The chirurgicall lectures of tumors and ulcers. Delivered on Tusedayes appointed for these exercises, and keeping of their courts in the Chirurgeans Hall these three yeares last past, viz. 1632, 1633, and 1634 ... / [Alexander Read].

Contributors

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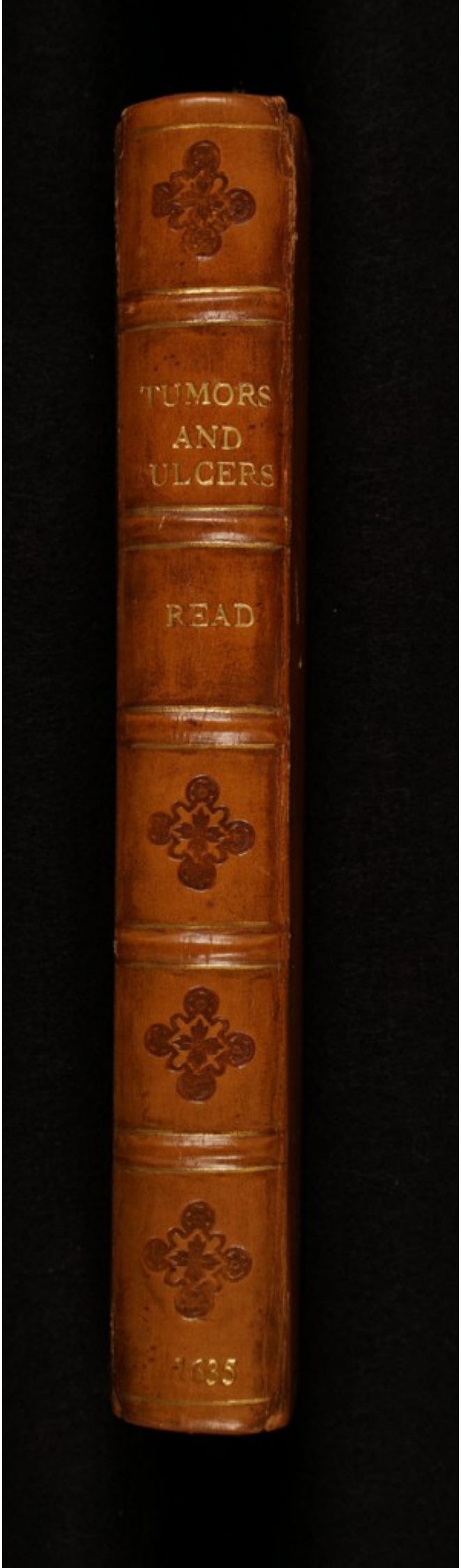
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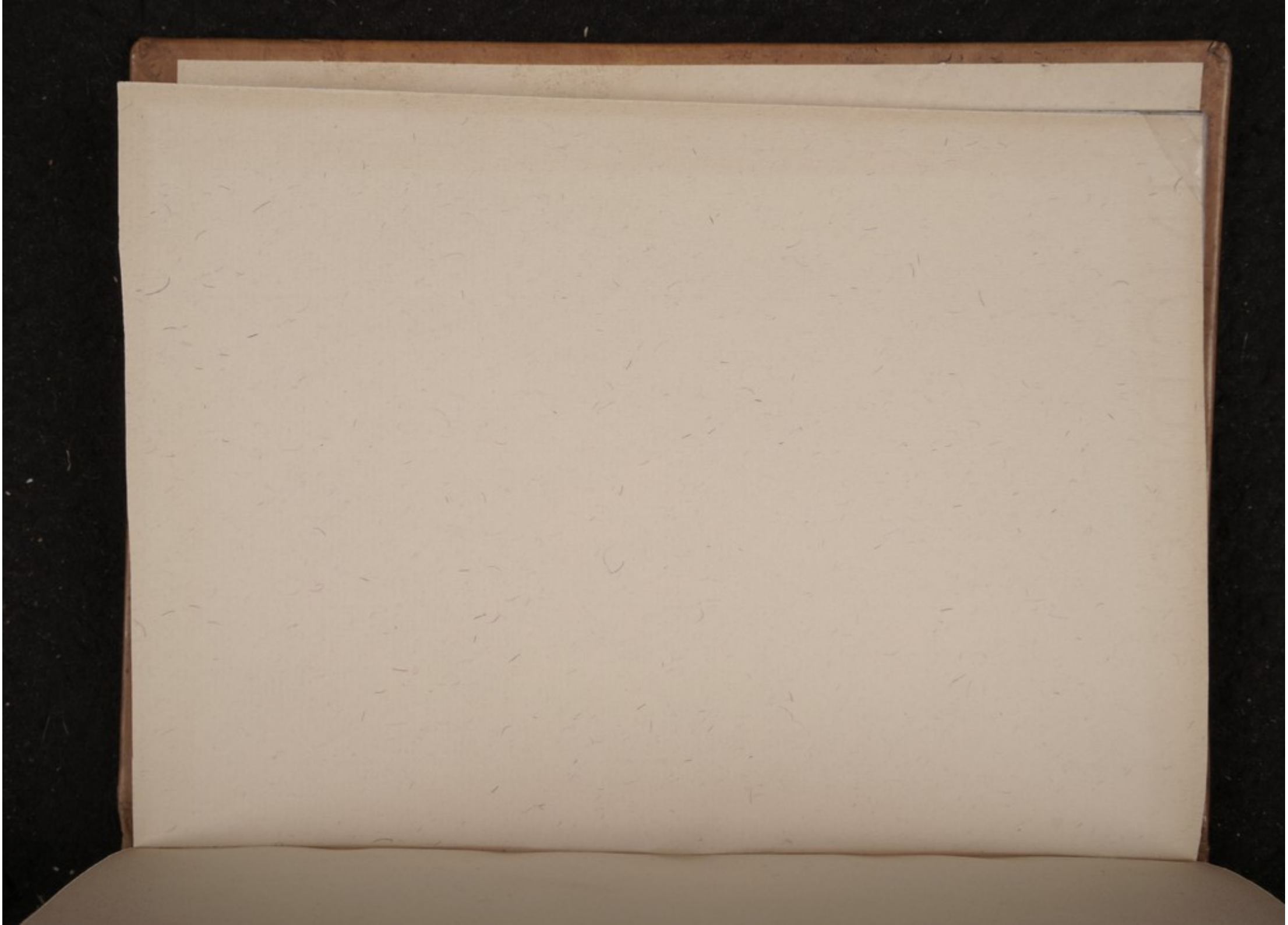

THE Chirurgicall Lectures OF *Tumors* and *Vlcers.*

DELIVERED on Tuſedayes appointed for theſe Exerciſes, and keeping of their Courts in the Chirurgeans Hall theſe three yeeres laſt paſt, *viz.* 1632, 1633, and 1634.

By ALEXANDER READ
Doctor of Phyſick, and one of the Fellowes of the Phyſitians College of LONDON.

LONDON
Printed by *I. H.* for *Francis Conſtable* and *E. B.*
and are to be ſold at the ſigne of the Crane
in Pauls Churchyard. 1635.

THE
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TO

THE RIGHT HONOURABLE AND his much esteemed Lord,

THOMAS Lord WINDSOR,

Baron of *Bradenham*, and one of the Knights of the Noble order of the Bath,

ALEXANDER READ Doctor of Physick wisheth health, and all happinesse.

For many ages past, it hath beene a custome amongst those who have endevoured to leave to posteritie, any monument of their learning and skil, to dedicate it to some

eminent personage: partly to expresse their gratitude for benefits received (whereof I may alleage many examples: partly to procure with the readers, a more easie acceptation of the worke, and a more firme protection for it from the reproachfull tongues of malicious censures, which no age hitherto ever wanted. I purposing to publish my Chirurgicall Lectures which I delivered to the worshipfull Company of the Chirurgeons of the famous Citie of London, on Tuesdaies appointed for the keeping of their courts, & the performing of these exercises, these three yeares last past, and willing to keepe on foot this laudable custome, have made choice of your Honour as most fit unto whom they should be consecrated. For who can be a more fit patron, yea, I adde, a more competent Judge to these my labours than he, who hath pierced even into the mysteries of the art. Let no man thinke it any disparagement to any noble personage to have taken paines to attaine to some reasonable measure of knowledge in this art; But rather let him perswade himselfe

selfe that it belongeth properly, and of right to such as are renowned for their greatnesse & valour to be well versed in this art. *Achilles* is no lesse famous for his curing of *Telephus* by art, than wounding of him by his strength and magnanimitie. Besides this, seeing your Honour hath graced this Company by desiring to be admitted into it, rather than into any other, hath been beneficiall unto it, and hath embraced me with extraordinarie favour and respect, I thought it meet that some testimonie of deserved respect towards your Honour should be left to posteritie of all the Company in generall, and of me in particular. Receive then with a cherefull countenance this first volume of Chirurgicall discourses into your favour and protection. will serve you at the least for an index of such things as you have read set downe in other Authors dispersedly concerning these subjects, and will further your directions, when occasion shall be ministred by any imploring your advice. This benefit will redound unto me, that the worke will

find the better entertainment at the Readers hands; because it sheweth in the beginning your Honours name. In London the fifth of August 1634.

To my courteous Reader.

HEre I present to thy view my Chirurgicall Lectures of the two first points of the first part of Chirurgerie, which I call Σωστικὴ, to wit, of Tumors and Vlcers, delivered these three yeares last past in the Chirurgeons Hall upon the dayes appointed for this exercise. I have laboured to instruct thy minde, and to direct thy hand in the knowledge and curation of the diseases mentioned in these two Treatises. If thou shalt thinke that I have attained to my purpose, and have not frustrated thy expectation, I have my desire. If thou thinke that they are only clouds without raine, and that I have deluded my Readers, let me intreat thee to lay them downe out of thy hands, and to have recourse unto such Authors as thou shalt best like of, they serving thy taste. I dare be bold to affirme that I have more methodically set downe the nature of every

disease,

diſeaſe, and preſcribed more effectuall meanes for the curing of them than thou ſhalt find in moſt, who have written of theſe ſubjects. I have not concealed from thee my owne obſervations, which I would not have thee to ſleight: I have (I thanke God) ſo much literature, as is ſufficient to guide me in theſe ſtudies: And I have practiſed phyſicke and Chirurgerie now 42 yeares. But with what ſucceſſe I will refer it to the teſtimonies and relations of ſuch as have beene my patients in ſundrie parts of this Realme. If thou doubt of the veritie of any thing delivered by me in theſe lectures, I will labour to cleere it, if thou acquainteſt me with it. If thou prove evidently that I have declined from the truth, I will acknowledge my errour, and render unto thee thanks for thy friendly admonition. Untill thou effect this, let me entreat thee to accept of my labours which I have undergone to further the publike good. One thing I would not have thee to be ignorant of, and that is this, that hereafter I meane not to adde, detract or change any thing in theſe Treatiſes; but to goe through the reſt of the points of Chirurgerie, if God grant me life, which are to be

added

To the Reader.

added to these now published to perfect the art of Chirurgerie. Wishing unto thee increase of knowledge, and experience in this studie, I will commit thee to the protection of the Almighty God, and rest,

Thy well wishing friend

Alexander Read.

The contents of the Treatise of *Tumors*.

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Of the description and parts of Chirurgery, Tab. 1.

Of Chirurgery, which is an Art which teacheth the curation of diseases of the body of man by manuall operation, there are foure parts.

1. Συνθετικὴ, or Compositrix, *the part which teacheth to unite parts disjoyned.*
2. Ἀφαιρετικὴ, or Separatrix, *the part which teacheth to sever or separate parts which are unnaturally joyned together.*
3. Ἀφαιρετικὴ, or Ablatrix, *the part which teacheth the removing of those things which are superfluous.*
4. Προσθετικὴ, or Additrix, or Appositrix, *the part which teacheth the supplements of such things as are deficient in the body.*

Of the branches of the first part Συνθετικὴ, or Compositrix, Tab. 2.

Συνθετικὴ, *the which teacheth the unition of the solution of unity of the parts, sheweth the unition of parts disjoyned:*

Which either may be gathered and inferred by rationall discourse, rather than be deprehended by the sense; and hence ariseth the first branch de Tumoribus, *of Tumors.*

Or may be deprehended by the sense, and this is

- *Either in the soft parts, and from hence arise two branches;*
  1. De Vlceribus, *of Vlcers.*
  2. De Vulneribus, *of Wounds.*
- *Or in the hard parts, and from hence spring 2 other branches;*
  1. *Of fractures of the bones.*
  2. *Of the luxations or dislocation of the same.*

A TREATISE OF TVMORS.

The first Treatise.

Lect. I.

Of the definition and parts of Chirurgerie.

MAny learned discourses have beene delivered out of this sear, of sundry points of the renowmed art of Chirurgerie by Master Doctor *Gwyn* of famous memorie, who by reason of his not vulgar learning, hath left an eternall memorie in the mindes of those who knew him inwardly, to himselfe. God having called him out of this transitorie life, and vale of miserie, to rest from his labours, it seemed good to the Governors of this worshipfull Company to have this exercise performed by the most able of the brethren as it should come to every one according to his place and dignitie. And undoubtedly this office hath

beene performed by most, laudably, and fruitfully to the praise of the Hall, and mutuall communication of skill, for the better performing of duties, which so high a calling doth require. And surely if this course had beene continued, it had mightily encreased in readers the theoricall or contemplative part, which doth consist in the knowledge of the precepts, had made them able to give greater contentment to their patients by their rationall discourses, and more emboldened them in particular operations, having sufficient warrant of Art for their practice, and abilitie to convince empyrickes and malitious calumniators. But seeing (as I understand) the highest power of this Realm, from whom there is no appeale, hath decreed that this exercise shall be performed by a Doctor of Physicke, and that the worshipfull Company hath for the present made choise of mee, who professe my selfe to bee a member of the Company; I shall labour by diligence to supply all defects in mee, which sundrie may find in mee, if they compare my weakenesse, with the ableneſſe of my predecessor. Howsoever the matter falleth out, I will endevour to deliver what is for the purpose of that subject whereof I reade, although not all peradventure which might bee alledged to the purpose. Nevertheleſſe I mean not to beso sparing in my discourses, as that you shall have occasion to thinke that any thing absolutely requisite hath beene kept backe. And if it fall out that at any time I checke or controule those authors, who by some are highly esteemed; I desire that none ascribe this to any ambition or vaine glorie in mee before they weigh my reasons in the impartiall ballance of judgement. And as it is impossible for any man, who curiously and scrupulously treadeth in another mans footsteps, to compasse a long journey in a day: So let none thinke that ever hee shall bee famous in his art, if hee give himselfe only to imitation of others. The ancients have left not a little to bee found out by the diligence of posteritie. Whosoever is industrious and judicious shall find

my

my words to bee an oracle. Many of them have set down sundrie things not tryed by experience, but imagined by their fancie, which the sickle of tryall will prune. Nevertheless, in reprehension I will use them respectively, by reason of reverence, which is due to antiquitie. Besides this nothing can bee both invented and perfected. Now seeing in all the discourses and lectures which have beene delivered out of this place, only particular points of the Art have been handled, and none hath taken the paines to touch any Præcognita, or generall notions, which may be in stead of an Introduction to the particulars, seeing no subject hath beene delivered, or commended to mee, I will briefly touch some Introductorie points, which will give no small light to the lectures, which hereafter shall bee read. The first shall bee of antiquitie and dignitie of Chirurgerie. The second shall be of most famous authors, who have taken the paines to illustrate it, by their writings: The third shall be of its place in the course of Philosophie. The foutth of the definition of it: The fift of the division or parts of it. Which things when I have set downe, I shall shut up this lecture; permitting election to the Governours, whether they will have mee proceed methodically, through the whole course of Chirurgerie, or scatteredly to handle dispersed parts of the same as hitherto hath beene done. My opinion is, that it will bee both more fruitfull and pleasing to intelligent hearers (if God will grant mee life and health) to passe through all the points of Chirurgerie methodically: for first the coherence of the parts will help the memorie: And who shall bee assiduous hearers shall not by snatches take a hungrie morsell; but have a full banquet, fully to answer the appetite. When I come to particulars, I will not only deliver the principles of *Hippocrates*, and *Galen*, and their sectators the Arabians: but I will acquaint you with the theorems of the Chimists, and compare the opinions of both, that it may bee known who have beene most familiarly

The Præcognita.

The intention of the autor.

liarly nurſed in the boſome of nature. Of the Chymiſts *Paracelſus* is the Generall. He hath ſundrie Colonels under him, as *Petrus Severinus* the Dane, *Quercetan*, *Petreius*, and ſundrie others, who are oftentimes clouds without raine; more fraughted with bountifull promiſes, than reall performances. Now to come to touch the firſt generall point of Chirurgerie, which is the antiquitie of it, I dare bee bold to affirme, that of all arts liberall, it was the firſt which was invented after the fall: for as for *Agricultura* and *ars paſtoralis*, husbandrie and grazing, they would have beene required of man, if hee had continued in the ſtate of innocencie, to have furniſhed unto him nouriſhment, and other things requiſite for the enjoying of this life contentedly, untill hee ſhould have beene tranſlated from earth to heaven to enjoy the beatificall viſion of his Creator. Now it is moſt probable, I may ſay demonſtrative, that what ſtrange event did firſt miniſter occaſion to invent an art, that that art was firſt enquired for and found out. Such was the wounding and killing of *Abel*, by his brother *Cain*, by reaſon of emulation. This could not but move *Adam*, and *Cain* himſelfe to ſtudie how they might not only repell violence, but have in readineſſe means to cure hurts alſo, if they ſhould have beene wounded, and their lives ſpared. All things which were done before the floud are uncertaine and unknowne, if you except thoſe things which that eminent Prophet *Moſes*, by the inſpiration of the Holy Ghoſt, hath recorded. You may reade of bragging *Lamech*, *Geneſ.* 4 23 who boaſted of murthering. Beſides this the wickedneſſe of man increaſed, *Gen.* 6. 5. ſufficient to ſet him on, and that there were before the floud, giants and mightie men, *verſ.* 4. and ſo able to performe by violence of villanie. Shall any man thinke that men unable to reſiſt, did not think upon remedies to cure their hurts, being endued with reaſon; but as dogges licked their own wounds, and provided no means for curing contuſions, fractures, diſlocations, and

The chiefe Chymiſts.

The antiquity of Chirurgerie.

ſuch

such accidents as follow after violence offered. As for internall Physicke, being so neere to the creation, living long even to 969 yeares, *Gen.*6.27. as *Methuselah* did, it is like they used none, seeing they had no other sicknes but that of old age: which falleth out, the naturall and accidentall heat exhausting the radicall moysture, and was unavoydable after that the sentence of mortalitie was pronounced against *Adam* and his posteritie, *Gen.*3.19. Thus wee see that as the practice of Chirurgerie was necessarie before the flood, so wee cannot gather by any obscure conjectures, that that part of Physicke, which cureth by exhibiting internall medicaments, was in use. Yea untill the time of *Hippocrates*, Physicke it selfe seemeth to have beene only a knowledge of simples, fit for curing of internall diseases, and outward griefes found out by experience: and that there were but few precepts concerning the art, shewing either the knowledge of particular griefes, or the method of curing of them; They, who are accompted the autors and inventors of Physick, prove this to bee true: Amongst the Grecians, *Apollo* the sonne of *Iupiter* and *Latona*, is accompted the first, which gave his mind to the studie of Physick and Chirurgery. Of him thus writeth *Ovid.*1. *Metamorph.*

Physick not so ancient as Chirurgerie.

The inventors of Physick.

Inventum medicina meum est, opifexque per orbem
Dicor, & herbarum subjecta potentia nobis.

Physick is my invention & throughout the world (to me,
Helpfull I am said to be, & the faculty of herbs is subject.

