cured as other malignant Fevers, also by regarding the putrifaction and malignity, and lastly, in having respect to the head and breast, which were principally troubled with this Catarrh and Cough.

Breathing a vein was not then proper, and it was found by experience, that for the most part they all died that were let blood.

But lenitive purgers were proper, because the matter did reside in the first wayes; afterwards there was administred such things as might alter the matter in the head and breast, as use to be given for a Catarrh and a Cough, and those things that resisted malignity were not to be neglected.

A malignant fever with a Squincy.

Lastly, somtimes a Squincy, Pleurisie, Peripneumonia, is joyned with a malignant Fever, and spreads over many places, as it hapned in the year 1348. as *Fracastorius* relates, and in the

the year 1557. as *Dodonæus* in chap. 21. of his obſervations witneſſeth, and in the year 1564. likewiſe.

VVhich Fevers for the moſt part did ariſe from the contrariety of ayr, and principally from its over-moiſt conſtitution, even as epidemial dyſenteries aroſe from precedent drineſs of the ayr, ſuch as hapned in the year 1583. and 1626.

Thoſe Fevers were cured as others that were malignant. But this is to be noted beſides, that regard muſt be taken of that part wherein the force of the diſeaſe or ſymptome joyned therewith reſides moſt, and the diſeaſe and ſymptome which accompany the malignant Fever ſhould be cured in the ſame manner as is propounded in the cure of particular diſeaſes. *Cure.*

CHAP.

CHAP. XVIII.

Of the Cure of Symptomatical Fevers.

Symptomes of Fevers.

LAstly, there often happens in Fevers various ſymptomes which are no leſs troubleſome to the ſick then the Fevers themſelves, and therefore they require cure by themſelves, and ſhould be taken away, or abated. Such are firſt pain of the head, too much watching, profound ſleep, deliriums, convulſions, epilepſies, drineſs of the tongue, thirſt, pain of the heart, looſeneſs, faintings and ſwoonings: All which proceed from the humour that was the cauſe of the Fever, or from vapours and fumes proceeding from it, and ſo moleſteth this or that part either with its plenty, exceſs of primary qualities or malignancy.

Univerſal Purgers firſt uſed, thoſe ſymptomes are taken away by revelling, repelling, diſſipating that matter from the part affected, to the more remote parts; as need ſhall require that exceſs of qualities wherewith they are moſt troubled, to be altered and corrected, or even the malignity, if there be any, muſt be oppugned with contrary remedies, and the parts, if occaſion require, ſtrengthned; or the ſymptomes themſelves muſt be reſiſted with proper remedies. All which how to be performed, in particular to explain, is beyond the purpoſe of our Inſtitutions, but practical books ſhould be adviſed with concerning it, and eſpecially the cauſe of each ſymptome muſt be diligently ſought out; becauſe the ſame ſymptome often proceeds from divers cauſes; and moreover cannot always be be cured with the ſame Medicine.

Glory and Thankſgiving be to God.

FINIS.

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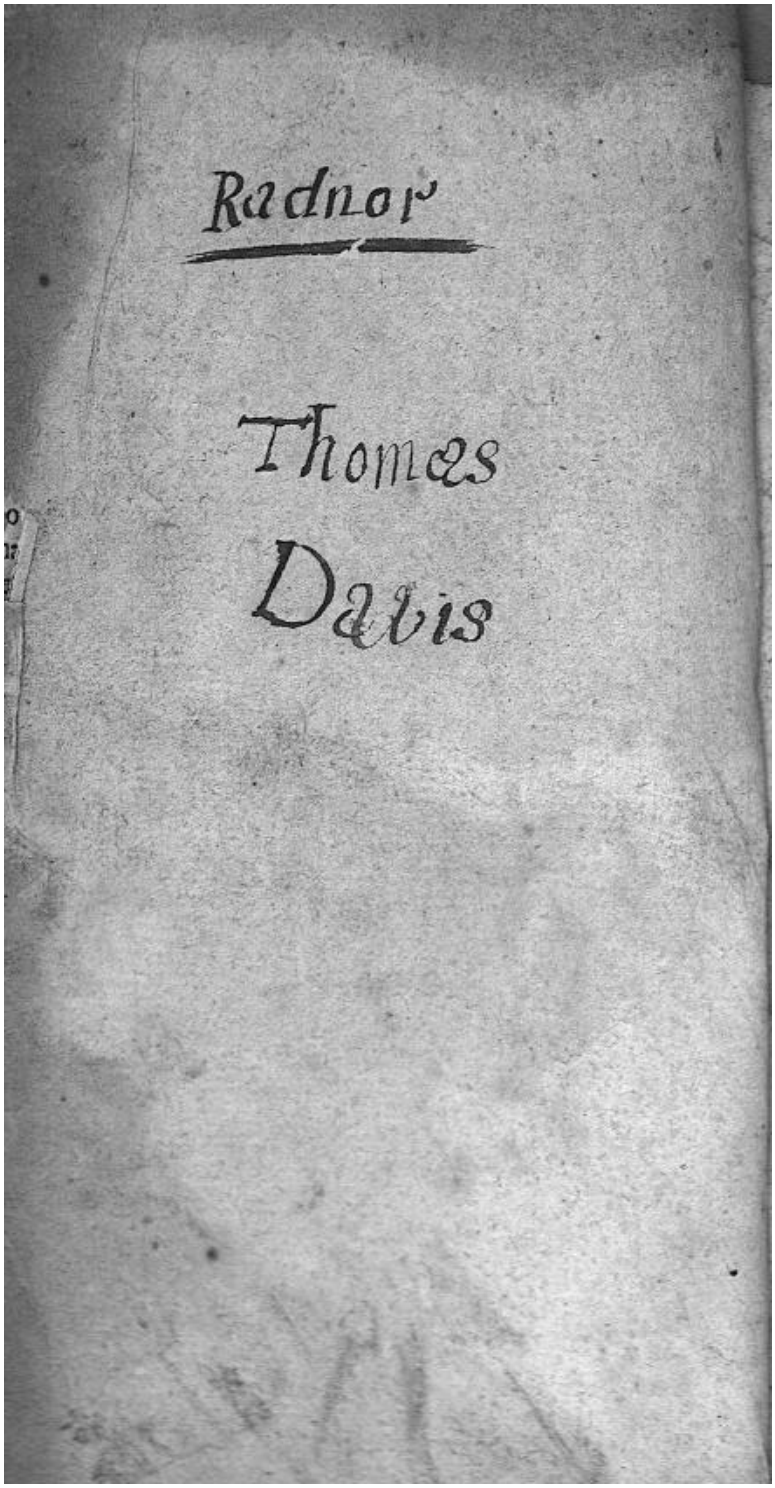
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