Æsculapius his sonne followed his father, who added much to that which his father invented: wherefore he was accounted amongst the gods. His two sonnes *Podalyrius*, and *Machaon* accompanyed the Grecians to Troy, unto whom they did good service in curing the wounded persons. *Chiron Achilles* his master is said by *Plinie* to have had great skill in the knowledge of simples, and that hee was skilfull in dressing of wounds: both his name sheweth, (for it is likely hee was called *Chiron*, because hee was skilfull in

the mannall part: χειρ in Greeke is a hand) and *Achilles* his practice in curing wounded persons: for hee cured *Telephus* king of Mysia, whom he had overcome and hurt, and from him the herb Millefole is called *Sideritis Achillea*. Of this, which hath beene spoken, wee may gather that these eminent and worthy men did more practise Chirurgerie, than Physick. *Hippocrates* is the first wee have, who committed to writing precepts concerning the practice of Physick: Hee did not only practise Chirurgerie himselfe, but wrote sundrie treatises concerning sundrie operations of it: as of fractures, *lib.* 1. of joynts, *lib.* 1. of reducing bones by instruments, *lib.* 1. of ulcers *lib.* 1. of fistulaes, *lib.* 1. of wounds of the head, *lib.* 1. of drawing out of the womb a dead child, *lib.* 1. All these are in the sixt section of his workes. *Galen* succeeded him about six hundred years after, a man worthy of eternall memory, who did illustrate *Hippocrates* with his learned commentaries, and by adding of those things, which were wanting, did perfect the art. In his workes are sundrie Treatises, concerning Chirurgicall subjects. The rest of the Greeke writers follow him, as *Paulus* of Ægina, *Aetius*, *Alex. Trallianus*, *Oribasius*, *Actuarius* and the rest. Amongst the Latines *Celsus* excelleth, who hath written acurately of all Chirurgicall operations, whom all modern writers doe exceedingly commend; as *Fallopius de tumoribus præter naturam*, *cap.* 1. And *Fabricius ab aquapendente* in sundry places, and the rest. Of some, who went before him, thus he writeth: *lib.* 6. *c.* 1. And in Rome sundrie reasonable good professors (he meaneth of Chirurgerie, which hee calleth *vetustissimam* most ancient) But chiefly of late *Triphon* the father, and *Euelpistus* added somwhat to that discipline. The Arabians follow; amongst whom *Avicen* is the chiefest, who lived 1100 yeares after Christ: of Chirurgicall matters hee discourseth in the third booke of his canon, and in the fourth part of his Canticles. *Rasis* 2. Continent. *Albucasis*. Amongst our moderne writers.

these

these excell, *Guido de Cauliaco*, whom *Tagaultius* hath expressed in good Latine: *Fallopius*, with whom none is to bee compared: *Ambrosius Paræus*, *Iohannes de Vigo*, *Hieronymus Fabricius ab aquapendente*, *Guilielmus Fabricius* in his centuries, & Master *Gale*, Master *Banister*, & Master *Clowes*, while they lived, brethren of this worshipfull companie, who by their writings have commended themselves to all posteritie. So much I thought good to deliver of the antiquitie, dignitie, and of the chiefe professors of Chirurgerie; which ought to stirre up your diligence in labouring, to excell in the particular operations of it, and to resolve to contemne the obloquies and calumnies of rude and ill-bred persons, who shall seeme to slight this excellent art. If you inquire for the beginning of it, it is *vetustissima* most ancient, according to *Celsus* in the place above mentioned: If you require certaintie, it is grounded upon experience, and offereth it selfe to the eye: If you aske who did of old practise it, you shall finde that either they were numbred amongst the gods, or were renowmed persons, called heroes, as *Hercules*, *Chiron*, *Achilles*, or men of eminent learning and worth, as *Hippocrates*, *Galen*, *Avicen*, and sundrie others. It hath for its subject the body of man, and in this point no whit inferiour to Physick it selfe. And whereas many will stick to take a dangerous medicament; yet they will not stick to admit Chirurgicall operations, although they bee full of perill, as incision for the stone, and dropsie, dismembring and such like, as wee may see day by day. Now to know to what part of Philosophie Chirurgerie is to bee referred, wee must consider that there bee two parts of Philosophie: whereof the one is speculative, whose end is knowledge; The other practick, whose end is practice. Now practice hath two differences, Action, and Effection. Action leaveth no worke behind it. Effection doth. Of the active part of philosophie, there bee three parts; Ethick, which frameth the manners of a private person: Oeconomick, which

The subject of Chirurgerie.

To what part of Philosophie Chirurgerie is to bee referred.

Parts of Philosophie.

Arist. 6 Ethic. c. 4 & li. 1 mag. moral. c. 35.

which sheweth how a family is to bee governed, and Policie, which teacheth how a Commonwealth is to bee ruled: These wee will leave, because they belong not to our purpose: as neither those arts, which are meerly factive, commonly called mechanicall, and so unworthy of a Philosopher. The speculative part of philosophie comprehendeth under it the Metaphysicks, naturall philosophie, and the Mathematicks: Of the first and last we will speake nothing, because they belong nothing to that subject which wee have in hand. The subject of naturall philosophie is *corpus naturale*, or a naturall body: Now of all naturall bodies, the body of man is the chiefest & most excellent, which moved the kingly Prophet to burst out into this resolution: *Laudabo te, quia mirabiliter formatus sum*: I will praise thee, because I am wonderfully framed: The admirable composition of the body of man drew from *Galen* himselfe, not the best master of pietie, a hymne to his Creator. Now naturall philosophie considereth the body of man, as it is a species or kinde of naturall body: but medicine as it is curable by art. Of Medicine there are two principle parts, Τυτιυμ, and Θεραπευτικὴ. The first teacheth the preservation of health by convenient diet, exercises, and such like: The second teacheth, how health lost may bee recovered: There be two meanes to repaire health: for this is done either by medicaments, or manuall operation. The first is performed by that art, which here is called physick; the second by Chirurgerie. So that Chirurgerie is the second branch of the curative part of medicine, without the which neither countrie, citie, towne, village, hamlet, yea no private familie can well continue or subsist. This wee must confesse, if we consider unto how many externall injuries the body of man is subject, as to scaldings, fractures, luxations, wounds, ulcers, ruptures, stone, and to what not: So that the use of Chirurgerie is by reason of absolute necessitie more often required, than the ministration of medicaments.

Arist. 6. Metaphys. c. 1.

The parts of Medicine.

I.

II.

And

And seeing the operation of a Chirurgion is more subject to the eye and other senses, than the exhibition of medicaments is, it behoveth every one to bee well verst in that which he taketh in hand, seeing his practice is more subject to censure: There bee a number of empyricall knaves, filthie bauds, and bold queanes, who daylie minister medicaments boldly, who notwithstanding dare not meddle with any curious operation in Chirurgerie. Such impure hands dare not touch such a chaste and undefiled Lady. Now it is time to come to the fourth point, IV. Point. which I intended in my proposition: which is to shew what Chirurgerie is: Now there is a double *quid*, or what, *quid nominis, & quidrei:* The first sheweth the reason why this tearme was found out to expresse this art: The second delivereth the nature of the art it selfe. The Etymon. *Chirurgia* is a Greeke terme composed of χειρ which signifieth a hand, and ἐργάζεσθαι to worke: Because it restoreth health to the bodies of men by manuall operation. Chirurgerie then may bee thus defined: It is a branch of the curative part of medicine, which teacheth how sundrie diseases of the body of man are to bee cured by manuall operation. It is not a science properly, because it resteth not in only knowledge; but an art as Physick it selfe is: for it leaveth an effect after the operation, to wit, health: So that for the *genus*, it hath the same with Physick it selfe: Both Physick and Chirurgerie propose to themselves one end: yet the meanes are divers. Physick restoreth health by ministration of medicaments; but Chirurgerie by manuall operation: Seeing then the definition which I have assigned to Chirurgerie doth consist of *genus* and *differentia*, according to schoole termes, it must bee an essentiall definition, fully expressing the nature of it. The sift point V. whereof I intended to speake of this lecture, was of the The parts of Chirurgerie. parts of Chirurgerie, which must bee assigned according to the maine differences of operations. Those are foure in number, and consequently so many parts: for either by

The definition of Chirurgerie.

Chirur-

Chirurgerie, solution of unitie is removed, and union restored; or things unnaturally united are separated & disjoyned; or things superfluous taken away: or last of all defects supplyed. Now solution of unitie is either gathered by reason, or deprehended by sense. In tumors although the parts seeme to the eye united; yet reason teacheth us, that there is a divulsion of them: The doctrine of tumors therefore ought to bee the first particular treatise. Solution of unitie apparent to the senses, to wit, sight and touch, are either in the soft parts, or in the more solide and hard. In the soft or fleshie parts there bee two differences of solution of unitie: *vulnus & ulcus*, a wound, and an ulcer: In the hard parts there are found a fracture, and a luxation; two distinct sorts of solution of unitie to fill up the fourth and fift places. This part may bee called Συνθητική, or *pars compositrix*, the part joyning together. The second part of Chirurgerie opposite to the first, teacheth to separate parts unnaturally united: where either the comely composition of the body of man is defaced or empaired, or the actions of the same hindred. Sundrie have beene brought into the world with the *anus* and *vulva* quite shut up. The consideration of that membrane, which is found in the necke of the matrix of some women, is in this place to bee noted and considered: Seeing there have beene, and yet are so many concertations amongst both skilfull Physitians and Chirurgeons. Here also is the cure of the wrie necke to bee set downe. In this griefe the head on the one side by reason of one or more tendons of the muscles of the neck shortened, the head is drawne towards the claves more than on the other: wherby it commeth to passe that the face groweth awry and distorted: and so the beautie of the countenance is much impaired. To this part belongeth the curing of tongue-tyed children, in whom sucking and speech are hindered. Not only fingers and toes cleave together in the same person; but twinnes also, and double members of one person. The consideration of such doth belong to the

The kindes of solution of unitie.

1. Part of Chirurgerie.

historie

historie of Monsters; not to any art: seeing such things are to bee ranged amongst *raro contingentia*, and so belong not to art, which is of things necessarie. This part may bee tearmed ἀφορισικὴ, or *separatrix pars*, the separating part. Now followeth the third part of Chirurgerie, which sheweth the meanes to remove from the body things superfluous, which may fitly bee called Ἀφαιρετικὴ, or *ablatrix pars*, the nipping or removing part. Things superfluous are such, either by event, or by their own nature. Things superfluous by event are sundrie: And first a dead child in the womb, or staying too long to the prejudice of it own and the mothers life. Here shall bee set the manner how to bring women to bed (as wee terme it) artificially and safely. Secondly, a falling of the small guts into the cod by enlarging or renting of the production of the *Peritonæum*, which wee call a rupture. When I come to this point, I will set downe the diversities of ruptures, and the meanes of curing of each: which are either incision, or trusse, or application of medicaments, sometimes used solitarie, sometimes concurring most or all together. Thirdly, the amputation of a limme by reason of a mortification, or some other accident. Here shall bee set downe the most accurate method of dismembring. Fourthly, the exstirpation of any part, as the breast, when a cancerous either tumor or ulcer doth possesse it. Here you shall be acquainted with the safest way of exstirpating a cancer and a lupus. Fiftly, bloud offending either in quantitie, or qualitie is drawne by phlebotomie, leeches, ventoses, of all which I will particularly discourse. Things by their owne nature superfluous, are either somwhat familiar to nature, or altogether adverse: Of the first sort, are Wens, and *Strumæ*: when I come to them I will set downe the diversities of them, and how they also are to bee cured. Secondly, the couching of a cataract offereth it selfe. Here I mean to set downe the varietie of cataracts, the prognosticks of them, whereby it shall bee knowne which are curable and which

2. Part of Chirurgerie.
3. Part.

which not, and the most exquisite manner of couching of such as are curable. Things adverse to nature, are stones in sundrie parts of the body; but chiefly in the bladder. The incision for extracting of it, is called λιθοτομία: of it I meane diligently to discourse, because it is a dangerous operation, and many times scandalous. Last of all, I come to the fourth and last principall part of Chirurgerie, which is the supplying of the defects of the body, which may be called προσθετικη, or *adiutrix* the supplying or adding part. Now things which are added, are either of the body it selfe, as restoring of the Nose lost, or curing of the hare lip. Of the first, I will set down the method of the Bononian Physitians, and Chirurgeons: Of the second, my own and other famous mens experiments in curing both the single and the double hare-lip. The matter of things, which is used for repairing of the losses in other parts, as the eye, the eare, arme, and legge, is no wayes of the nature of the body. Nevertheless when I am come so far, I will make an end of the course of Chirurgerie with touching these so much as shall seem sufficient, to instruct such as have not beene verst in these practices. I have run through those five introductorie points of Chirurgerie, to wit, of the antiquitie and dignitie of it: of the professors of it, of its place amongst the liberall arts, of the definition and parts of the same. As concerning the two last points, I have varied from all who have written of this subject: Nevertheless I have the light of nature on my side, and the experience of all skilfull practitioners. So that it is needlesse to take further paines, either to confirme those things which I have alleaged, or to refute that which hath been said by others; Seeing I intend rather to frame an able operating Chirurgeon, than to set out a contentious disputing theorician: Besides, reprehending of others doth not so much instruct the hearers in the knowledge of the truth, as sheweth that, which is not to bee learned, but shunned. Neither is a Chirurgeon contented to have

IV. Part of Chirurgerie

performed

performed so many duties to the body of man while it is alive, and the instrument of the soule, for performing actions; but when it is dead the spirit returning to God, who gave it, hee ceaseth not to bee officious to it, in dissecting of it, for the instruction of himselfe and others, and preserving it from putrefaction and annoyance, untill time and place fit for burying of it bee offered: which hee compasseth partly, by encearing of it, partly by embaulming: of the which two last, I meane also to discourse: That the Chirurgeon, which I meane to frame, may bee compleat. I have now presented to the view of the eyes of your understanding, this Chirurgicall Canaan: Into the which I meane to bring you, not to use the native inhabitants hardly, as *Iosh.* did the Canaanites and their things: but mutually to enjoy the use of those good things which you shall find with them. If I proceed orderly, I must enter into the doctrine of Tumors, which will bee both pleasing and profitable in my first lecture. It is a subject, which is most frequently offered, and from whence the meanest of all the brethren, which practiseth, is not exempted. Wherefore it behoveth every one to bee well grounded in this point. Howsoever I shall be willing that the Governours of the worshipfull Companie set downe the matter, whereof I shall reade.

The Treatise of Tumors doth deliver things either

- Generall to all Tumors, and those are in number three,
  - 1. The description of a Tumor.
  - 2. The causes of a Tumor according to the
    - Dogmatists.
    - Chymists.
  - 3. The differences of Tumors.
- Speciall, belonging to every Tumor particularly. How all Tumors are either
  - Simple, and those are 6. which proceed from either
    - Humors, and those are foure.
      - *Phlegmone*, caused of bloud.
      - *Erysipelas*, of choler.
      - *Oedema*, of flegm.
      - *Schirrus*, of Melancholie.
    - Or from
      - Water, an aqueous Tumor.
      - Flatuositie, a flatuous Tumor.
  - Compound. Now the Combination of the Tumors proceeding from the mixture of the materiall causes, causing the simple, I have set downe in every particular Tumor.

Lect.

Lect. II.

The generall doctrine of Tumors.

SEeing according to *Aristotle* in *cap.* 1. *lib.* 1. *physic. auscult.* in every methodicall tractation, that which is most generall ought first to bee set downe, then that which is more speciall; because the generall points being set down, they exceedingly further the knowledge of the particulars: I will begin from those things which are common to all speciall Tumors, and those I make in number three. First, I will declare what a Tumor is. Secondly, which are causes of Tumors: Thirdly, which are the maine differences of Tumors.

Before I come to the essentiall definition of a Tumor, I will set down the denominations of it. A Tumor in Greeke is called ὄγκος, that is, a prominence or protuberance in the bodie. And from hence the Latine words *uncus* a crooke or hooke, and *aduncus* bended or crooked, are derived: Because things bended cause a sticking out. The Arabians and barbarous Physitians, who follow them, call all Tumors unnaturall *Apostemata*, in Latine *abscessus*: this word is derived from the greeke verb ἀφίσταθαι, *abscedere*: Because in apostemes there is a collection of humors in any place, which have left their own proper seat &c. For humors, which cause Apostemes, come from the veines, and so leaving ther own naturall receptacle, seat themselves in other parts of the body, being dependant and weake. And Chirurgeans commonly call Tumors wherein there is collection of matter Apostemes. *Tumor*, which is a Latine word, and by frequent use made familiar in English conferences and discourses, is derived from the Latine word *Tumeo*, to bee raised or puffed up: And from *Tumor* commeth *Tumulus* a grave: because it is raised up higher than the ground adjacent to it. Now bunchings or stickings out of parts of the body, are threefold: for either they are naturall, and then they serve for the comelinesse of the body,

The appellations of a Tumor.

Differences of Tumors of the body.

body are threefold: for either they are naturall, and then
1. they serve for the comelinesse of the body, and further the
actions, as we may see in the head, belly, joints, the thighs,
2. calves of the legs, and armes: or they only passe the ordina-
ry dimensions of some parts, such are the dugs full of milk,
3. and the bellies of women which are with child: Or they
are altogether unnaturall, not only marring the comely
composition of that part of the body which they possesse;
but hindering the actions also. Such a tumor, or eminence
of the body, is called by *Galen* ὄγκος παρὰ φύσιν, id est, *tumor
præter naturam*, a Tumor contrary to nature. Having set
downe the denominations of a Tumor, I must come to
the definition of it. Seeing so many as have written of tu-
mors have set down one definition, or another, if I should
set downe all the severall definitions, which are by divers
authors set downe, and insist in the refutation of such defi-
nitions as offend against the conditions of a good defini-
tion, I should rather seeme to the judicious, to make an o-
stentation of readiug, and wit, than a care of the profiting
of the hearers. Of all the definitions, two are chiefly to
bee noted: the one of *Fallopius* in his treatise of tumors:
*c.*3. The other of *Hieron. Fabricius ab aqua pend. nt. in O-
peribus Chirurgicis, part.*2. *lib.*1. *de tumorib. cap.*1. That of
Fallopius is gathered out of *Galen, cap.*1. *lib.*13. *de method.
medendi:* and it is thus. It is a disease, whereby the parts
lose their naturall bigness, exceeding it. So that exte-
nuation is contrary to a tumor. Hee will have it to bee a
disease of the instrumentorie parts: for quantity is only
an instrument, whereby the organicall parts performe their
actions, more strongly, or weakly, as wee may see in
dwarfs, and tall men. *Galen lib.*1. *de tumorib. præt. nat. c.*1.
affirmeth that in tumors contrarie to nature, all dimensi-
ons, that is, length, height and breadth are increased. But
the former definition cannot bee ascribed to every particu-
lar tumor, and so it is not large enough: for in an *Erysipe-
las* extreme heat rather offendeth, than the bignes enlar-

ged,

ged, which very often cannot bee deprehended by the sen-
ses. The definition set downe by *Fabricius ab aqua pendente* is this: A Tumor against nature, is a disease for the most part compounded, which is to bee named of that thing, which hindereth the actions. And seeing to a crow, her own birds seem fairest, for if any one set under her, hens egges to bee hatched, that they may have cocks of the game, they must watch for the time of disclosing, lest shee kill them: So hee to make his definition plausible to his readers, will have all to mark some remarkable points in his definition. And first of all, in that he calleth a Tumor against nature *morbus*, or a disease, he will not have pushes in the face, and such small eminences of the skin to be Tumors, because they hinder not the actions: hee cannot deny that the equalitie of the skin is altered, and besides this, the action of the skin, which is perspiration, in that place is hindered. Let no man think it harsh, that I ascribe action unto the skin, being a simple and similary part of the body: it cannot bee denied that all similary parts have an use, which use sometimes is an action, as this of the skin; to send out by the pores of it fuliginous vapors, and superfluous serositie of the bloud by insensible perspiration and sweat. And although such small eminences commonly are denied to bee diseases, because they hinder not the actions; yet they be passions, and affections, which require the skill of the Physitian and Chirurgean: yea those pushes of the face are somtimes more hard to be cured than great Tumors, and Artists many times gaine more by those, than these: besides this, by reason of the matter they are to be referred to one or other of the maine Tumors. Howsoever they are not to be neglected. According to *Aristotle* 1. *Rhetoric. c.* 5. *& Galen. ad Thrasibulum*, there be three gifts of the body, to wit, Health, Strength, and Beauty, all which medicine is to direct: Health is preserved by holesom nourishment, Strength by convenient exercises: of the which γυμναστικη intreateth, whereof *Hieron. Mercurialis* hath

The definition of *Fabricius*.

Three gifts of the body.

written a volume; κοσμητικὴ hath care of the beauty: now seeing by reason of the face, a man is called beautifull or ugly, who can deny that they deserve the care of the Physitian, and Chirurgean. He addeth that a Tumor is a disease most commonly compounded; if hee had said ever compounded, hee had spoken a truth: for in every one of these Tumors, there is a Tumor conspicuous or latent; or a solution of unitie, either sensible or imaginary. In an *Erysipelas* it self, wherein there appeareth neither quantity of part increased, nor solution of unity procured; yet in it there are undoubtedly both: for the first, seeing there is so great a heat in the part possessed with this griefe, the Humors must bee rarified, and the part dilated, which will require a more spatious place than it had before, which is an evident argument, that the quantity is inlarged. As for the second, the parts before arctly united must be somwhat separated by stretching: Reason must teach us that which cannot bee deprehended by the senses. The last clause of the definition, That the Tumor is to bee named from that which hindereth the action, as *Erysipelas* a disease of distemperature, because heat doth most hinder the action of the part: this is frivolous, because not heat only, but the bedewing of the skin with choler, by the which it is stretched, hindered the contraction and extension of the skin, and so by a necessary consequence, the hindering of the motion of the part organicall, wherein it is seated. To conclude, this definition may bee applyed to other griefes than a Tumor, as to the head-ache, which is a disease most commonly compounded of distemperature of the humors, and solution of unitie, and may have its denomination from the diversity of the humor causing it. Wherefore, seeing neither the definition of *Fallopius* out of *Galen*, nor the definition of *Fabricius ab aqua pendente*, can abide the triall of the lawes of a good definition, wee must assay to give another, which shall be this: A Tumor against nature is most frequently a disease, somtimes a light affection,

affection, for the most part incident to the organicall parts, increasing their quantity above nature, by reason of receiving of superfluous humors sent from other parts. Here I will labour to yeeld a reason for every point of this definition. The *genus* is a griefe, because it hindereth the actions, somtimes it is a passion or light affection, which hindereth not the action of the part, as appeareth in small *edematous* Tumors, and *scirrhosities*: and therefore these modifications frequently, and somtimes are added. The subject of a Tumor is a part organicall, somtimes by its own nature organicall, as a finger or toe, somtimes organicall only by office, as when the use of a similarie part is performed by an action: as it appeareth in the skin, one of the uses whereof, is to send forth by its pores insensible perspirations, fuliginous vapors, superfluous serosity of the bloud by sweat, and ichors of humors in the beginning of Tumors, and declination by discussive and resolutive medicaments. The forme of a Tumor is quantitie increased, whereby it differeth from allother griefes. The cause of increase of quantitie, is receiving of superfluous humors, which is done two manner of wayes, to wit, affluxion, and congestion. Affluxion is, when a humor offending either in quantity or quality, suddenly with violence seizeth upon any member, either by reason of the weakness of it, the rarity, loosenesse, dependancy, heat, or pain, or because the whole body is full, or cacochymicall, and the parts sending strong. Congestion is, when a humor is collected in any part by little and little, by reason of the weakness of the concocting and expelling faculty of the same: so that a Tumor against nature is a disease alwayes compounded, against *Fallopius* in his Treatise of Tumors, *c.* 3. For there is alwayes a solution of unity, either manifest, or latent and occult, and this hee granteth; for hee saith, *& de hac conveniemus*: we shall agree concerning this. Besides this, the quantity is increased, and that alwayes to reason and imagination, although not to the

The definition of the author.

The cause of quantity increased.

Affluxion.

Congestion.

sense, as hath beene said of an *Erysipelas*. Moreover, you shall hardly finde a Tumor without some distemperature, either simple, or compounded. I have insisted somewhat too long in clearing the Probleme of the definition of a Tumor against nature, because there is great contention concerning it amongst Authors, both ancient and moderne.

Causes of Tumors.

Now order of doctrine requireth, that we speake somewhat of the causes of Tumors: these are either externall, or internall; The causes externall are in number eight. I. The aire, if it be contagious, it causeth Tumors, as Carbuncles, and Botches in the plague time. II. The touching of things exceeding temperature in the active qualities, as we see in the application of Vesicatories, and sitting long upon any cold seat. III. Too hard binding of the part, which causeth sometimes Gangrenes. IV. The application of an attracting instrument to the body, as Cupping-glasses, and Hornes. V. Whatsoever may cause solution of unitie, as wound, fracture, luxation, or contusion. VI. Biting of beasts, whether they be venomous or no. VII. Taking inwardly things offensive to nature, whether it be by the excessive quantity, as when by too liberall drinking wine, an *Erysipelas* seazeth upon the head, or by a maligne qualitie, as we may see fall out after the taking of Arsenicke or Mercury sublimate. VIII. Immoderate motion, whereby immoderate heat is procured, whereby the Humors become more subtill, and the passages to the weaker part more patent.

Externall.

Causes of the weaknesse of a part.

Now the part is weake: First, by nature, and that either by reason of its substance, it being spungeous, and loose as Glandules: so wee see frequently Parotides behinde the eares, and Bubones in the groynes, or by reason of the naturall humidity of the part; so Tumors more often appeare in the flesh than in the spermaticke parts. A part also naturally is weake by reason of the situation, for the dependant parts are more apt to receive influence of humors, as the more high are to receive Halitus; so it is often seene,

that

that it rising from the stomacke, or some inferiour part, causeth in some the falling sicknes. A part, secondly, is weak by accident, and that by reason of errours committed in the things not naturall, as aire, meat and drinke, exercise, and such like, whereof much is spoken in that part of Physicke which is called *Physiologia*. So that to the causing of a Tumor in a part, there be required, the weakenesse of the part which receiveth, patent passages, preparation of the Humor, and the strength of the part sending. Things required in a Tumor.

The internall causes of Tumors are either Humors or Flatuosities: The Humors are either naturall or unnaturall: The naturall are either sincere, as choler, flegme and melancholy; or mingled, as some of these with blood, for blood is no where sincere, but according to the humor mingled with it, which is predominant, it is called cholericke, phlegmaticke, or melancholy blood. The Humor unnaturall is water, as in the dropsie, for it never can become nourishment. Of Tumors which are caused by reason of strange things, as wormes, lice, bones, nailes, haire, grisly substances, and such like, I will speake when I come to the third part of Chirurgerie, called ἀφαιρετικὴ, or *Ablatrix*, which taketh away superfluities. But time admonisheth to come to the setting downe of the principall differences of Tumors. In this matter I will leave all needlesse and fruitlesse distinctions of Tumors, from time, as that some are new, some old, some short, some long enduring: from the quantity, as that some are small, some great, some of a meane bignesse: from the condition of them, as that some are milde, some maligne, some curable, some uncurable, and such like; which either doe not greatly further the knowledge and curation of Tumors, or else are to bee set downe to some purpose in the explication of every particular Tumor. Onely now in my generall discourse of Tumors, which is to shew light unto that which shall hereafter be spoken in the speciall doctrine of each, I will meddle with the differences taken from the materiall cause of Tumors, from whence Internall.

spring the maine principall Species of Tumors, unto which all other may be reduced.

The maine differences of Tumors.

All Tumors then are either simple or compounded. The simple are caused either of Humors or Flatuosity: the humors are either naturall, or unnaturall: the naturall Humors are foure, Bloud, Choler, Flegme and Melancholy: If blood, which neither in the veines, nor without, is found sincere and unmixed (as hath beene said) cause a Tumor, it is called *Phlegmonè*, or *Inflamatio*, according to *Galen lib. 2. ad Glaucon. cap. 1.* Of the divers kindes of it, which have their denominations from their places, and of the diversities which arise from the complication of it with other Humors, I meane to discourse when I come to the particular tractation of it: for I meane not to confound particulars with generals, because this would breed confusion, and so deprive the memory of fruit of that which is delivered. Of all other Tumors a *Phlegmone* deserveth the first place, because it is caused of bloud, which is the son of nature, first begotten, and the treasure of life. If choler cause the Tumor, it is called *Erysipelas*; these two are hot Tumors. If flegme cause a soft and white Tumor like it selfe, it is called *Oedema*, unto which divers pituitous Tumors are reduced, of the which I will speake in their proper places. If a Tumor very hard be produced of the melancholy juice, and without paine, it is called *Scirrhus*; these two last are cold Tumors. If a Tumor be caused of water contained in any part, it is called *Tumor aquosus*: If from flatuosity, *Emphysema*; these two last Tumors are the off-springs of crudity, caused by the weakenesse and defect of the naturall heat. And seeing these have the materiall cause different from that of others, I will speak of these in severall Lectures, as was done in every other particular Tumor. Besides this, they require other medicaments than the rest of the maine Tumors doe, as shall bee shewed when we come to the curation of them. Differing then from the rest, I see no reason why they may not bee accounted severall Tumors; one cannot truly say that either

ther *Hernia aquosa*, or flatuous Tumors of the joynts, can bee reduced to the aforesaid foure principall Tumors, or that they can bee cured by the same indications of curing, and medicaments which are applied to the other. You see how I have set down six simple Tumors, for fewer I cannot, if you consider either the diversity of the materiall causes, or the diversity of the topicall applications, or the evidence of doctrine. The combination of these beget the compound Tumors; in these compound Tumors, what Humor is predominant, that carrieth away the denomination: As for example, if bloud abound more than choler, the Tumor is called φλεγμονη ἐξυστικλαπώδης. If choler be predominant, it is called ἐξυστικλας φλεγμονώδης, and so in all other combinations of Humor in Tumors, which shall be presented to your view. When you have noted the Pathognomonical signes of each of the simple principall Tumors, it is an easie matter at the first sight to discerne the kinde of Tumor, and what compound medicaments are to be applied to it. Hitherto have I declared unto you the opinion of *Hippocrates*, *Galen*, and of the rest of the Grecians, as also of the Arabians concerning the materiall causes of Tumors. Now to fulfill my promise, I will shew you what *Paracelsus* and his followers thinke of this point: First then they acknowledge but two elements, water and earth; for if they should not grant so much, they could not be accounted in the number of the faithfull; for in the very first Verses of *Genesis* mention is made of both. Secondly, they account the Humors parts of the body, and so the causes of no griefes, but erroneously, for if they were parts, they would bee endued with life, which they are nor. Thirdly, they would have some action, whereof they also are deprived: onely they have an use, which is to nourish the parts. Besides this, they maliciously dissemble the doctrine of the rationall Physitians and Chirurgeons, for they make each Humor, contained in the masse of bloud, either naturall, or against nature: the naturall they make, either alimentary, which nourisheth the

Compound Tumors.

The Humors are not parts of the body.

parts, or superfluous, which nature reserveth for some other uses: of this abounding, diseases proceeding of fulnesse are ingendred, called *Plethora*: of the Humor against nature, causing impurity, *Cacochymia* is caused; so choler in the veines and arteries is naturall, and alimentary. In the *Cystis fellis*, and in the *Porus bsliarius*, the superfluous is contained: if it leave the appointed receptacles, and passe to the habit of the body, it causeth the yellow jaundize; if by aduſtion, it become *Bilis atra*, it procureth Cancers and Wolfes; so that they hold not the naturall, but those that are unnaturall to be causes of diseases.

What Humors cause diseases.

The principles of all things according to *Paracelsus* and his followers.

The Paracelsians appoint three principles of all things, *Sal*, *Sulphur*, and *Mercurie*, and not onely by resemblance, or allegorically, but really: By Sulphur, they understand the fattie substance; by Mercurie, the wateriſh substance; by salt, the earthy substance: Distill Cloaves, there come two humidities, the oile and spirit: in the bottome the earthy substance stayeth, which hath two parts, *Terra repurgata*, the crystalline salt, and *Terra mortua*, the blacke earth. The life of the salt is a strong water, which if it be by distillation drawne, it leaveth but a *Terra damnata*, onely fit for the dunghill. This salt preserveth the body from putrifaction, wherefore Christ called his Disciples the salt of the earth, because by the preaching of the Gospell, and administration of the healthfull Sacraments, they procured to the unfaithfull the life of grace, who before were but *Terra damnata*; and by a wonderfull transmutation of terrestriall creatures, made them spirituall, representing the Angels, yea God himselfe, by restoring his image. From defects in these three, they will have all diseases to proceed: and concerning Tumors against nature, the hot they will have to proceed from Sulphur and Mercurie, and the hotter it is, the more Sulphur to concurre. The cold Tumors they will have to proceed from Mercury and Salt, and according to the looseneſſe, or firmeneſſe of the Tumor, the more Salt or Mercurie to be required, as in *Oedema* more Mercurie, in

The life of salt.

The effect and benefit of salt.

The causes of diseases according to the Chymists.

Scirrhus

Scirrhus more Salt. This is their doctrine concerning the materiall causes of Tumors, in my judgement it is the safest course to insist in the foot-steps of the ancient, for their way is plain and easie; no man can deny that there are foure Humors in the masse of bloud, as may appeare when it is drawne out of the veines: Choler swimmeth about the bloud, which is knowne by its bright redneſſe; Melancholy is in the bottome, which is deprehended by its grosseneſſe and blackneſſe; now Flegme uniteth these two last Humors, and maketh them tough. The Paracelsian doctrine is full of difficulties, which hee maketh more obscure by coyning strange words, as his Reader will perceive; so that his discourses are but a kinde of canting Philosophie. Nevertheleſſe, I thought good in plaine termes to acquaint you with it, that when any Empericke shall make a shew of learning, by using these termes, you may finde him out, and esteeme of him as he is: that is, like that head which the Wolfe afarre off espied, representing the head of a living man, but comming neere, and seeing it but curiously carved, affirmed it to be *Pulchrum caput, sed sine scientia*, A comely head, but without wit.

Lect. III.

Of the generall Indications of curing Tumors.

OF the generall points whereof I intended to speake before the handling of every particular Tumor, having set downe the definition, causes, and differences of Tumors, now I am called upon to set downe the generall indications of curing Tumors.

Indication what it is.

Now an indication is that which sheweth what course is to bee taken for the recovery of health: The generall indications are taken either from the matter, or from the times of every Tumor; In the matter, we are to consi-

der

der the motion of it, and its nature: As concerning the motion of the matter, it is either in flowing, or it is received already into the part. The causes of fluxion are two, *Plethora*, or fulnesse, and *Cacochymia*, an ill complexion: *Plethora* or fulnesse is twofold, *Ad vasa*, and *Ad vires*: *Ad vasa* is when the veines are onely full, and the body notwithstanding quicke and nimble; this is twofold, *Pura*, when there is a due proportion of the Humors of the body, and *Impura*, when there is an excesse of any of the three Humors besides bloud as Choler Flegm, or Melancholy. *Ad vires* is when there is such a fulnesse, as causeth sluggishnesse of the body: this requireth evacuation of Phlebotomie, as *Cacochymia* by purgation. As for Phlebotomie, three things are to bee observed concerning it. I. The manner: In fulnesse, *Quoad vasa*, at one time so much blood is to bee drawne as is requisite; but in fulnesse, *Quoad vires*, because strength is somewhat abated, you are to draw bloud by repetition, and not all at one time. II. Is the quantity, how much then is to bee drawne, the weaknesse or strength of the party will informe you; for in a weake body you are to draw lesse, in a strong body more, strength and weaknesse are to bee discerned by the functions: the weaknesse of the naturall faculty is discerned by crudity of Urine, and excrements of the body: the weaknesse of the vitall, by a weake and small pulse, as also breathing weake and thicke: the weaknesse of the animall function is found out by defect in moving and feeling; by the integrity and perfection of these three faculties the strength of the party is perceived: But we must diligently distinguish betweene languishing and weaknesse indeed, and oppression of faculties by reason of fulnesse, making them dull and slow; for as in weaknesse, great moderation is to be used, so in oppression we may more bountifully and boldly suffer the veine to run. The third thing to bee observed in Phlebotomie is the end of it, whereof it is instituted; the scopes of bloud-letting are two, Derivation and Revulsion: Derivation is the drawing

Weaknesse and oppression differ.

ing of the Humor to the part adjacent, or of the same side, by opening of that veine, or a branch of it, which is inserted into the part affected: as for example, if in diseases of the head or necke, we open the *Cephalica* in the same side: and even in this there is a kinde of opposition, to wit, high and low; or in Tumors of the groyne, we open *Vena poplitis*: this they doe also who open this veine in *Podagra*, if the gout invade the foot. This kinde of interception we use, not onely because there is a plentifull fluxion to the part affected, but because a speedy interception is required, lest the naturall heat of the part be oppressed, or the rupture of a vessell ensue: so in inflamation of the lungs, and side, wee open the liver veine of the same side, and draw blood plentifully. Revulsion is a drawing of the Humor to a part opposite; of this there be foure differences: I. From the higher to the lower parts, as from the head to the feet. II. From the right side to the left. III. From the fore part to the backe, which wee shall doe if we apply Leeches in diseases of the breast or belly. IV. Is when we draw from the center unto the circumference, as in applying Ventoses with Scarification to the necke in diseases of the braine, as in the Apoplexie, and Lethargie Vesicatories performe the same.

But one may aske which are to be accounted high, and which low. *Quest.*

I answer, That all those parts which are above the navell, including also the liver and stomacke, are accounted high; but the parts below the liver, are accounted low, as the kidneys, and genitals in man and woman. *Answ.*

This kinde of interception we use in two cases: First, if the matter flow but slowly, and so a sudden interception is not required. Secondly, if we are to open a veine to prevent a disease, as *Vena cubiti* for to free one of a fit of the gout. But this kinde of drawing hath no place in contagious Tumors, if they appeare either in the upper or lower parts; for whether they appeare either behinde the eares, and arme-pits in the upper parts, or in the groynes in the lower, The ends of Revulsion.

revulsion

revulsion must be by the *Vena cava*, which is inserted into the right ventricle of the heart: now whether any contagious vapour or Humor can bee sent by this passage safely, let every judicious person consider.

Now there is a difference between Revulsion, Derivation, and Evacuation, for in the former two, motion is required, as you have heard, but in vacuation the Humors must be quiet. In the translation of Humors flowing from any part, wee must marke according to *Hippocrates*, that it be done κατ' ἰξιν, *Secundum rectitudinem*, by observation of a straight course; and that is done two manner of wayes:

First, by the rectitude of the parts, as the left with the left, and right with the right, and the hinder with the fore parts. Secondly, by the rectitude of the vessels: as for example, The liver veine of the arme hath a kinde of straitnesse with the veines ascending to the head: so if one bleed immoderately at the right nostrill, by applying a Ventose to the region of the liver, the flux ceaseth: if it flow from the left nostrill, it must be applied to the region of the spleene.

Having set downe how *Plethora* is to bee abated, if it cause fluxion, we are to shew how *Cacochymia* is to bee removed, which is not so much by reason of the quantity oppressing, as by reason of an evill quality offending a part. Now this matter offending in quality, it either moveth from place to place, or it resteth where it had its first invasion; if it move from place to place, it is the safest course to abate the Humors wherein this quality is resident by Phlebotomie, lest it seaze upon some principall part: if it be quiet, resting contented with the first place, then let us use by purging, expelling the Humor, whether it be choler, flegme, or melancholy, with appropriate medicaments, which Physick prescribeth in that branch of the curative part of Physicke which restoreth health by the administration of inward medicaments. Having set downe the indications which are taken from the motion of the Humor, wee must come to those which are taken from the nature of it.

Now

Now the humor it selfe is either not contagious, or contagious: If it bee not contagious, the fluxion of it doth proceed from three causes: The first is the strength of the part sending the humor, which it doth, either because it is burdened with the quantity, or pricked on by the quality; wee have shewed what is to be done in these cases. The second is the thinnesse of the humor. The third is the attraction of the affected part. If fluxion be caused by reason of the thinnesse of the humor, if we cannot use phlebotomie or purging, as in children, decrepit persons, and in women with childe in the last moneth: then we must use revulsion, and this is done six manner of wayes. I. By Ventoses without scarification, as when wee apply a Ventose to the region of the liver, when one bleedeth too much at the right nostrill. II. Painfull constriction, or binding of the parts, as armes, and legs: but wee must first rub hard the parts which are to be bound; and if we binde the arme, we must use a Ligature in three parts: 1. Neere the arme-pit. 2. A little above the elbow. 3. About the wrist. In the legs we must use a Ligature neere the groyne, a little above the knee, and neere the anckle. III. Painfull frications when wee meane to revell from the center to the circumference. IV. Bathing of the parts with very hot water: for first by reason of the paine it doth revell. Secondly, it doth discusse because it openeth the poores. And in fevers by bathing of the limmes sleepe is procured, the vapours ascending to the head. V. Vesicatories which are used in the Apoplexie, Lethargie, and such like. VI. Fontanels, and they are in great use to be applied to divers parts, for the preventing and curing sundry griefes. If the fluxion be procured by the attraction of the part affected, there be two causes of the attraction: First, the distemperature of the part. Secondly, paine. If distemperature of the part be the cause, it must be removed by its contrary: but seeing it is most commonly a hot distemperature, things cooling are to be applied, as by applying clothes moistened with oyle of Roses, or violets cold:

Indications from the nature of the humor.

cold: but when the clouts become hot, th: y are to be removed, and cold to bee applied, or cloaths moystned in the juyces of cold herbs. If wee apply unguents, as *infrigidans Galeni, Rosatum Mesnis, de cerussa Rasis, Populeon*, wee must not apply the unguent immediately to the skin; but a thin linnen cloth: for it keepeth the unguent from drying, and doth not hinder the breathing out of the vapors, which the immediate application of the unguent would doe, and so by stopping of the pores, would increase both the heat and paine.

And in application of pulteses, they are to be spread between the fouldings of a cloth, dipped in some convenient oyle or liniment; for so it doth not hinder perspiration, and the applications are removed more easily from the part. This in your practice is to bee noted, and the inveterate error to bee shunned, if the wayes by the which the humor passeth, bee too ample and patent, and a hot distemperature joyned, then things astringent and cooling are to be applied, roulers and other cloaths being moystened in them. Wherefore in this case myrtils berries, red rose leaves dried, pomgranate rindes and flowers, sumach, sloes, oaken and owlar barke boyled in red astringent wine, or vineger and water, or new and fresh Tanners woose, and strained are effectuall. The parts therefore by the which the humor passeth, are to bee rouled somwhat strait with the rouler, cloaths, stupes, or pledgets and bowlsters being moistned in this liquor, and wrung: you may also apply astringent and defensive emplasters drawne upon leather; such an one is this, ℞ *rad. torment. bistort. symphyti. ros. rub. gallar. balaust. malicor. sang. drac. boli. Armen. santal. rubr. cerass. an.* ʒ j. *cerae albae* ʒ iij. *ol. myrtill.* ʒ j. *misc. fiat ceratum.* So much then shall bee sufficient to have been set downe, concerning the attraction of the affected part, by reason of the distemperature of it: now wee must come to the second cause of the attraction, which is paine or dolor. There are two causes of paine, solution of unitie,

and

and a venomous quality: if the solution of unity proceed from the affluxion of Humors hot or sharpe distending the parts, the paine is to bee eased with medicaments convenient: these are of two sorts, *Anodine*, and *Narcoticall*: *Anodynes* gently contemperate the part, by reason of the conformity which they have with the nature of man. They are hot in the first degree, and of subtill parts; such are milk, old sallet-oyle, butter, the fat of swine, hens, ducks, geese, eeles, man, badger, beares: the oyle of camomil, lilies, earth-wormes, lineseed, dill, sweet almonds, egges, the pulp of Cassia tempered with the oyle of roses, the pulp of sweet apples with the pouder of saffron. *Narcoticks*, are which deprive the part of the facultie of feeling, such are *Opium*, hemlocke, henbane, the deady night-shade, *mandragora*, and the apple of Peru, or prickly apple: these we are to use when the former will not prevaile, and when by reason of watching, a fever or faintnes is to be feared. Somtimes in extremities they are used solitary, somtimes with their correctives, to wit, things hot, if we feare stupefaction of the part, unto the which they are to be applied: such things are *castoreum*, saffron, cinamon, cloves, pepper, and such like. If the biting of a venomous beast, as of a mad dogge, or a viper, or adder: or the stinging and pricking of any beast, as of a scorpion, or insect, as a hornet, bee the cause of a Tumor, wee must addresse our selves to meet speedily with the poyson. If therefore a venomous beast bite or sting, first, the part is to be scarified, and ventoses to bee applied: then the part is to be fomented with *Theriaca Andromachi*, dissolved in strong wine vineger, and stupes moistned in the same, applied to the same; or it is to bee fomented with the oyle of scorpions, and a pledget wet in it to bee applied: and above the pledget, this emplaster of *Fallopius* is to bee spread warme, ℞ *pic. naval.* ℥ j. *sal. nitri.* ℥ ß. *semen. synapi* ʒ ij. *cepar. allior. sub. prun. coctor. an.* ʒ iij. *assæ fœtid. sagapen. an.* ʒ ij. *stereor. columbini* ʒ j ß. *aristol. rotund dictamni albi an.* ʒ j. *ol. lil. al-*

When narcoticall meanes are to be used.

What is to bee done in biting of venomous beasts.

De tumoribus c. 14.

bor.

b or. ℥. ß. fiat emplastrum: pigeons also, and hens, and cockes divided in two parts, and applied hot are available. Somtimes the actuall cauterie is to bee applied, to tame the malignitie of the poyson, if the poyson hath continued above three dayes: Besides this, two things more are to bee done, first, according to *Galen*, the member is to bee bound hard, three or foure inches above the part bitten or stung: secondly, Antidots inwardly are to bee given; but chiefly *Theriaca Andromachi*, for many dayes together in a liquor, fit for the constitution of the diseased person: now if the matter of a Tumor bee contagious, wee are by all meanes to draw it out of the body, lest if it goe in, it deprive the person of life, as in the plague, or infect the liver, as in the pox, wherefore ventoses are to bee applied, and medicaments attractive to bee applyed: such is *Fallopius* his emplaster set downe before, for the attraction of poyson. In the plague, wee must not faile to minister Antidots, even to three times in a day, and to procure sweat: such are *Theriaca, Electuarium de ovo, Electuarium Orvietani*, or this of *Fallopius*: ℞ *baccar. juniper. caryophyll. nuc. muscat. rad. ennul. an.* ʒ ij. *rad. aristol. utriusque, gentian. an.* ʒ vj. *semen. portul. acetos. doron. been rub. an.* ʒ j. *spodii, oss. de corde cervi. ligni aloes. coralii albi & rubri, rasur. ebor. baccar. lauri, mastich croci. an.* ℈ ij. *rut. morsus diabol. an.* ʒ j. *pulp. ficuum & dactylor. an.* ℥ j. *cinamoni liquirit. an.* ℥ ß. *tormentill. card. benedict. dictamni albi an.* ʒ iij. *amygdal. dulc. & pinear. excort. an.* ℥ j. *agaric. trochiscat.* ʒ vj. *rad. peuced.* ʒ ij. *terræ sigillat. & bol. orient. an.* ℥ j. *zedoar.* ʒ ij. *caphur.* ʒ iij. *spec.* ʒ. *santal. spec. diarrhod. abbat. an.* ʒ ij, *cort. citri, pulv. smaragdi an.* ʒ j. *moschi* ℈ j. *Theriac. Andromach. & Mithridat. an.* ℥ j. *fol. mali Armeniaci* ℥ ß. *cum syrup. de cort. citri, & de acetositate citri an. triplo pondere ad pulveres fiat Electuarium. Vt Electuarium fiat magis efficax addi possunt cornu rhinocerotis* ʒ iij, *& cornu cervi præparat.* ℥ ß. *dos. a* ʒ j *ad* ʒ ij, *in conveniente liquore.*

3. de loc. affect. 7.

Indications in contagious Tumors.

De Tumor. c. 9.

Coquendo omnia s. a.

The stinging of waspes or bees is cured with mallowes stam ped

stamped and mingled with cold water, or chaulke applied with the same.

Lect. IIII.

Of the foure times of a Tumor, and the Indications taken from them.

HAving spoken of the Indications curative, taken from the matter of a Tumor, now it followeth that wee speake of the Indications taken from the times of a Tumor: the times of a Tumor are foure, the beginning, the increase, the state and declination. The beginning is thought to be, when a part beginneth to swell, although the actions bee not hindered: in the beginning repelling medicaments are required: repelling medicaments are cold, and of grosse substance, for they are to thicken the part affected, and to coole the inner parts of it; such are the whites of egges, plantine, night-shade, house-leek, prick-madam, purselain, rose buds, drie roses, myrtil berries, pomgranate flowres, and rindes, gales, sumach, quinces, sloes, bole, *sanguis draconis*, *terra sigillata*, sowre wine, Tanners woose, which you may apply either single, or mingled according to your scope. But in six cases wee are not to use repelling topicks, first, if the matter bee venemous or maligne: least it being repelled, should assault some principall part. Secondly, if the matter be critically turned to a part, so that it bee not a principall part by the error of nature: for then it ought to bee repelled, as when in a burning fever, the matter being sent to the meninges causeth raving. Thirdly, when the body is either plethorick, or of an ill habit. Fourthly, (a) when the humor floweth to the emunctories. Fiftly, if the part have but little naturall heat, wee are not to use repercussives, least the naturall heat bee extinguished, and the part mortifie. Sixtly, when the dolor

The times of a Tumor. 1.

When repelling medicaments are not to bee used.

a *6. de comp. med. 2. m. loca 2.*
b *Id. eod. lib. c. 7. & 13 method.*

13. *method. c.16.* is vehement, and the part exceedingly pained, for then *Anodyns* are only to bee used. Wee are to thinke the Tu-

c *Id 6. de compos med. 2. m.loc.c 2* mor to increase, when the part is stretched, and symptomes are increased, and seeing in the increase the matter partly floweth, and partly possesseth the part, you are partly to repell, and partly to discusse: but if the matter flow with

d *Id.2. ad Glaucon c.9* such force and plenty of humor, that it threatneth corruption of the part, (*e*) or if the humor which floweth bee

Id.14. method. 20. thick, and so hot, that the part feeleth a burning, as in a carbuncle, then are you to use sensible evacuation by scarification; but where wee cannot conveniently scarifie, the leeches are to bee applied as in the hemorrhodes, and other griefes of the *anus*. Now

Discussion. discussion is an evacuation of a thin matter gathered in a part, by insensible evaporation, procured by the naturall heat increased by proportionate medicaments. In this description, insensible is added to distinguish it from evacuation by incision, scarification, or leeches, which evacuate sensibly to the eye: the principall efficient cause is the naturall heat; the adjuvant discussive medicaments, the matter which is to bee resolved must bee thin; for it is in vaine to goe about to discusse a thick substance: because it is not apt to yeeld vapors. In

The effects of discussive medicaments. the description, discussive medicaments are said to helpe naturall heat by increasing of it, which being done: First, the humor is made thin: Secondly, it is resolved into a vapor: Thirdly, it is drawne from the center to the circum-

The qualities of these medicaments. ference, and lastly expelled by the pores of the skin. Such medicaments then must bee familiar to nature, and these performe their office, by consuming superfluous humiditie:

Degrees of them. and so they must be hot and drie. They must then be subtil, that they penetrate to performe these offices. There bee three degrees of discussive medicaments, they in the first

Gal 6. de comp. medic, 2 m loca 6.1. degree are hot and drie in the second, as drie figs, branne, camomil, *Ammoniacum*, *galbanum*, leaven, lilie roots, me-

I. lilot, the roots of the marshe mallow, goose grease, and old hens grease: and because such asswage paine, wee ought

alwayes

alwayes to begin with them. In the second degree, are calamint, Isope, penniroyall, ments, cummin-seeds, and dill-seeds, bean floure, the floure of vetches, fenugreeke, horehound, the root of *Peucedanum*, the roots of both the birth woorthes, lyons fat, old beares fat, old badgers, cats, dogs, and mans fat: these are somwhat drier, and hotter than those of the first. In the third degree, are those which are drie and hot in the third degree, as nitor, unslaked lime, sulphur vive, *assa fœtida*, &c. These are to bee applied according to the constitution of the partie, as the skilfull Chirurgean shall see cause. The state of a Tumor is, when it is come to such a degree, as that it can goe no further in bignesse, the signes of it are these: first all symptomes, as tension, paine, rednesse, and feaver symptomaticall are at the height, and remaine uniforme, neither increasing nor decreasing: secondly, the veines of the parts adjacent continue in this same fulnesse and dilation. In the state, wee are to use *Anodyns* with discussives by reason of the paine. Wee are to thinke that the declination of the Tumor beginneth, when the aforesaid symptomes begin to abate, and then strong discussives only are to bee applied, wherof we have spoken before. In necessitie we may use these which are found in the shops, *diachylon cum gummis*, *diachylon magnum Mesuis*, *diachylon ireatum*. Tumors end not only by resolution, but often by maturation; and somtimes by induration and corruption: and as discussion is better than apostemation; so induration is better than the corruption of the part: fifely, Tumors doe end changing the place, as when in a plurisie the matter falleth upon the midrife, and causeth *Empyema*.

II.

III.

What is to be done in the state of a Tumor.

Its signes.

Of the Declination.

The termination of Tumors.

The matter.

Lect. V.

Of curing of a Tumor come to suppuration.

HAving in my former Lecture set down, that all Tumors end in one of these five wayes, to wit, discussion,

apostemation, induration, corruption of the part, and passing from one part to another.

Having shewed the method how they are to be discussed: now order requireth that the meanes be set downe, how a Tumor is to bee handled, if it tend to suppuration, or maturation: which by our usuall terme is called Apostemation. Thus we are inforced so to goe to work: First, if the humor be too plentifull; for then the naturall heat cannot well rule it, and so it must bee seconded by forraine and externall heate, which working vpon superfluous humidity, causeth putrifaction according to the Philosopher. Secondly, when it is crude; for then wee must labour to concoct it with the medicaments, which are *peptica* or *coquentia*. Thirdly, when the matter is hard; and then we must use emollient medicaments. The medicaments which procure quittour, they are temperately hot and moyst: and these help naturall heat, that it may the more easily elaborate the matter, and make it fit for expulsion, and this wee call concoctions. Emollient topicks are used to soften any matter indurated, and such are drie in the first degree; and hot in the first, and in the beginning of the second. But it is to bee noted that there is a difference betweene tension and hardnes, and relaxation and softnes: a part stretched will yeeld to the finger pressing it; if it bee hard it will not: and where there is any tension, relaxing medicaments are to bee applied, which attenuate and open the pores, and therefore they must more discusse than drie, and so be drying in the first degree, and hot in the second. A part indurated must have emollient means applied to it: whereof wee will speake, when wee come to discourse of a *schirrus*. In the curation of Apostemes, wee are to doe two things: first, wee are to prepare the matter, and make it fit for expulsion: secondly, wee are to evacuate it, when it is prepared. To accomplish the preparation of the matter, first, wee are to remove accidents: secondly, to procure the maturation of the matter. The accidents are these, pain, tension

When maturation of a Tumor is to be procured.

Indications in curing of Apostemes.

Removing of accidents.

tension of the part, hardnesse, and heat. As for the asswaging of paine, narcoticall or stupefactive medicaments have no place here: for first, they extinguish the naturall heat of the part, which is the principall efficient cause of coction: secondly, by thickning of the matter, they make it more rebellious; wherefore wee are to use Anodine medicaments, whereof wee have spoken already: you shall doe well to apply such a cataplasme as this. Take of white bread crums jiii ℥, of new milk three quarters of a pinte, of mallow and violet leaves pounded small of each an handfull: boyle these to the consistence of a cataplasme; then adde to it of saffron a dramme, of *unguentum populeum* iij ℥: let the apostеme bee dressed with this, or such a medicament, morning and evening.

Asswaging of paine.

The inconvenences of narcoticall medicaments.

If the part bee stretched, use relaxing topicks, such are those which are temperately hot, not drying much, and of subtill parts, as white hore-hound, archangell red and white, mullen, dill, camomill, fenygreek, mercury, melilot, turneps, the leaves of the marsh mallow, the floure of barlie, beanes, and vetches; of these you may frame to your purpose such a cataplasme: Take of camomil-flowres beat to pouder ij pugils, of barlie, beane, and floure of vetches, of each ij ounces, of marsh mallow leaves and flowres pounded a handfull: boyle these in beefe, or mutton broth strained, and the fat taken away, untill they come to the consistence of a poultice: Then adde to it of the oyle of dill, camomill and rape-seed, of each j. ounce: dresse the apostеme with this or the like, morning and evening.

Against tension.

Simples.

If hardnesse hinder, use those things which are emollient, as all manner of fats, the dregs of oyle, all sorts of mallowes, colts-foot, bugloss and burrage, quince seed, milk, the white lilie, linseed, figs, raisins, the marrow of beasts, the oyle of sweet almonds, march violets, *Ammoniacum*, *Bdellium*: of some of these you may frame a cataplasme after this manner: Take of linseed meale or powder, iiij. ℥, of marsh mallow roots, and white lilie roots

Against hardnes.

Simples.

Compounds.

boyled in water, and well bruised, of each ij. ℥, of the violet leaves, and flowres, and colts-foot leaves, of each an handfull; boyle these in new milk, untill they come to the consistence of a cataplasme: unto the which adde of *ammoniacum* dissolved in muscadine, of the pulp of figs and raisins, of each j. ounce, and so make up your cataplasme.

Against heat. If immoderate heat trouble you, apply things cooling: but let them bee cold either in the second degree, or beginning of the third: for the reasons yeelded against narcoticks, when I spake of paine, such are *umbilicus veneris*, or navell woort, prickmadam, singreene, barlie meale, endive, the pulp of the pumpeon, sea-tong lettice, ducks-meat, the water lilie, the water archer, plantine, garden nightshade: of these herbs with barlie meale boyled in faire spring water make a poultice; and to every *lib.* of the poultice, adde ij ℥. of *populeum unguentum*, and one ounce and an halfe of *unguentum rosatum Mesuis*.

Quest. You may demand of mee, how long the application of these topicks prescribed, for the removing of accidents, are to bee continued.

Answer. I answer, untill the accident bee almost gone, with the which you encouutered, and then you may proceed to assist nature, by increasing naturall heat by ripening medicines, which was the second intention of curing apostemes set downe by mee. Now those medicaments which help nature, ought first to stop the pores reasonable, only suffering the sharp vapors to breath out, and to detaine those which are mild, and somwhat thick, which are the secondary cause of coction. In this respect, then they ought to be viscous and tough in substance, such are temperate oyles, and mucilages, which by *Galen*, are called *Emplastica*: secondly, they ought to be familiar to nature, and so temperately hot and moyst. One thing is to be noted, that hotter simples are to bee chosen, according to the temperature of the part, if the Tumor seeme somwhat cold: wherefore if the Tumor seeme hot, only maturatives in the first degree

Maturation of apostemes.

Gal. de simplic. facult.

are

are to be used, and those of the second degree to be shunned: But if the matter be somewhat cold, then you are to use maturatives of the second, yet alwayes mingling with them some of the first degree. And the reason is this, because the medicaments of the second degree dry too much, wherefore those of the first degree are to be added, in the which there is much moisture, which is requisite to coction and producing of quittor. These medicaments are called *Concoquentia*, and *Pus moventia*, and *Suppurantia*: such ought to be hot and moist, as the body of a temperate man is, and so they ought neither to dry or moisten, or to heat or coole immoderately, but onely to preserve and increase the naturall heat; for a suppurative medicament ought to answer the constitution of him unto whom it is applied.

Degrees of suppurative medicaments;

Of these suppurative medicaments there be two rankes: In the first, are Mans-grease which asswageth paine also, Duckes-grease, Goose-grease, Hens-grease, oyle of sweet Almonds, sweet sallet Oyle, Mallowes, sweet Butter, Figs, Fenugreeke, Lilly roots, Linseed, Wheat-flowre; a Cataplasme made of Wheat-flowre, Water and Oyle, an Emplaster made of yellow wax, and oyle called *Cerelæum*, Violet leaves and flowers, saffron. For an example, I will set down the description of a suppurative Cataplasme compounded of some of these of the first rank: Take of Milke a pint, in the which boyle of Wheat-flowre a quarter of a pound, of Violet-leaves, and Mallow-leaves stamped, of each a handfull, of Lilly-roots, and Figs boyled in water, untill they be soft, of each two ounces; when they are come to the consistence of a Pultice, adde of Saffron beat to powder a dramme, of the oyle of Linseed, sweet Almonds, Lillies, and Mans-grease, of each one ounce; and so make up your medicament. If the Tumor be immoderatly hot, mingle alwayes with your suppuratives those things which are cold and moist in the first degree, as Violet-leaves, Lettice, the pulp of Pompions, Grownsill, Succorie, Dandelion, and

Simples of the first degree.

Compound.

such like. If of a sudden you be called, and be required to dresse a Tumor tending to suppuration, you may have recourse to the Apothecaries shop, and with these things dresse it. First, beat some oyle of Violets and faire Spring water together, taking two spoonfull of oyle, and one of water, with the which embrocat the Tumor, then apply a pledget moistened in this, upon the part which is like to breake, or be opened; and above the pledget, *Diachylon simplex* if the Tumor be hot, or *Diachylon cum gummis* if it be but a little exceeding the ordinary temperament.

Suppuratives of the second degree. Simples.

Suppuratives of the second degree are these; *Terebinthina, Ammoniacum, Galbanum sagapenum, Gummi elemni, Pix navalis*, Burgundie pitch, Saffron, Leaven, Fenugreek, Onyons and Garlicke rosted under the imbers, old Butter, oyle of Camomill, and Dill, old Hens-grease, Badgers-grease, and Beares and Dogs-grease, Wheat-flowre, Flowre of Linseed. In the shops there are *Emplastrum de mucilaginibus, Dialthæa cum gummis, Diachylon cum gummis, Diachilon magnum.*

Compound.

As before I have done, so now I will set downe a compound medicament, framed of these Simples: Take of the roots of the white Lilies, of the roots of the marsh Mallow, of Onyons boyled and bruized, with the liquor of each iiij. ℥. of Leaven ij. ℥. of Linseedmeale j. ℥. and a half, of Saffron beat to powder a dram, of *Ammoniacum* & *Galbanum* dissolved in Muscadine, and the pulp of Figs, of each j. ℥. of oyle of Camomill and Lilies so much as will make a Cataplasme of a good consistence.

In Strumes, and *Bubos venereall*, use this: take of *Diachylon cum gummis*, and *Emplastrum de mucilaginibus*, of each j. ℥. of Garlicke and Onyons rosted under the imbers of each ij. drammes, of *Dialthæa cum gummis*, Mans-grease, and Beares-grease of each j. dramme, make a medicament. One thing I would have you to note, that suppuratives of this degree are fittest for all contagious Tumors, and that to all such, Onyons and Garlicke rosted, and mingled with other

other medicaments, are to be applied; for being thus prepared, they leese their sharpnesse, attract, and become familiar to the naturall heat.

How Apostemes are to be opened.

Hitherto you have heard how that Tumors that cannot be discussed are brought to suppuration: Now I am to deliver unto you, how the matter, which is suppurated, is to be discharged. This is done by opening the part: Now some things are to be considered before the action, some in the action, and some after the action: Before we goe about to open an Apostеme, First, we must be certaine whether it be ripe enough; Secondly, we must resolve how to open it.

The signes of maturation are; I. The Tumor, by contracting it selfe, seemeth lesse than it was in the state; for while the naturall doth concoct the matter, vapours are raised by the heat, and so the part is distended; but when the matter is concocted, the elevation of vapours ceaseth, and the Tumor falleth somewhat. II. The Tumor draweth it selfe to a point, or prominence; because when nature overcommeth the matter, it draweth it together, and draweth it to the skin. III. Hardnesse and tension are much abated; for maturation being procured, many vapours are discussed, which before stretched, and made hard the skin. IV. By pressing the matter with the finger, wee finde a fluctuation, or comming and going of it: but we must be circumspect when a Tumor in a great joynt is offered unto us, as in the knee; for if we presse laterall parts of it, a certaine undation will appeare. V. The party feeleth much ease in the part; partly, because some of the sharpe vapours are resolved; partly, because the matter concocted doth make the parts more loose. VI. The vehement heat ceaseth; for the Humor being come to maturation, the unnaturall heat abateth, and the naturall heat resteth. VII. If the part inflamed hath changed the colour, and of red is become white, and chiefly in the pointed place. VIII. The scarffe skin

Signes of maturitie.

skin becommeth shriveled, and ruffled; and this is a good signe, for it sheweth that unnaturall heat hath left it.

Instruments fit for opening.

The second thing which wee said was to bee resolved upon, was the instruments with the which the Apostemes are to be opened. They are three; I. The lancet or incision-knife, of the which there be divers formes set downe by the ancients: of the which wee will speake, when wee come to discourse of particular operations for the which they are required. II. Is the causticke or pyroticall medicament. III. The actuall cauterie, which we will leave willingly to horse Leeches, unlesse we be destitute of other meanes: and when we are to make a fontanell, or to stay a great flux of bloud, or to dry a carious bone, or to correct a cancerous part after that it is extirpate.

Steele instruments.

As for steele instruments, wee are to use them, First, if Apostemes bee in the face, to avoid the filthinesse of the scarre, after the curation. Secondly, in small Tumors: for so they will be the sooner whole.

Caustickes.

As for the Causticke medicaments, wee use two sorts of them: the first is made of the strongest sope lees, boyled to the consistence of a soft stone. The second is made of the like lee, and unslaked lime, boyled to the forme of a firme unguent. The first is best in Tumors which possesse the convex part. The second is most convenient, if they be in parts concave or hollow.

These Pyroticall medicaments are most fit to be used in five cases: I. If we intend to keep the Tumor long open, as is requisit in all contagious Tumors, in the plague, & pox: for where the caustick is applied, there is alwaies losse of substance, and by it we may make the orifice round, which of all other figures most slowly is cured. II. In large Apostemes caustick s are fittest; for by them, making as large an orifice as we wil, we shal spare tenting and enlarging of it; besides, the stretched parts will the sooner bee contracted. III. They are to be used in deepe apostemations, such as happen in the belly and back, for so the matter shall have a readier way for evacuation.

evacuation. IV. They are best, when a flux of bloud may be expected. V. We apply them, when we will gratifie timorous persons.

When we are come to open the part, then these things are to be observed: I. The nature of the part: this teacheth us, to shun veines and arteries by reason of hemorrage, and nerves, tendons, and membranes by reason of the paine which ensueth. II. If the skin only be to be divided, then the apertion is to be made straight; but if a muscule also be to be inciſed, it must be done according to the fibres of it. III. Apertion must be made in the depending part, because the matter will be more readily so drawne out. IV. It must be done where the part is thinnest, for so lesse paine is caused. V. The apertion must be proportionate; for if it be too little, then the matter, especially if it bee thicke or grumous, cannot be well drawne without expression, which maketh way for callosity, and fistulation. If it be too large, first, the scar will be the more ugly. Secondly, the parts subjacent will be made more apt to be altered, by receiving the impression of the cold aire. VI. Wee are to know how much matter is to bee evacuate at one time: In great Tumors, and those which are in the joynts, great moderation is to bee used; for with the matter many spirits breathe out, and so are spent: from whence extenuation of the body, yea and death sometimes ensueth. The Chirurgeon who is to doe this, ought to bee resolute, chearefull in countenance and speeches, and no wayes scrupulous: otherwise he shall make the Patient dismayed, and fearefull, "which doth much weaken and abate the courage of the Patient.

Things to be done in the opening.

" *Gal. 2. de Sympto. caus. 2.*

Things to be observed after the opening of an Apostеme, are these: First, the removing of accidents which most commonly fall out. Secondly, the manner of dressing. The accidents are most commonly three, fainting, chiefly if the parties be children, women, but above these, effeminate men. Secondly, paine. Thirdly, a flux of bloud.

Things to bee done after apertion.

As for fainting, we may labour to prevent it, by ministring

Against fainting.

string unto the Patient a Caudle, Aleberrie, or some stiptick wine with a toast, as Allegant, and tent; or if it be like to ensue, we may minister unto them some cordiall water with sugar, as Cinamome water, Triacle water, or *Aqua cœlestis*. If dolour and paine ensue, let the part bee embrocat with oyle of Roses, and the third part of wine beaten together: yet the oyle is not to touch the brimmes, if apertion hath beene made by incision, lest it cause spungeous flesh to grow. As for staying of blood, I will set downe the fittest, and most effectuall meanes to performe this, when I shall come to discourse of wounds, for in them it doth most commonly fall out.

Against paine.

Against bleeding.

Dressing after opening.

As concerning the manner of dressing after opening: If this hath beene done by incision, either a tent, if it be small, or dosels with pledgets armed with some restringent powder, as bole, frankincense, and flowre tempered with the whites of egges, if it be large, are to be used: and so it is to remaine for the space of foure and twenty houres. If the caustick be applied, then *Dialthæa simplex*, or sweet butter melted in a sawcer, are fit to be used untill the eschare fall; then the cavity is to bee incarnate: If in the meane time spungeous flesh appeare, it is to be removed with cathereticall medicaments, as ☿ precipitate alone in gentle bodies, or mingled with alome, taking the third patt of this in harder bodies: yea, you shall be enforced somtimes to use *Pulvis sine pari*, & other Fistula powders with some medicaments, which coole and asswageth paine, as *Vnguentum populeum*, and *Rosatum Mesuis*: take my word, *Basilicum* and *Aureum* are not so fit.

Last of all, it is to be sealed up with epuloticall medicaments, as *Diapalma*, *Emplastrum de minio*, *Vnguentum comitissæ*, and *Desiccativum rubeum*. If a Tumor end into an Induration, it must bee cured as a *Scirrhus*, whereof I will speake in its proper place. If it end into the corruption of the part, the way of dressing this shall bee set downe in my discourses of *Gangræna* and *Spacelus*. If a Tumor cease, because

because the matter removeth from one place to another, as when *Pleuritis* endeth in *Empyema*, neither doth this belong to this place.

Lect. VI.

Of a Phlegmon.

HItherto I have delivered a generall rule or method, common to the curation of all particular Tumors: now it resteth, that the use of the generall documents bee shewed in every speciall Tumor. Of all which, a Phlegmon doth first offer it selfe: First, because it is caused by the most excellent humor, to wit, blood; the matter of spirits, and the store-house of life. Secondly, because it is most frequent. Thirdly, because very often, as a Symptome, it accompanieth other griefes, as wounds, contusions, ulcers, luxations, and fractures, as *Galen* noteth. Phl. gmon. a 2. *ad Glauc.* c. 1. & 13. *method* c. 1.

The word φλεμον is drived from φλέγω from whence *flagro*, to burne, by reason of the heat of it.

A Phlegmon is a Tumor hot, proceeding from the affluxion of blood to any part. In this description, where it is said to be hot, in this it is distinguished from *Oedema* and *Schirrus*; and in this that it is pronounced to proceed from blood, it is severed from *Erysipelas* caused of choler: the differences are taken either from the materiall cause of it, or else from some parts which it possesseth. The differences of it taken from the matter are these: It is either *Legitima*, or *Notha*, either truly bred, or else bastardly. A description of it. Differences from the matter.

A proper Phlegmon, is caused of good blood, onely offending in quantity: Good blood is discerned by colour, taste, and consistence: In colour it is red, in taste sweet, in consistence meane, betweene thicke and thin: of all other humors it is most plentifull in the body, because it affordeth nourishment to all the fleshy parts, as they have their being by it. Next unto blood, there is more of sweet and alimentarie phlegme, than of choler and melancholy; because it Good blood. More phlegme than choler or melancholie.

it is bloud halfe concocted, and in extreme hunger nature turneth it unto nourishment. But it is not so easie to determine of the other two humors, choler and melancholy; *a 2. problemat.* *Alex. Aphrodisæus* thinketh that there is more choler than melancholy, for by reason of choler being hot and thin, the bloud being made thin, doth passe the more readily, even by the capillar veines, to nourish the most outward parts: but in truth, and by all likelihood, there is more melancholy than choler, if you take melancholy for the grosest part of the bloud: for first, seeing the bones which by ancient computation are 246. but more in number indeed are nourished by this humor, it being cold and dry, answerable to their temperature, it must bee more plentifull than choler. Secondly, because the spleene appointed to bee a receptacle of melancholy, is larger than the gall. Thirdly, because choler is not so familiar to nature as melancholy is: for as by a small quantity of choler, a great deale of milke becommeth bitter, even so it is in blood. Now things bitter are unpleasant to nature; wherefore it is probable, that provident nature hath in the masse of bloud appointed more melancholy than choler. Lastly, if we diligently note bloud drawne out of the veines by phlebotomie, wee shall evidently see more feculent bloud in the bottome of the the sawcers, than yellow choler fleeting in the top.

More melancholie than choler.

Signes of a true phlegmon.

The signes of a true Phlegmon are six. I. This Tumor beginneth suddenly, and encreaseth speedily, because the matter is plentifull, and the wayes by the which it is sent very patent and large. II. It is very hot in respect of *Oedema* and *Schirrhus*, but yet not so burning as *Erysipelas*. III. The colour of the part is of a fresh ruddy colour. IV. In this Tumor there is great paine with pulsation. V. There is a great tension in the part, because the unnaturall heat raiseth plenty of vapours which distend the part. VI. The veines which before lay hid become conspicuous, and appeare either ruddy or blackish.

Now as I said, there bee many differences of Phlegmons taken

taken from the parts which they invade: for if it seaſe upon the meninges or membranes of the braine, it is called φρενῖτις, if the conjunctiva of the eye, then it is called ὀφθαλμία, if the muſcules of the throat, it is termed *Angina*, if the *Pleura*, it is named πλευρίτις, if the lungs, περιπνευμονία, if the kidneys, νεφρῖτις, if the emunctorie of the heart and liver, *Bubo*, of the braine, *Parotus*, of the gums, *Parulis*, of the almonds, *Pariſthmia*, *Tonſillæ*: Phlegmons in other parts have no proper names, and even theſe I will referre to the particular practice of Phyſicke, wherein they are handled, and reſt contented with the doctrine of externall Tumors.

Differences of a phlegmon taken from the parts.

Theſe inflamations, if they poſſeſſe the externall parts, and be but moderate are healthfull; as thoſe which either by reaſon of the plenty, or malignity of the humor, threaten a gangren, and mortification are to be ſuſpected. A phlegmon which hapneth in a young body, in a hot and thin part, the body being not very plethoricke, and in the ſummer time is more ſpeedily cured; but quite contrarily if the conditions be oppoſite. The indications curative of a true phlegmon are taken from the times of it: The meanes by the which we cure are two, a convenient diet, and artificiall application of apt meanes for curing of the Tumor.

Prognoſticks.

I.

II.

III.

In the beginning therefore, we muſt preſcribe ſuch a diet as is able to hinder the increaſe of ſuperfluous blood, and the fluxion of that which is already bred: wherefore the diet muſt be ſpare and ſlender, onely ſufficient to ſuſtaine nature, and withall cooling: the patient then ſhall reſt contented with chicken, and veale broth with bread, calves-feet and trotters ſtewed, and ſeaſoned with vineger, thin oatmeale-gruell, panadoes, ſallets made of ſorrell, ſpinage, purſelaine boyled in thin chicken or veale broth, ſeaſoned with ſome vineger, verjuice and ſugar; let his drinke bee ſmall beere or ale, altered in the ſummer with burrage, bugloſſe and burnet, barley-water, faire ſpring-water, wherein the cruſt of a loafe hath beene boyled, and made

pleaſant

pleasant with *oxie saccharum*, or *oximel diureticum*, mingling with a pint of the water, one ounce and an halfe of the sirrups. If the party be weake, Almond-milke made of barley-water, or the thin broth of a chicken may be permitted: If we intend to make the blood unapt to motion, and to detaine it in its owne receptacles, then we must institute a diet, having these three qualities: For first, it must coole: Secondly, it must make a constriction, and pursing up of the vessels: Thirdly, it must be diuretically, or move urin; for much serosity being carried away by the passages of urine, the blood must be made thicker, and therfore not so apt to flow. But we must take heed, that such a diet be onely prescribed to such as are in their constant age, and have large veines; otherwise, we shall cause new obstructions, and multiply griefs: now to this purpose, you may ordaine broths, wherein lettice, sorrell, spinage, purselain, marigold-flowers, and columbine-flowers and leaves have beene boyled, calves, sheeps, and lambs heads boyled, with greene-sawce made of sorrell, or alleluia, beware of alliaria, jacke of the hedge, or those simples which are hot, young chickens with gooseberry-sawce, are good, and such like. We must forbid wine, flesh, egges, fat things, and such as breed too much blood; and spices, because they heat the blood; & piercing drinks, as stale beer or ale, because they further the fluxion of blood. To procure urine, an almond-milke may be made of a ptisan, having the emulsion of the seeds of the pompion, gourd, musck-melon, cucumber, lettice, purselaine, and plantaine.

Wardens and peares rosted, stewed, or baked are good.

Evacuation.

Now the humor flowing immoderately, we must labour to stay by abetting of it, and that by two manner of wayes; by phlebotomie, and purgation.

Phlebotomie.

As for phlebotomie, if the inflamation be great, the party young and strong, and full of blood, in the spring time we may take a lib. at a time, yea more, and iterate it if occasion be offered: in others, moderation is to be used, according to the strength of the patients. If a phlegmon possesse the parts which are above the liver, then the veines of

Which veines are to bee opened.

the

the armes and upper parts are to be opened: but if it invade the parts which are under the liver, as the kidnies & genitals, then the branches of the *vena cava* descending are to be opened in the hams or ancles. One thing is to be noted in Phlebotomie; that we open not veines too farre distant from the part affected, as *Vena frontis* in diseases of the feet: for we should evacuate too great a quantity of blood, before wee should intercept any tending to the part affected. If a Phlegmon hath succeeded the staying of the evacuation of blood from any part, as from the nose, the wombe, the hemorrhodes, meanes must be used to procure these accustomed evacuations: but seeing these may be found in all who have set downe the manner how to cure particular diseases, I will leave them to diligence and industrie of your selves, being unwilling to mispend time.

Purgation.

As for Purgation, one may doubt whether it can doe any good; seeing no blood, the matter of a Phlegmon, can be by this meane spent. I answer, that it helpeth by accident, and two manner of wayes: for first, purgation drieth the body, and so depriving the blood of moisture, maketh it more unapt to flow. Secondly, by purging sharpe humors, the part which sendeth the humor is not pricked forward. But in this case, lenitives are better than eradicatives, because they rather coole than heat, and cause no ebullition in the humors: such are *Diacatholicum*, *Electuarium lenitivum*, *Electuarium de sebesten*, or a bole, or cassia, tamarinds and sugar of violets.

What purgatives most fit.

Locall medicaments.

As for the Topicall meanes, which respect the part, and the humor, they are of three sorts: *Revellentia*, *Defensiva* or *intercipientia*, & *Repellentia*: now medicaments appointed for revulsion, must be hot & attractive, and applied to the parts opposite and remote, as I have set down in the generall method of curing of Tumors. Of this kind are fomentations, made of all sweet smelling and hot garden herbs boyled in strong wine, as calaminth, penniroyall, myntes, lavender, tansie, time, smallage, feverfew, sage, savorie, pellitorie of

Repellentia.

Fomentations.

Spaine; the fomentation must be very hot, the use of them must be continued untill the part become red. Sometimes, if the affluction of the humor be fierce, and plentifull, we are to apply Vesicatories, as in inflamations of the eyes to the necke: but seeing there is none, who hath beene but initiate in the practice of chirurgery, who is not fitted with a medicament for this purpose, I mean not to leese labour, and mispend time in setting downe any descriptions of them.

Vesicatories

A caution in the use of the cantharides.

But let me tell you, that some sorts of *ranunculus*, or crow-foot greene beaten and applied to the part, are more secure than cantharides; but the bull-foot, which is found in most pooles by the high way, is most excellent, being beaten and applied in a wallnut-shell, or muscles or cockle shels, chusing the ampleneſſe of the shels, according to your purpose. If in the winter time you apply cantharides, you must correct them with *Euphorbium*, mustard seeds, and seeds of amie, or dill: for if a vesicatorie of them bee applied to thin and tender bodies, it will cause difficulty of urine, which will be removed speedily, if the party drinke of an almond-milke, made of barley-water, wherewith the emulsion of the great cold seeds hath beene drawne, and that warme. Besides these locall medicaments, we are to use Cupping-glasses, sometimes without scarification, if the party be timorous, and not very plethoricke; but if the affluxion of humor be great, and the party strong and courageous, let scarification be used. Frictions also are not to be omitted; but in this exercise we must begin at the extremities, as hands and feet, and end at the trunke of the body, to move the humor, and then to labour againe from the trunk to the extremities, to bring it downewards.

Cupping glasses.

Frictions.

As for Ligatures, in applying them, you must begin at the trunke, as about the shoulder, and articulation of the thigh, and end in the hands and feet, making three ligatures in each extremity; above the elbow, and about the wrest in the arme, and above the knee and anckle in the leg.

Ligatures.

After revelling meanes, Defensives succeed: These are applied

Defensives.

applied to stay the humor from flowing to the part: these must be cold, dry, and astringent, fit to purse in and contract the vessels: these are applied to the parts adjacent, and which have lesse flesh, as to the joynts, and parts above the joynts; for there the vessels are most conspicuous, and so are most apt to receive the impression of the medicament: so if the foot or hand be inflamed, let the defensives be applied to the anckle and wrest, and so forth.

The divers kindes of defensives.

Of these defensives there be two sorts, for some are more milde, as Plantine, the white Rose, Night-shade, red Poppie or water of the spawne of Frogs, red wine, vineger and water, vineger and oyle beaten together called *Oxylæum*, verjuice, and such like, and these are to be applied ro tender bodies, and who have but small veines. Others are stronger as Bole, Sanguis draconis, Terra sigillata, Pomgranet flowres and rindes, the decoction and pulp of Sloes, Sumach, Myrtill berries. These are to bee applied to bodies of a strong constitution, of ripe age, and who have large veines, and in the summer time, and when the inflamation is fierce. Of such simples we may make composition fitting our purpose: as, mingling Masticke, and boyle with the oyle of Myrtils, and whites of Egges: The juyce of Housleeke with Milk is good, or a decoction made of red wine, and Tanners woose, wherein are boyled red Rose leaves, Myrtil berries, Sumach, and Pomgranate pills & rindes; *Ceratum Santalinum* is good. It is not amisse to have in readinesse, such a defensive as this: Take of white wax ten ounces, of the oyle of Myrtils, and Quinces of each one ounce, of Masticke powdered ʒ iij. of Bole, and Sanguis draconis beat to powder of each j. ounce and ij drams, make up an Emplaster: in the winter you may adde more oyle.

1.

2.

Last of all, *Repellentia* offer themselves, which beat back from the part affected, the humor: The differences of such medicaments, taken from their substance are these. Some are cold and moyst, as Housleekes, Lettice, Purselain, Succorie, Ducks meate, the white of an Egge, Navel woort,

Repellentia.

Differences of repelling medicaments.

1.

Night-shade. These are milde, you may use either the juyce of these, or a Cataplasme made of barlie meale, and
II. these juyces. There bee some simples, which more strongly coole, as the Henbane, Mandrake, Hemlocke, the deadly Night shade, and the apple of Peru: but these are only to bee used, when the partie is of a flourishing age, in the summer, and the veines large.

Againe, some of these repelling medicaments are astringent, cooling and drying: these repell more strongly, than the cold and moyst, for besides cooling, whereby the naturall heat flying its contrary, doth carry with it the blood, they draw together the part, and as it were wring out the humor: of these some are weaker, as. Vine leaves, Plantaine, Horse-taile, Perwinkle, buds of red Roses, oyle of Myrtils: others are stronger, as Bole, Pomgranate pills and rindes, the pulp of Sloes, Oaken and Owlar barke, red Wine with Alom, Galls, the huskes of greene nuts: these if they bee untimely used, wrinckle the skin, increase the paine, indurate the humor in the part, and somtimes returne the matter to some principall part.

Things to bee observed in the use of medicaments.

Wherefore if wee will use aright the simples, and make good compositions of them, wee must diligently consider the temperature of the partie and part, the measure of the inflamation, the quantitie of the humor flowing, the sense of the part, the passages and aire. Wherefore the hot constitution of the partie and part require gentler topicks, because the excesse is not great, only heat being added to heat; but if the part bee cold, and lesse fleshie, it requireth stronger medicaments, because the cause must bee greater: so in children and women wee use milder than in aged and strong bodies: so the greater the inflamation is, the stronger ought the topick to bee: so if the part bee very sensible, gentle meanes will serve; but if it bee dull it will suffer stronger: so if the veines bee large, stronger medicaments are to be applied; because plenty of blood must needs flow. Last of all according to the constitution of the

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aire the locall meanes must bee stronger or weaker.

Now it is time to determine, what medicaments are to bee used in the beginning of a phlegmon: If therefore the partie bee offered while the blood is wholly yet in the small veines: then repelling medicaments are to bee applied. I. Because the humor as yet is but little and thin. II. Because nature as yet is strong. III. Because the matter is not as yet setled or impacted: If some of the humor bee in the small veins, and some be without them in the distances of the muscles, and parts, or in the porosities of the similarie parts, wee are to apply medicaments partly repelling, partly discussing; but more of the repelling. Beginning of a phlegmon.

Nevertheless, in cases repelling, medicaments are not to bee applied unto phlegmons beginning. I. If the parts bee weake, lest their naturall heat bee quenched: such are glandulous parts, for they are loose, and flaggie. II. When there is intolerable pain: for then repelling medicaments would cause greater paine, and so perhaps cause fainting and swouning. III. When the cause is externall, and causeth a malignitie, as the biting of a mad dogge, or of an adder: for so the matter should bee driven to the principall parts. IV. When the fluxion is vehement, and much matter floweth: for then repelling medicaments should bee fruitlesse, the part not being able to resist.

But seeing I have set downe both the simples, and some formes of compounded medicaments of the two kindes of Topicks, I will abstaine from all idle repetition, and passe to to the *augmentum*, or increase of a phlegmon. In it then wee are to apply discussing medicaments mingled with repelling, yet the repelling during the whole course of the *augmentum*, ought to have the dominion: because untill the latter end of the increase, the greatest part of the matter is within the vessels, and may bee repelled; for when blood is once slipt out of the veines, it cannot bee evacuate by repelling, but discussing topicks: These are called also διαφορητικὰ: They ought to bee hot and dry in the third de- Increase.

a.8. *Simpl.* 5. b.9. *Simp.* 1. *de paronych.* 13. *method.* 16.

gree, and of piercing substance: For first, they must make the blood thin and fluxible: Secondly, they must convert it into vapours: and thirdly, they must evacuate by the poores of the skin by insensible perspiration. In thin and tender bodies in the summer time, milde medicaments are most convenient, as camomill, dill, fenugreeke, beane-flowre, and such like. But in compact, and thick bodies, strong are required, as, *Sulphur vivum*, *Opopanax*, *Galbanum*, mints, hore-hound, worm-wood, calamint. &c.

The state.

When the phlegmon is come to the state, or height of paine, tension, and heat; medicaments equally repelling, and discussing are to bee applied: because a great deale of the humor is yet in the veines, and much without them.

The declination.

When a phlegmon is come to the declination wherein paine, tension, and heat begin to abate, a discutient fomentation made of camomill leaves and flowres, melilot, dill, tansie, sage, lavander, mints, scordium, and such like, and the application of *Diachylum cum gummis* will serve, or a cataplasme of beane flowre, camomill, dill, melilot boyled in strong ale lees, adding to the cataplasme oyle of camomill, dill, and white lilies: but if the inflamation bee great, the paine vehement, the heat intolerable, the tension and swelling notwithstanding the following of the former course, then suppuration or apostemation is to bee procured.

Apostemation.

If the naturall heate in the body of man be prevalent, it turneth all things to nourishment, if they be familiar unto nature; if any excrementitious part be in them, it turneth that into vapours, and expelleth them by insensible perspiration; but if the naturall heat be inforced to enter in single combat with the unnaturall heat upon equall termes, then the naturall heat discusseth some part, and the unnaturall heat not able to corrupt the part, suffereth a meane to bee wrought, that is, generation of quittour. Now unto which of them the victory inclineth, may bee gathered by the qualities of the quittour. If the quittour bee good,

The signes of the dominion of naturall or unnaturall heat.

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it is white, because it is caused by the coates of the veines, arteries, nerves, and membranes, which are in colour white, and trasmute the water into the same colour. Secondly, thick, because concoction is performed by thickning. Thirdly uniforme. because the naturall heat hath an absolute dominion over every part of the quittour. Fourthly, not stinking, the naturall heat induring no putrifaction: If contrariwise the quittour bee pale, red, or blacke, thin, unequall, of divers substances, and stinking; then the unnaturall heat is prevalent. Now how a phlegmon, which must bee suppurate is to bee dressed, I have set downe at large in the former lecture of apostumations of hot Tumors: hitherto I have spoken of a true bred phlegmon, engendred of sincere blood.

The signes of laudable and ill quittour.

Now I am to give you notice of a bastard phlegmon, which is caused by the admixtion of some other humor with blood: If choler bee mingled, it is called φλέγμον ἐρυσιπελώδες: If phlegme φλεγμον οιδηματώδες: If melancholie φλέγμον σκιρρώδες. Seeing compounded diseases are to bee discerned, esteemed, and cured by the diseases and simples solitarie, I shall not need to spend any time in discoursing of these: If choler abound, wee are to coole and moysten in a higher measure than in a true phlegmon: If flegme bee joyned wee must heat more; if melancholie, wee are to use things warming and softning. They who have written of Tumors after a phlegmon, have set down discourses of a gangren, carbuncle, and a pestilentiall bubo, but a methodically: For a Gangren is an accident, which doth not only accompany Tumors, but wounds, ulcers, fractures and dislocations, and that more often; of it therefore I will discourse in its proper place. As for a schpacelus a mortification or a sideration of a part, it belongeth to the third part of chirurgerie called Ἀφαιρετικὴ which teacheth to take away superfluities: such as a member is by accident, when it is deprived of life, and threatneth corruption to the whole, unlesse it bee taken away.

Of a bastard phlegmon.

A carbuncle and a pestilentiall bubo are symptomes of the Pest. as a venereall bubo of the Pox. Of these I shall bee willing to discourse, when occasion shall bee offered to reade of the griefes, unto the which they are to bee referred.

1. Tumors to be referred to a phlegmon.

Vnto phlegmon ἐρυσιπελατώδης that Tumor which is called Panus, Panis, or Panicula in Latine, from the figure in Greeke φύγεθλον is to bee referred: It is a Tumor most commonly in the glandulous parts, somwhat flat, in the top whereof there is a representation of a pustle: It hath a greater heat and paine, than the bignesse of the Tumor sheweth, it is commonly most discussed without apostemation: because it hath more choler than blood. But contrariwise φυμα hath more blood than choler, for it quickly commeth to suppuration: In forme it is like to Panus a weavers roule or touch-wood, and hath this same seate, to wit, the glandules in the emunctories. As for *furunculus* or δοθιὴν, it is engendred of grosse humors mingled with blood in fleshie parts most commonly: If it bee milde and come to maturation without any great difficultie, it may bee referred to φλέγμον οἰδηματώδης. If it bee hard and stubborne to medicaments, it is to bee referred to φλῆγμον σκιῤῥωδες.

Celsus li.5.c.25.

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See *Galen li.5. 2. methodo.*

Lect. VII.

Of an Erysipelas.

HAving in my former weekly lecture delivered what I thought pertinent concerning the first generall Tumor, a phlegmon, the cause whereof was said to bee blood without the vessels offending in quantitie or qualitie. Method now warneth mee to discourse of the second generall Tumor called Erysipelas, proceeding for the most part from choler: not so much because it surpasseth either phlegme or melancholie, whereof Oedema and Schirrus are bred, in dignity

dignity or quantity, as that it more representeth a phlegmon in accidents, to wit, heate and colour.

But before I enter into a particular discourse of an Erysipelas, give mee leave to touch three points briefly, which will make all things which I shall deliver, more plaine. The first, is the signification of this terme choler: The second shall bee of the divers kindes of choler: The third shall set downe the signes of a cholerick person: for such an one is most subject to this Tumor. *Colera* then in Latin, and χολερα in Greeke signifieth not the humor, which in English is called choler or the gall; but a disease, whereby this humor is expelled vehemently by vomit and siege. Nevertheless in our vulgar speech, and with the barbarous late writers, it is taken for the humor it selfe, and so I shall bee inforced to use it. Thus much I thought to insinuate to you, that you should not bee ignorant of the proper and learned significations of the termes of Art.

Now *Bilis* or *Fel* in Latine, χολη in Greeke, choler or gall in English is either alimentarie, or superfluous: the alimentarie is the fourth part of the masse of bloud dry and hot, which more properly might bee called bilious bloud: the superfluous, which serveth not for the nourishing of the body, is either naturall, or unnaturall: the naturall is that, which in the liver is separated from the blood, and turned to *vesica fellis*. The unnaturall comprehendeth foure sorts. under it. I. is the Vitelline, like unto the yolkes of egges yellow; but thicker and hotter than that of the gall: II. is *Porracea*, which in colour representeth the leeke, it is engendered in the stomack by reason of cruditie, and eating of such meats as engender it: as garlick, onions, leeks, and milkin Infants, who often by seege discharge such an humor: III. *Æruginosa*, like verdigrece engendred of more vehement heat, and corrupt aliments in the stomack: IV. is ἰσατώδης, like unto woad; it is more greene, than that which resembleth the leeke: it is caused of the *æruginosa* more burned, and commeth neere to *atrabilis*.

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Now, a man is thought to bee of a bilious constitution, if hee bee watchfull, nimble, hastie, angrie, and dreame of fire and thunder, his urine is thin and yellow, his pulse strong, swift, and hard, his veines are large, the habit of his body is leane, and dry, his colour yellowish: cold things refresh him.

These things being permitted, now I am to discourse of the Tumor Erysipelas it selfe, of it I will set downe five things: the Etymon of the word, the nature of the Tumor, the signes of it, the prognosticks of it, and last of all the indications of curing of it. 1. As for the Etymon of the name of this Tumor, it is called ἐρυσίπελας in Greeke, ἐρυθροπελας: for the ancient for ἐρυθρον, which signifieth red, used ἔρυσον, and πέλας signifieth neere: wherefore ἐρύσιπελας is nothing else but a Tumor in colour, comming neere to red, and tainting often the adjacent parts: for thin and hot blood, or blood with the which yellow coler is mingled, dyeth the skin with the colour of a pale rose: the nature of Erysipelas is discovered by setting downe the description, and kindes of it.

An Erysipelas then is a hot Tumor proceeding from most of choler, in this description Tumor is the *genus*: for this is common to Erysipelas with all other Tumors. In that is said to bee hot, it differeth from Oedema and Schirrus: and whereas it is affirmed to proceed of most choler, it is distinguished from all the rest of the Tumors.

But here it may bee demanded, whether Erysipelas bee caused of alimentarie, or of superfluous choler: unto the which question I answer, that it is to bee thought that it is caused of the alimentarie choler, if it bee exquisit: otherwise how could the yellow jaundise, and Erysipelas so much differ, if they both did proceed from excrementitious choler: for first the yellow jaundise possesseth the skin of the whole body; but Erysipelas one part only: secondly, an Erysipelas hath alwayes a symptomaticall feaver annexed to it; but the yellow jaundise is most commonly free from it:

thirdly,

thirdly, in an Erysipelas there is alwayes paine; but in the jaundise none: fourthly, in the jaundise the skin is of a yellowish colour; but in an Erysipelas it is of a bright red colour.

There are two kindes of Erysipelas, for it is either exquisit, or not exquisit, or a true, and a bastard one: as for an exquisit Erysipelas it is a Tumor of a bright red tending to yellow, causing little swelling, very hot, with a pricking paine, caused of alimentarie choler: this choler abounding in the body, if part of it bee turned into any part, it causeth an exquisit Erysipelas. The parts which it most commonly invadeth, are the nose and face, for much thin blood floweth to these parts: secondly, the legges: for nature being moved by the plenty of this choler sendeth it first to the emunctories of the groynes, and from thence it descendeth to the legs, it happeth in the sommer; because then choler is multiplied; but in the winter, because the pores of the skin are shut by cold, and so insensible perspiration hindered: and because this humor is thin, it spreadeth to a great part of the skin.

As for the signes of an exquisit Erysipelas, they are either taken from the qualities of the humor which causeth it, or from the differences betweene it and a phlegmon. The signes taken from the qualities of the humor are these: The paine is great and urgent, the heat notable, the colour a bright red tending to a yellownesse, the Tumor is small, only possessing the skin, the pulsation is very small, and lesse than in a phlegmon. First, because the parts in a phlegmon are more compressed, and it reacheth deeper: secondly, because in a phlegmon the humor is thicker, and cannot so easely bee breathed out as in an Erysipelas. The differences betweene a phlegmon and an Erysipelas are these. I. A phlegmon possesseth the skin, and the flesh lying under; but an Erysipelas the skin only: the cause in an Erysipelas is the thinnesse of the humor, which rather disperseth it selfe through the skin than heaveth it up. II. The heat in

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an Erysipelas is greater than in a Phlegmon: for somtimes the *cuticula* is blistered. III. The symptomaticall feaver is greater in an Erysipelas, than in a Phlegmon: because choler is hotter than blood. IIII. The paine in an Erysipelas is lesser; than in a Phlegmon: because in it there is only a hot distemperature; but in this a solution of unity, besides the parts being stretched. V. In a Phlegmon, the colour is of a darke red, by reason of thick blood lying deepe; but in an Erysipelas the colour is a brighter red, tending to a yellownes. VI. In an Erysipelas there is a pricking paine but in a Phlegmon, a heavie & stretching. VII. The skin in an Erysipelas being pressed, yeeldeth; but in a Phlegmon it doth not: The causes are the thinnes and thicknes of the humor. VIII. In an Erysipelas the rednes vanisheth away from the skin, and it becommeth white if it bee pressed with the finger; but in a Phlegmon it doth not so. IX. In an Erysipelas there is no stretching of the skin; but in a Phlegmon there is: Last of all, a Phlegmon setleth it selfe in one place; but an Erysipelas maketh the parts adjacent red by spreading. As for the Prognosticks of an Erysipelas: I. That which proceedeth from naturall yellow choler is mildest: for no vehement symptomes succeed: and besides seeing it appeareth in outward parts, it is to bee thought that the inner parts are discharged of this humor. II. As it is a good signe, if an Erysipelas bee driven to the outward parts, so it is fearefull, if it returne from the outward to the inward parts. *Aphor.* 25. *sect* 9. III. An Erysipelas appearing in the head is more dangerous, than in other parts: because if the matter passe to the meninges, it causeth *phrenitis* or raving, if to the muscules of the neck, the Squinancie. IV. An Erysipelas appearing in wounds, ulcers, fractures and dislocations, is commonly mortall: if it proceed not from the application of too hot locall medicines. V. If an Erysipelas tend to suppuration, it is not good: for then the humor must bee thicker than ordinarie, and the obstructions stronger, and so the solid parts are in

danger

danger to bee corrupted. VI. If a bone being bare, the adjacent fleshie parts bee possessed with an Erysipelas, it is ill: for first, the body must bee troubled with sharpe humors, secondly, flesh cannot bee restored by such blood.

Now it is time to draw out our forces, to incounter with this griefe: wee are to meete with it with foure kindes of helps, dyet, chirurgerie, internall medicaments, and locall meanes. As for the dyet, our nourishment must be cooling and moystning. Let the patient then eate thin chicken broths, altered with the cooling herbs, panadoes, thin oatemeale gruell, sallets of lettice, sorrell, purslaine, and spinage boiled. If the choler bee very thin, the partie may eate fresh fish, which live in cleere sandie, or rockie waters, as trouts, small pickrells, perches, and of sea fishes, the whiting-maps, and smelts, hee may eate also of the braine of a pig or it petittoes, or trotters with vineger, and sorrell, let him refraine from all meates which are fat aud sweet: let his drinke bee spring-water, boyled with the bottome of a loafe, made pleasant with some *Oxy sacchar.* or the distilled waters of endive, or sorrell, hee may use a plaine prisan: *Galen* permitteth the patient to drink as much cold water as hee will, for this cooleth the body, quencheth the thirst, abateth the heat of the choler, and cooleth the liver: but in this case the season must bee hot, and the stomack good: with us small beere bottelled is best, all sorts of wine are forbidden. In the Summer, let the aire be coole and moyst, in Winter, let it bee rather hot: for in this season an Erysipelas is caused of the constriction of the pores of the skin, by reason of cold: let all perturbations of the minde bee banished, let sleepe bee procured; for watching drieth the body. But if an Erysipelas bee in the face, watching is best: for immoderate and long sleepe filleth the head full of vapours, wherby the griefe is increased. *Lib 9. method. c.5.*

As for the chirurgicall helps, it may be doubted whither Phlebotomie bee necessarie or no, for the decision of this doubt, these propositions shall serve: I. If an Erysipelas invade

invade the head, neck, or face, the *Cephalica* alwayes is to bee opened: lest a *phrenitis* or *angina* ensue. II. In an Eryſipelas Phlegmonodes wherein blood increaseth the heat in what part of the body soever it bee, a veine is to bee opened. III. In an exquisit Eryſipelas in other parts of the body wee ought not to draw blood: for first, by drawing of blood, the bloud which remaineth, moveth more, and becommeth more subtill: Secondly, the stay of choler is taken away: Thirdly, by taking away both good and bad blood together, the party is weakned.

As for the internall medicaments, they ought alwayes to goe before the locall, if you except two cases: I. If an Eryſipelas bee procured by an outward cause, as a blow: II. If the heat bee vehement, and the Tumor bee far from any principall art. In these cases we may apply a medicant cooling and moystning, before wee minister any purging medicament. If an Eryſipelas appeare in the head or face, wee must open a veine, apply the Leeches, minister a purging medicament, prescribe a slender dyet, and use revulsions by frictions, ventoses, blisterings, and vomiting if it appeare in the legs.

As for locall medicaments, wee must looke about us, for if wee apply cold medicaments, the matter may bee repelled to the braine, from whence Phrenitis may proceed, or to the throate, which may cause Angina: If you bee inforced by the importunitie of the patient, or standers by to apply a locall medicament. *Ætius.* counselleth to apply a Swallowes nest beat to powder, and tempered with hony, that it may represent a liniment with a feather. This is a safe medicament, for it only drieth and repelleth not: Wee may also apply the decoction of mallowes with some oyle of violets, or sweet Almonds. Now the purging medicaments which discharge choler, these or such like will suffice, Rhewbarb, Tumarinds, Cassia extracted, *Electuarium lenitivum, Diacatholicon, Diaprunum solutivum, Electuarium de succo rosar. Caricostinum.* If it bee but a milde inflamati-

lib. 14 *c.* 5. 9.

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on, sharpe clysters made of the decoction of cooling herbs, with the aforesaid Electuaries will serve the turne.

Having set downe the helps taken from the diet, phlebotomy, and the ministration of internall purging medicaments, I must haste to set downe convenient locall medicaments: for in these you are most imployed and busied: one thing is to bee observed, that wee must not in any case apply astringent medicaments, which are cooling and drying: For seeing the vapours in this Tumor are sharp, if they bee kept in, they might erode and corrupt the part. Now as concerning locall medicaments, first, I will set downe which they are: Secondly, how long they are to bee applied. These medicaments ought to bee cooling, and moystning: but before I name them, let mee warne you, that first you refraine from narcoticall simples, unlesse exceeding great paine, and in a part farre from a principall part call for them. Secondly, that you apply not unctuous and fat medicaments, for First, they most easily are inflamed: Secondly, they stop the pores. Now the medicaments which are to bee imployed, are either simple or compound: The simples are Navel-woort, Horse-taile, Knot-grasse, both the Plantines, Ducks meat, garden Night-shade, Lettice, Purselaine, the Poppies: First, the juyce of them expressed may be applied: Secondly, the distilled waters drawne from them, some powder of myrrhe having been infused in them. Wee may also apply clouts wet in the juyces of the aforesaid herbes, being mingled with verjuyce or vineger. The compound medicaments are *Ceratum refrigidans Galeni* made of ℔ j. of oyle of Roses, and ℥ iiij. of white wax: this is to bee washed with water and vineger. You may adde to it the juyce of Night-shade. *Heurnius* hath three good medicaments, the first is Castle-soape dissolved in Spring water: The second, is Bulls dunge boyled in a frying pan with vineger, and a few flowres of Cammomil, and Elder, untill it come to the consistence of a liniment: The third is made of two parts

Gal. de comp. med. f. general. li. 1. c. 4.

Simpl. 13. & 14. method 13.

parts of *aqua spermatis ranarum*, and one part of Rose vineger, wherein some myrrhe must be infused: these may be safely applied to an Erysipelas of the head, neck, or face; the juyce of horse dung is not only good, being applied to this Tumor, but in scaldings and burnings also, if a little Camphyr bee added to it.

The medicaments which are to bee applied to an Erysipelas must bee very liquid, actually cold, and often changed: for when they become hot, they will rather offend than profit, if they bee not removed. The last thing which I promised to set downe concerning the locall medicaments was, how long they were to bee applied: this wee may find out by two signes. The first is, if the heate be altogether abated, or almost: the second is, if the skin hath recovered it owne colour. When you perceive these two signes, you must desist from applying cooling topicks, lest the skin become livid, or black which threaten a gangren, and somtimes mortification. If this appeare, what then is to bee done? first, a fomentation is to bee used, made of Calamint, Scordium, Wormwood, Peniroyall, the lesser Centorie, and Betonie boyled in a weake lie made of ordinary ashes: after the part is sufficiently fomented, you are to apply *Hippocrates* cataplasme made of Barlie meale, vineger and oyle of Roses warme: or this, take of the floure of Barlie, Beans, and Vetches of each iiij ℥. of a weak lie iiij. ℔. boyle these to the consistence of an emplaster, then put to it iiij ℥. of Oximel: if the discolouring of the part passe through the skin, and the part bee immoderately cooled, it will not bee amisse to scarifie the part which only remaineth. I am but in a few words to discourse of a bastard or a spurious Erysipelas: such an one is to bee thought, when with alimentarie choler an other humor doth concur.

Now seeing foure other humors may associate themselves to choler, so many kindes of a bastard Erysipelas may bee accounted. If therefore some blood bee mingled with choler predominant, then ἐρυσιπελας φλεγμονῶδες is caused: in this

this kinde of Tumor the rednes is more dark, and the swelling not so spreading: If watersh phlegme bee mingled with choler, then ἐρυσιπέλας ὀιδηματῶδες ariseth: If grosse blood or thick phlegme concurre with choler, then ἐρυσιπέλας σκιῤῥῶδες is caused: lastly, if choler associate it selfe with the corrosive salts of the serositie of blood, it causeth Erysipelas ulcerosum, which breaketh the skin. But seeing the compound Tumors are to bee discerned by the doctrine of the simple, and that the medicaments are accordingly to bee applied, not distrusting your observations or judgements, I will end.

Of that Erysipelas which breaketh the skin, there are two kindes, *Herpes miliaris*, and *Herpes exedens*: *Herpes miliaris* is caused of a salt watersh humor mingled with unnaturall sharpe choler: the signes of it are these. I. Many pustules rise in the skin like to millet seeds. II. When they breake, a matter issueth out representing quittour and sanies. III. The place hath a mingled colour betweene red and pale; this is without danger: the medicaments which are to bee applied to this, ought to bee cooling and drying, as the Knot-grasse, Horse-taile, Plantaine, Owlar, Willow and Oaken barke, Pomgranate flowers and rindes, Myrtill berries, red Rose leaves boyled in Tanners woose, *Vnguentum album rasis*, *de cerussa*, *de minio*, *Diapompholigos*.

Herpes exedens, called by *Celsus*, *ignis sacer*, and by some *ignis Sancti Antoni*: it is caused of unnaturall choler, hot and sharpe, corroding the skin only, by the which signe it is discerned from *Phagedæna*, or ἐδώμενος. Wherfore if many small ulcers appeare not passing deeper than the skin, you may pronounce this to bee *Herpes exedens*. In the curing of this, minister the decoction of *Sarsa*, and after the fomentation of it, with Tanners woose, wherein cooling and astringent simples above mentioned, have beene boyled; apply this locall medicament. ℞ *ceræ flavæ* ℥ ij. *resinæ pini* ℥ j. ß. *terebinth.* ℥ j. *ol. myrtini* ʒ vj. *succi Nicotianæ* ℥ iij. Lib 5. c. 28.

Coq. in ceratum molle. But here a question may be moved, why the choler which causeth the yellow jaundise doth not ulcerate the skin? This falleth out, first, because the choler which causeth the yellow jaundise is dispersed; but in Erysipelas nnited. Secondly, because the choler is naturall and only excrementitious in the jaundise, such as is contained in the *Vesicula fellea*, and discharged into the guts. Thirdly, because thin phlegme is mingled with choler in the jaundise: for this disease endeth with much sweating.

Lect. VIII.

Of an Oedema.

IN the subsequent discourse, which I am to deliver of an Oedema, the third generall Tumor caused of phlegme, I will use the same method which I did in the doctrine of an Erysipelas. First then, I will set downe what phlegm is. Secondly, the differences of it: and Thirdly, the signes of a phlegmaticke person: and then I will deliver the doctrine of Oedema, for such an one is most subject to this Tumor.

Phlegme then is the fourth part of the masse of blood, cold and moist: as concerning the sorts of it, it is either alimentary or excrementitious. The naturall, as it is cold and moist, so it is without any forraine taste: as oyle and butter are accounted sweete, when as they have no ranke taste. This humor by the naturall heat increased (as in famine) may become blood, and serve for the restoring of naturall humiditie: it ought rather to bee called pituitous blood, than phlegme.

Unnaturall phlegme is that which cannot bee turned into aliment: of it there are three kindes. The first is *pituita acida*, sowre phlegme, so called from the taste which it leaveth in the mouth, when it is spit out: This is a raw phlegme,

phlegme and bred in the stomacke by reason of the defect of naturall heat: so that being drawn into veins, it hardly can be altered. The second is *pituita salsa*, salt phlegm, this is caused by the admistion of thin salt moisture: for of bitter things as Aloe, and Coloquint, mingle them with thin humors as you will, a salt taste never can bee procured. In sweat, teares, and urine this taste is manifestly deprehended: a very novice in Alchymie is able to make the salt of urin, & one laboured to procure a Patent for making salt peter of urine, in the time of the last Parliament: but I never heard that hee made any; being, as it is likely, deceived by his imagination. The third kinde of unnaturall or excrementitious phlegme, is *pituita vitrea*, representing in colour and substance, moulten glasse. This is very cold, thicke and tough, and causeth great paine, if it bee detained in any part. *Galen* affirmeth of himselfe, that being troubled with a vehement paine of the belly, by injection of the oyle of Rue, was discharged of such an humor, and so the paine ceased; whereas before hee thought that a stone had stuck in one of the ureters. 2. *de loc. affect.* c. 5.

Phlegmaticke persons are slow and sluggish, their senses dull, they are sleepy, they dreame of waters, raine or snowe, they are not easely moved to anger, their pulse is soft, small and slow: their appetite is not great, they are seldome dry, they by the mouth and nose void many phlegmatick excrements: their urine is white or pale, sometimes thick, sometimes thin, the sieges often are raw and flegmaticke: the blood by what means soever it flow from the body, is pertusitous: their body is whitish, soft and coldish, they are subject to cold and long diseases, as the dropsie, letargie and such like, lastly they endure fasting well. These signes shew naturall and sweet phlegme to abound in the body.

Having set downe the description of phlegme, and the differences of it, as also the signes which discover a phlegmatick person, I am to discourse of Oedema, or a phlegmaticke Tumor, of it I will deliver these five points: first

the signification of the terme Oedema: secondly, the differences of it: thirdly, the prognosticks of it: fourthly, the indications of curing of it: and lastly, what Tumors are to be reduced to it. As concerning the terme οἴδημα in Greek, in Latine Oedema, with *Hippocrates* and all other ancients, it is the same with ὄγκος, which signifieth *eminentia*, eminence or bunching out: and so every particular Tumor may bee called Oedema. But with *Galen* and later authors it is taken more strictly for that Tumor which is caused of phlegm. Oedema is either exquisit or not exquisit: an exquisit is either primarie or symptomaticall: the primarie is caused of the naturall phlegme, which is contained in the masse of blood, and by reason of the too great quantitie of it, setteth to worke the expelling facultie to discharge it into the weaker and depending parts. Naturall phlegm is cold & moist, thin in consistence, in colour white, in taste sweetish or insipid. The signes of an exquisit Oedema are five. I. It is soft and loose, because it is caused of thin phlegme. II. If it be pressed with the finger, it hath either no paine, or very little. III. If it be pressed down with the finger it yeeldeth and leaveth a pit, which is the most proper sign of an Oedema. IV. It is white, representing phlegme in colour, wherof it is bred. V. It is cold without heat, because the pituitous humor is cold and moist. *Avicen* calleth this Tumor *Vndimia*. The materiall cause then of this Tumor is the pituitous humor redounding in the wholl body. This humor is caused either of externall, or internall causes: the externall causes are aire cold and moist, phlegmaticke meats, idlenesse, too much sleepe, stinging of waspes, and such like: the internall are a cold and moist constitution of the head, stomacke; but chiefly of the liver. This Tumor invadeth not promiscuously all parts; but such as are cold, weake, and loose, such are the feet and hands, the cods, as in *hernia aquosa*, the eye lids: and then in them appeareth an outward Tumor loose, without pain, not altering the colour of them, which being pressed with the

Gal. li. de atra bile cap. 5.

Lib. 2. κατὰ τόπους c. 1.

the finger quickly yeeldeth and returneth, the matteriall cause is a waterish humor mingled with flatuositie: so the heart and liver cannot suffer any such Tumor, as neither the kidnies: because these parts are firme and hot. As for the presages, Oedema is a long continuing disease, because it is cold, and therefore the naturall heat of the parts affected, must bee weake. II. It is not very dangerous, because the paine is either none or very small. As concerning the curation, it is performed either by diet, or internall medicaments, or locall meanes: as for the diet of such as are subject to an Oedema, if it proceed from externall causes they must bee removed: the aire which is to bee chosen must bee hot and dry, the foode must bee drying: wherefore roasted meat is better than boyled, fowles and birds which live in dry grounds, are better than water fowles, rabbets, chickens and veale are good, mutton is better than lamb, swines flesh and fishes are to bee shunned, as also heads, braines, and feete of beasts: sallets of cold herbs are hurtfull, use biscuit bread, or good houshold bread baked with Anise seedes, Fennill seedes, and Coriander seedes. Let the drink bee altered with the rasping of Quajack, *Sarsaparilla*, *Radix chinæ*, *Sassafras*, yellow Sanders Cummin seedes, Coriander seedes, Fennill seedes, Anise seedes, Galingal, Nutmegs, *Calamus aromaticus*, some Ginger, Cinamon, Rosemarie and Sage. The drying diet made of these, especially in the summer time is good: sweating in this case is very effectuall, every other morning after the taking of the diet: fasting is good as also watching, studying, and labouring: for all these dry the habite of the body.

If an Oedema possesse the hands, then walking is good; if the feet, then we are to præscribe sitting and working with the hands. Seeing then an exquisite diet will not serve to surprise this disease alone, we are to entertaine purging medicaments for the expugnation of it. We need not to trouble the patient with many preparative medicaments; seeing the pituitous humor which causeth this disease is

thin, wateriſh and in motion; Firſt of all, no medicaments internall are ſo effectuall in this griefe as *Mercurius vita*, and ſafe medicaments of antimonie: for, Firſt they diſcharge the ſtomack of crudities by vomiting, and ſo correct the cold and moyſt diſtemperature of it: Secondly they diſpatch the obſtructions of the meſaraical veines and liver: Thirdly they mightily evacuate wateriſh and phlegmatick humors, and ſo correct the diſtemperature of the liver, and kidneyes.

As for ordinarie internall medicaments, *pilulæ de hiera cum agarico acuat*, with a graine of *Elaterium* are good: *diaphanicon, diacarthamum, diaturbith, pilulæ de hermodactylis, de aromatibus, cochiæ.* And the pilles of *Galen* made of coloquint *aloe*, and *ſcammonie* with *ſyrupus Auguſtanus.* As for the doſes of theſe medicaments, and how they are to be exhibited I will refer you to thoſe, who have diligently handled theſe things, chiefly to the practice of *Martinus Rulandus.*

Quæſt. But here you may demand of me what is to be thought of phlebotomie?

Anſwer. To this demand I anſwer, that in an exquiſite Oedema opening of a veine is to be ſhunned. I. Becauſe in a bodie cold and moiſt we open not a veine, ſuch is that which is tainted with an Oedema. II. Becauſe in this griefe there is alwayes *cacochymia*, ſeldome *plethora*: III. Becauſe in an Oedema there is neither a maligne matter, nor a horrible ſymptome and ſo it cannot be called *morbus magnus*, or a fearefull diſeaſe: and ſo phlebotomie is not required. As for the locall medicaments, which are to be applyed, they ought by drying and ſtrengthning to alter the part.

In the beginning then we are to apply ſuch medicaments as repell, and digeſt: but more digeſting than repelling becauſe the humor is cold: for in the beginning ſome part of the humor is in the ſmall veines, ſome in the pores of the skin; but more in the cavities, and greater veines: towards the ſtate of the griefe we are to uſe digeſting meanes. *Galen* uſeth

useth foure things, I. A rowlar with two ends, such as is used in fractures, first the rowler must bind the Tumor it selfe more straightly; but the parts on every side adjacent more slackly, for so the humor is wrung out from the part affected, to the parts adjacent above and below. II. Is a Sponge, but in the use of a sponge we must see that it cover all the affected part, otherwise at the next dressing we shall see that the humor hath flowed to the bare part: in steed of a sponge we may use pledgets of hemp-tow; yea and double cloathes. III. Vineger, for it doth consume phlegme, and because it is subtil it peirceth, IV. Some water to moderate the sharpnesse of the vineger: If an Oedema be above sinews and tendons in a tender bodie lesse vineger is required. But in hard bodies and in other places more vineger is to be applyed: if you mingle some allome with the vineger and water, the medicament wilbe the more effectuall. *Avicen* counselleth to apply lime water with the juice of mirtils: but in stead of the juice we may boyle myrtle berries in lime water.

lib. 2. ad Glauc. c. 3. et 14. method c 4.

If you boyle scordium, myrtle berries, sumach, red rose flowers dried, calamint, wormewood and penyroyall, in equall quantitie of red astringent wine, vineger, tanners woose and lime water adding to every pint of the decoction strained 3. drammes of allome, you shall have an excellent medicament. You may apply also an unguent made of unslaked lime, and old swines grease.

One thing is to be noted, that the Oedematous part is to be rubbed well with a cloth before the medicaments be applyed, that they may penetrate more easily,

If an Oedema in the belly according to Hippocrates after 60 dayes tend to suppuration: which commeth to passe because the phlegme by long staying in the part, is altered by heat, and turned to quittour: then we are to hasten suppuration by the application of *Diachylon cum gummis*: then to open it, Thirdly to mundifie it. Fourthly to incarnat it, and last of all to procure skinning. And seeing I spake of these

things in the curing of a phlegmon tending to Apostemation, I will remit you to that discourse, because I distrust not your memories.

It falleth out many times that an Oedema, is a symptome of an other disease as I have said: but chiefely of the cough of the lungs, dropsie, and cachexia or ill habit of the body, and doth possesse the legs and hands: First because they are furthest from the heart, the wel-spring of heat: Secondly, because they are framed of cold parts: seeing this accident cannot be removed, unlesse the disease which is the cause of it be cured, and seeing these diseases are for the most part mortall, I will suffer such as are empyricks, and prodigall of their owne credits, to follow their owne courses, and to undertake such cures.

An Oedema is thus engendred: when nature is troubled with phlegme the expelling facultie thrusteth the pituitous humor from the great vessels to the lesser, and being kept in by the densitie and coldnesse of the skin, is gathered in the musculous part, and so causeth this Tumor. Hitherto then I have discoursed of an exquisite Oedema. Now it remaineth that we briefly dispatch that Oedema which is not exquisit. This is caused when some other humor is joyned with the pituitous: if blood then be joyned with it, it causeth οἴδημα φλεγμονῶδες: if choler concurre it procureth οἴδημα ἐρυσιπελατῶδες: If melancholie, or thick and glutinous phlegme it causeth οἴδημα σκιῤῥῶδες. In all these kindes of a not exquisit Oedema the thin pituitous Tumor must be predominant. The other humors concurring are found out by their owne proper signes which are set downe in the discourses of everie principall Tumor, so that I should mispend the time if I should goe about to set them downe here. Some things I would have you to note. The first is, a primarie Oedema is caused by congestion, for it creepeth on by degrees: But that which is Symptomaticall, an accident of other diseases, as tabes, asthma, cachexia and dropsie is procured by fluxion: for it suddenly appeareth. The second is this

this: If by reason of long keeping bed, either because one hath had a long and lingring disease, or because he hath received a hurt in the leg, the feete swell and become Oedematous, when by motion afterward the naturall heat is encreased, this flatulent phlegme is discussed, and the Tumor ceaseth. One thing may be asked why *Galen* affirmeth that the liver may be possessed with a schyrrus, and not Oedema: To this it may be answered; that the liver by its paranchyma or propertie of substance turneth thin phlegme whereof an exquisite Oedema is caused, into blood; but if it receive any thick phlegme, of that then a schirrus, and not Oedema is caused. But it is time to adresse my selfe to set downe those Tumors which are referred to an Oedema: of those some are enclosed within a cystis or a membrane; and some have no proper membrane: those which have a proper membrane are in number 3. Atheroma, Steatoma, maliceuris. But it may be doubted from whence this cystis, membrane, or folliculus doth proceed. Undoubtedly it is framed of the teyes of the cutis and membrana carnosa: for seeing the naturall heat cannot concoct the matter of these abscesses, nature doth providently separate it by its proper cystis from the parts adjacent lest it should corrupt them.

Quest.

Answ.

Dub.

Sol.

The matter which causeth these abscesses and feedeth them, proceedeth from a veine, which is not accompanied with an arterie, and so being destitute of vitall heat, it is altogether unnaturall, and cannot be assimilat to the parts unto which it floweth. Atheroma then containeth a substance like unto rice-pottage, or curds: the matter of this Tumor i thick and grosse phlegme.

Steatoma is a Tumor not so high as Atheroma, containing a matter like unto grease, or that which we call the sweet bread pancreas: blood flowing by the veine which hath no arterie, and so is destitute of vitall heat is easily turned into this fattie substance. *Meliceris* containeth a matter representing honey: so the phlegme which causeth this

this Tumor is thinner, than that which breedeth an atheroma, and hath some choler mingled with it the heat whereof maketh the matter fluid, and liquid.

The Tumors reducible to Oedema which have no cystis, are three, *Psydracium*, *ficus*, and *talpa*. *Psydracium* is a pointed white pustale containing in it a wateriſh humiditie. *Ficus* is a Tumor so called, First because it hath a roote like unto a fig: Secondly because it containeth small graines as a fig hath. It is a Tumor red, round, and somewhat hard and painfull; from whence issueth a matter, like unto the seedes of a fig, if it be broken and wrung. The matter of this Tumor is grosse blood, mingled with phlegme and some wateriſh moysture. *Talpa* or *testudo* is so called, because as a mole heaveth up the ground, so this Tumor the skin from pericranium, this Tumor is larger than *ficus*, and is caused of more grosse humors; wherein there is little moysture.

So you have a briefe description of the Tumors which are reducible to Oedema: As for the cure of them I will reserve it untill I come to that part of chyrurgerie called ἀφαιρετικὴ, which sheweth how superfluities of the bodie are to be taken away. The moderne authors adde to these *Nata*, which is a large Tumor so called; because it representeth the buttocks called *nates*, without paine, consisting of soft and pituitous flesh; caused of congestion of pituitous blood: it is seated most commonly in the neck, shoulders and back: it is onely cured by excision.

Ganglium and *lupia* are round Tumors of the nervous parts without paine: yet they differ; for *Ganglium* is hard, but *Lupia* soft: 2. *Lupia* may be moved every way, upwards, downeward, and side wayes: but *ganglium* toward the sides only. Thirdly *Ganglium* is like to a knot of the sinew; but *Lupia* possesseth not the sinewie parts only, but other solid and hard parts in hands and feet.

LECT.

Lect. IX.

Of a Schyrrus.

NOw are we to enter into the contemplation of a *Schyrrus*, the ugly progenie of muddie melancholy, as we have discourſed of a phlegmon, Eryſipelas and Oedema, who deduce their pettigree from blood, choler and phlegme and aſcribe their being to them. But that you may heareafter diſcerne the better the nature of a *Schyrrus*, I will firſt ſet downe the deſcription of melancholy: Secondly, the divers ſorts of it: and thirdly the proper ſignes of a melancholy perſon: which wil both lead you to the knowledge of the griefe, and open the way of curing the perſon poſſeſſed with this griefe. Becauſe the Engliſh tongue doth promiſcuouſly uſe Melancholy, both for μελαγχολικὸς χυμος, *melancholicus ſuccus*, and μελαινὰ χολη *atra bilis*, I muſt give you warning, that theſe two doe much differ; for *melancholicus ſuccus* is the feculent part of the blood like unto the lees of thick wines as Allegant, and is drawne from the pureſt part of the blood by the Spleene. It is neverthleſſe one of the 4. nutritive humors naturall to the bodie, and gentle having no corroſive or ſtinking qualitie. But *Bilis atra* is cauſed of immoderate heat, and is maligne: for it burneth and corrupteth the fleſh, it is ſowre and ſharpe, and being powred upon the ground it boyleth and raiſeth it up, as leaven doth dough, and hath an unpleaſant ſmell. There be 3. ſorts of this: the Firſt is cauſed of blood burned, and of all others is the mildeſt: the Second it is engendred of *ſuccus melancholicus* burned; and it doth differ ſo much from the naturall black, as lees burned from the unburned: the Third is cauſed of yellow or vitellin choler more burned, which of all others is the worſt; becauſe choller whereof it is bred is more hot and ſharp: than melancolie juyce.

Bilis atra.

The kindes of it.

1.
2.
3.

None.

None of these are engendred in a sound and healthfull person, whereas the *succus melancholicus* is found in all persons of what temperature or estate soever they be. Wherefore *Melancholicus succus* may be thus described : It is the fourth humor in the masse of blood black and thick, yet naturall cold and dry. This humor naturall is either alimentarie or excrementitious. The alimentarie nourisheth the melancholicke parts, which are cold and drie ; as the bones, cartilages, and ligaments. The excrementitious or superfluous is drawen by the Spleene.

The description of succus melancholicus.

The differences of it.

Now these signes discover melancholie persons ; they are silent, pensive, constant in ther purposes, slow to anger ; but if they entertaine it, they turne it unto hatred : their sleepe is troublesome by reason of fearefull dreames, as of black things, dead bodies, death : they are sad and given to feare, without cause ; their puls is small, slow and hard : their colour is dark, their apetite to meat and *Venus* is more than ordinarie : they seldome thirst, because they abound with much superfluous phlegme, their blood is thicker and blacker than ordinarie, from what part soever of the body it flow, the urine is thin and whitest, if no melancholie be mingled with it ; but if Melancholie be mingled then it is thick, black, or of a leady colour, they sweat much in their sleepe; the habit of their body is leane, rough and hard : they are subject to varices and hæmorrhoides : if such a one be presented to you possessed with a Schirrus, it is easie to discerne the disease, and of what humor it proceedeth, and how the party is to bee dealt withall. So you have the description of melancholie, the divers sorts of it, and the markes of a melancholicke person: which things shew no small light to attaine to the knowledge of a Schirrus. In my discourse of a Schirrus, I will set downe first the description of a Schirrus : Secondly the signes of it : Thirdly the differences betweene it and other Tumors : Fourthly the kinds of it : Fifthly, the prognosticks of it, and lastly the manner of curing of it.

Signes of a melancholicke person.

To

To begin then with the description of a Schirrus, it is a Tumor hard, and without paine, caused either of naturall melancholy, or thicke, tough, and cold phlegme. If the cause bee melancholie, it hath a leadie colour; if phlegme, it changeth not the colour of the skin: for phlegme is white; As for the signes of it; I. It is hard. The description of a Schirrus.

Now there are foure causes of hardnesse: the first is coldnesse, as appeareth in Ice; this is removed by moderate heat, as by the sunne. The second cause, is drynesse, as wee may plainly see in the hands of Sailers, and Felt-makers. The third cause, too great repletion, which doth appeare in the stomacks of gluttons. The fourth cause, may bee the combination of these, and indeed all these concurre to procure hardnesse in a Schirrus. As for coldnesse, it may bee induced either by things externall, as cold aire, and narcoticall medicaments: secondly, from the part affected, for schirrosities chiefly appeare in the beginnings of the musculer, ligaments, and tendons, and other cold parts: thirdly, from the humor: so the melancholick juyce, and thicke and viscous phlegme: the materiall causes of a Schirrus are very cold. Because those parts are very thicke. *a.m. Gal. 1. simp.*

The second signe of a Schirrus is, that it is without pain: and this commeth to passe, either because the animall spirit cannot passe through an humor so thick and glutinous, as that is which causeth a Schirrus, or because it is benummed by the coldnesse of the humor. This is the third signe, that it is fixt, and as it were nayled to the part, and doth not move by pushing, as *Scrophula* or *Ganglium*.

Now I will shew you how it differeth from other Tumors. It differeth from a phlegmon, for in this, there is great paine: from Erysipelas, because this is not hard: from an Oedema, because this yeeldeth to the touch, and leaveth a pit. It is discerned from watrish and flatuous Tumors, because they have a thinner, and more cleere matter. The differences betweene it and a cancer are these. I. A cancer is alwayes painfull, because it is caused of *bilis atra*,

or

or a dust choler; but a Schirrus is without paine. II. A Schirrus is cold, but a cancer hot: this is caused by reason of the humors whereof they are bred. III. A Schirrus invadeth the sollid and hard parts, as the joynts, tendens and ligaments; but a cancer the loose and flaggie parts, as the breasts, the privie parts, and such like. IV. In a cancer, not in a Schirrus, the veines appeare full of a blacke humor: which for the likenesse, one may call the legs of the crabbe, as the round Tumor the crabbe it selfe. It is high time to set downe the predictions of the succesſe of curing, which schirrosities are like to have, that when such Tumors are

1. offered to you to bee cured, you may bee made circumspect and wary in taking of them in hand: an exquisite Schirrus is uncurable, for seeing it is senseleſſe, it is manifest that the part is deprived of the influence of the animall spirit; and seeing this humor doth distend the sinewes, veins, and arteries, the faculties it selfe is strangled and choaked, so that it neither can direct, nor help the naturall heat to concurre with the meanes, to bee applied for the dispatching of this griefe. Secondly, this being a cold Tumor, and the naturall heat extremely weake, what hope can there bee, that it can at any time triumph over so great

2. an infirmitie. A Schirrus not exquisit, although it bee not mortall, unleſſe it bee very great, yet it hardly admitteth

3. any cure, and by much difficultie. A Schirrus which is extreme hard is altogether uncurable: for gentle means availe nothing, and those which are strong make it more

4. hard: a Schirrus from *succus melancholicus* is warely to bee delt withall: becauſe it hath a great affinitie with a cancer, and so may degenerate into it, if improper medicaments be

5. applied. If a Schirrus bee caused of thicke and glutinons phlegme, you may be the more bold: for this cannot easely contract any malignitie. The differences and divers sorts of a Schirrus are to ensue: a Schirrus then is either primarie, or Epigenematicall. A primarie Schirrus is that, which is a griefe of it selfe, and not caused by reason of any infir-

mitie

mitie preceding. This is twofold, for it is either exquisit or not exquisit: a primarie exquisit Schirrus is that which at the first, is caused by collection of the melancholie juyce in a part. A Schirrus is thought to bee not exquisit, when an other humor is joyned with melancholie. If therefore some laudable blood bee joyned with it, it causeth Schirrus phlegmonodes, if choler, Schirrus erysipelatodes: if phlegme Schirrus oedematodes. Nevertheless, seeing these are compound Tumors, and are to bee dealt withall according to the doctrine delivered of the simple Tumors, whereof they are bred: I will leave these to your owne considerations.

A Schirrus epigenematicall or Symptomaticall is that, which ensueth after an other Tumor, not handled according to art, as a phlegmon or an Erysipelas: this happeneth two manner of wayes. I. It may fall out by the immoderate use of locall medicaments too cold, and narcoticall or stupefactive: for these condense, and as it were congeale the humor. Secondly, this may happen by the too continuall application of resolutive topicks: for so only the subtill and thin parts are breathed out, and the thick and glutinous remaine. The last point, which in the beginning I promised to deliver unto you concerning a Schirrus, was the manner of curing of it, receive it then, which I hope you will well like of.

The indications of curing are taken from three things, to wit the diet, internall medicaments and externall applications. As for phlebotomie it is here fruitles, because the humor is cold, unles the veins be very full, the blood black, and age and strength conspire: for then it is expedient, for so the humors in the masse of blood will bee more fluxible; and the quantitie being diminished, the naturall heat will the more easelie rule the residue. If a Schirrus bee caused in a man by reason of the hemorrhods stopped, then the leeches are to bee applied, if in a woman by reason of the menstrues suppresst, then Saphena is to bee opened.

As for the diet then, the meat must bee of easie digestion, moistning, and affording a thin juyce: such are Chickens, young Pigeons and mountaine fowle, Lamb, Veale, young Pullets and Cockrells, fed Rabbets, poched Egs, asparagus sallet, Spinage, Burrage, Purselaine: bread of good wheat not too much leavened is convenient, let the drinke bee small white wine, or reasonable strong beere well boyled, cleere, and neither too old, nor too new, good Syder also with Rosemarie, Burrage, Bugloss burned, and Suger is good. Meats which afford a grosse juyce are to be shunned, as old beefe, all meats dried in the smoake, venison, fish living in muddie waters, all salt meats, course bread: the immoderate use of vineger is hurtfull: apple tarts, and warden and peare pyes baked with Fennill-seeds and Anise-seeds will serve in stead of other sweet meats. Let the habitation of the diseased partie bee in a pure, hot and moist aire: too much sleepe, idlenesse, griefe and pensiveness are to bee shunned. As for internall medicaments, they ought to purge melancholy, and thick and glutinous phlegme: but both of these are to bee prepared before they bee evacuate. Those medicaments which prepare melancholie ought to attenuate or make thin, and moisten: such are the syrups of the juyce of Burrage, Bugloss, the syrups of Fumiterry, Hops, and Apples, with the decoction of Balme, Harts-tongue, Scolopendria, Tamariske, and such like. Those medicaments which prepare phlegme ought to bee of an attenuating, and mundifying qualitie, as the syrup of Isope, of Betonie, of Stechas, Oxymel, and Mel rosatum in the decoction of Calamint, Hore-hound, Penny-royall, and such like. The humors being prepared, then they are to bee purged: melancholy is to bee purged with confectio Hamech, Electuarium, Indum, pils de lapide lazuli, the extract of black Ellebor, Electuarium lenitivum, and the like, which may bee ministred in the infusion of Sena-leaves and Polypodie. Phlegme is to bee purged with Diaphænicum, Diacarthamum, Hiera Pachii, Pilulæ

de

de agarico, et hermodactilis, diaturbith and the like. The electuaries are to be ministred in a decoction of those simples which prepare phlegme.

One thing is to be noted, that nothing is more effectuall in discussing these schirrosities, than the continuall taking of the decoction of *sarsa parilla*, and *guajack* in stead of other drink, using a convenient diet, and procuring everie other morning sweating: for *lignum vitæ* warmeth, and *sarsa* dissolveth the hardnesse: if it performe this in nodes, which are farre harder than any Schirrus possibly can be; why should it not performe this office in a Schirrus?

Here it is no wonder if few be cured: for sundrie are impatient if their expectation be not speedily answered, and besides this, they are unwilling to gaine the losse of their health by forgoing their sensualitie and pleasure, being *ventris mancipia*; more carefull of their tast than health.

But time calleth us to speak of externall applications, which are fit to be used in the cure of a schirrus. In these you are to consider three things, their faculties, their differences, and the right use of them. As for the faculties then of the locall medicaments they ought to be discussing and softning, *emollientia* and *discutientia*. Repelling medicaments are not to be used, because the humor is thick, and hard, and so unapt to motion.

Of emollient medicaments there are foure degrees: in the first are those which are gentlest; such are mans grease, capons grease, the marrow of harts, and calves bones, ducks grease, swines grease, sweet butter. *Galen* adviseth *li. 7. x. y.* to apply to gentle Schirrosities, a medicament made of sweet butter, black rosin, and new wax, *Dialthea simplex*, is of this degree. In the second degree are these, goose grease, badgers grease, dogs grease, old ranck oyle, oyle of Linseed. In the third degree, are the fat of lions, beares, wolves, foxes, libards, and the marrow of horses, and mans bones. In the fourth degree, are *Ammoniacum, galbanum, bdellium, caranna, tacamahaca, opopanax*, of these simples you may

frame unto your selves such compositions as the qualitie of
7. ad Almans. the schirrus, which you are to take in hand shall require. *Rases* in all schirrosites, commendeth a certaine cataplasme and it is excellent indeed.

The description may thus be framed, take of bdellium, ammoniacum, and galbanum, of each 1. ounce, dissolve these in a hot martar with oyle of lilies, adde of the mucilage or pulpe of rosted figs ij. ℥, of the mucilage of Linseed and Fenugreeke, vj. ℥, make up a cataplasme, dresse the schirrus with this cataplasme once a day. *Diachilon cum gummis*, and *emplastrum de mucilaginibus* are convenient. *Aiolan* the father commendeth this medicament, take of *unguentum de althæa*, of *diachylon cum gummis & emplastrũ de mucilaginibus* of each 1. ounce, of the oyle of Lilies vj. drammes: mingle these well together, you may adde to these medicaments some vineger to help penetration. If a Schirrus be above a nerve or a tendon, in stead of vineger you may use the spirit of wine.

One thing is to be observed, that before you apply any medicament, the part affected is to be fomented with the decoction of Mallowes, marsh-mallowes, Camomill, Melilot, and Cowslip flowers in vineger, unto which after it is boyled, some spirit of wine is to be added.

As concerning the right use of the locall meanes, these observations following are worth the noting, the first is, If a Schirrus be caused of the melancholie humor which is cold, thick, and drie, you are to apply a medicament which warmeth, attenuateth, and moysteneth. II. If the Schirrus be engendred of cold, thick, and tough phlegme, then the medicament ought to be warming, attenuating, cutting, and mundifying. III. Tender persons and parts require milder; but partes and persons harder and stronger, require more forcible meanes. IV. If a Schirrus hath beene procured, because an unskilfull person hath applyed medicaments too much repelling, or discussing to an inflamation: then apply this mollifying liniment. take of yellow wax, and

ducks

ducks greaſe tryed, of each j. ℥. of oyle of Lilies ij ℥. of the marrow of oxes bones ij ℥ mingle them wel together.
V. If immoderate uſe of drying topick hath procured hardneſſe, then medicaments moyſtning are to be uſed: ſuch is a catapſalme made of mallowes boyled and capons greaſe, or ſwines greaſe.

Unto a Schirrus theſe tumors may be referred ſtrumæ, wartes, cornes, leproſie. As for Strumæ and the leproſie, they will require ſeverall tractats.

Wartes, if the root be ſmall and the top broad, may be taken away by ligature; if the root be broad they muſt be exterpate with medicaments. There I commend unto you, ſtrong *aqua fortis*, or *lapis infernalis* relenred, theſe muſt bee applyed to the wartes with a ruſh or a ſtraw. The third is an experiment of *Fabricius*, *ab aqua pendente*, and that is this; of Purſelaine bruiſed, and the powder of Savin make a cataplaſme and apply it.

Cornes firſt muſt be artificially cut, and then one of theſe medicaments which I ſhall name, muſt be applyed: *Ammoniacum* diſolved in vineger, and brought to the conſiſtence of *cerot*, *emplaſtorum de mucilaginibus*, and *diachylon cum gummis*.

Lect. X.

Of aqueous Tumor.

I Have delivered in my Lectures penned before the laſt Eaſter holydayes what I thought moſt materiall concerning the foure principall Tumors, Phlegmon, Eryſipelas, Oedema and Schirrus, which are cauſed of the foure humors in the maſſe of blood; to wit blood properly ſo called, choler, phlegme and melancholy, and ſo might have concluded the doctrine concerning the differences of Tumors, as ſundry others have done who have written of this ſubject.

Nevertheleſſe ſeeing aqueous or waterie and flatuous Tumors are often preſented to you to be cured, I thinke it expedient to diſcourſe of theſe, that the doctrine of Tumors may be compleat.

First, then I will diſcourſe of the Aqueous, and then of the flatuous Tumor. The materiall cauſe of the Aqueous Tumor by the Phyſitians is called *ſerum* or *ſeroſus humor*. Of this humor there is but a ſmall quantitie in a healthfull perſon; no more than is fit to make the blood thin, that it may be the more readily caried unto all the parts of the body to afford them nouriſhment. This being done it is diſcharged through the pores of the skin, either by ſweat or inſenſible perſpiration.

2. *de nat. facultat. c. 9.* Wherefore *Galen* not without reaſon affirmeth all ſeroſitie to be an excrement.

The difference of urine, ſweat, and the wateriſh humor.

This ſeroſity is not only of a moiſt and wateriſh ſubſtance; but of a ſalt qualitie in like manner, yea, this ſeroſitie, urine and ſweat have the ſame matter: yet they differ, for *Serum* is that aqueous humiditie, which is contained in the blood: and although blood bee drawne, yet it cannot bee diſcerned unleſſe the blood grow cold and congeale, and this thin part by the concretion of the blood bee ſeparated from the thicker.

Urine. But urine is nothing elſe but the ſuperfluitie of this ſeroſitie of the blood mingled with the wateriſh humiditie of meat and drinke, and neere the root of *Vena cava* ſeparated from the maſſe of blood and drawne by the attractive faculties of the emulgent veines & kidnies, and by the ureters ſent to the bladder, there to bee detained untill the convenient time of excretion. So that this kind of excretion purgeth the blood from wateriſh humidity, whereby it is made more firme, & ſo more fit to nouriſh the parts.

Sweat. As for ſweat and inſenſible perſpiration, they are nothing elſe but the excrements of the ſolid parts. Nevertheleſſe, they carrie with them ſome obſcure ſignes of the conſtitution and temperature of the body: hence it is that a dogge can finde out his maſter, and diſcerne the tract of the Hare,

from

from that of a Fox, and of one fowle from another. Some preternaturall causes will encrease the serositie of blood: as meats affording plentie of wateriſh humiditie, as moſt fruits, cold herbs, and immoderate uſe of water, and other drinks: for although ſome drinks bee hotter than others, yet all of them have more wateriſh humiditie than ſpirit: and by reaſon of the diſtemperature and obſtruction of the parts appointed for ſanguification, often times this ſeroſitie is not ſeparated from the alimentarie humors; but is detained and increaſed, and not expelled by urine and ſweat: from whence the dropſie, fevers and puſtules of the skin doe proceed. The causes of the increaſe of the wateriſh humor.

An aqueous or wateriſh Tumor then is cauſed of the ſuperfluitie of this ſeroſitie detained in the body, after that it hath performed its office, which is, when it hath carried the nouriſhment through the narrow paſſages: ſuch are the meſaraicall veines, and thoſe which are diſperſed through the ſubſtance of the liver. Wherefore when the liver ſendeth the blood by the branches of the *vena cava* to the parts of the body, it hath not need of ſuch ſtore of humiditie. If too much of this wateriſh humiditie be ſent to the habit of the body, & move the expelling faculties, then part of it is ſent to the skin, which cauſeth wateriſh Tumors. Thoſe which heave up the Cuticula are called *Sudamina*. Thoſe which ariſe in the night time are called *Epinyctides*. If wateriſh humiditie be gathered in the codde, it cauſeth ὑδροκήλη, if in the navell ὑδρόμφαλον, if in the head, ὑδρεκέφαλον. And although neither *Fallopius* nor *Taganltius* have made any mention of wateriſh Tumors, thinking perhaps, that they may bee reduced to pituitous Tumors, yet theſe Tumors wherin nothing elſe but wateriſh humiditie is contained, doe plainely evince, that an aqueous Tumor is one diſtinct from all others. Superfluitie of this ſeroſitie is ſent to the habite of the body: partly becauſe the weakneſſe of of the kidnies doth not ſuffer them ſufficiently to draw it: partly, becauſe the liver is too cold, and laſtly, by reaſon of The causes of an aqueous Tumor. Sundry differences of wateriſh Tumors. What cauſes move the ſending of this humor to the circumference of the body.

some error committed in the use of the things not naturall, as immoderate taking of water, and other drinks, as Wine, Ale, Beere, Syder.

The signes.

1. The signes of a wateriſh Tumor are theſe: First, it is ſomtimes more, ſometimes leſſe ſwollen: yet it yeeldeth when it is preſſed hard, whereby it is diſcerned from Schirrus. 2. It is diſtinguiſhed from a phlegmon, and Eryſipelas, 3. becauſe theſe are painefull; but it not. It is diſcerned from an Oedema by this, that it being preſſed, it admitteth no 4. pit as Oedema doth. It being beaten, it yeeldeth no noyſe, 5. as a flatuous Tumor doth, as appeareth in a tympanie. Laſt of all when it breedeth, there is alwayes an itching in the part, by reaſon of the ſaltneſſe, which is in the wateriſh humiditie.

The places moſt ſubject to this Tumor.

Theſe Tumors appeare in the navell, cods, and the habite or compaſſe of the body; yet moſt frequently in the joynts of the armes and legs: becauſe theſe parts being weake, cold, and thick, are apteſt to admit ſuch wateriſh Tumors.

The predictions.

1. As for the Prognoſticks, that wateriſh Tumor which happeneth by reaſon of any imperfection of the liver is dangerous: not ſo much in conſideration of the Tumor it ſelfe, as of the infirmitie of the liver. 2. Other wateriſh Tumors although they bee not ſo dangerous, yet by reaſon of the weakeneſſe, couldneſſe, and thickneſſe of the skin are not ſo eaſely cured. 3. As for thoſe Tumors which riſe in the compaſſe of the body, like to bliſters or ſmall bladders and are called *ſudamina*, as they are no wayes dangerous, ſo they are eaſely cured.

The indications of curing this Tumor.

As for the curation of this griefe, reaſon and experience have found out five means to meete with it, to wit, a convenient diet, internall medicaments, externall applications, and manuall operation.

Dyet.

If then an univerſall humiditie poſſeſſe the whole body, the diet muſt bee drying: wherefore roaſted meat is better than boyled. Immoderation in drink is by all means to bee ſhunned: for,

Ieiunet, vigilet, ſitiat qui rheumata curat.
Watch hee muſt, and thirſt, and faſt,
Who means to cure a rheume in haſt.

And

And as temperance and sobriety have a promise of prolonging our temporall lives, so are they powerfull helps in curing diseases: but chiefly those which are caused by the superfluitie of moist and wateriſh humors. Flesh then is better than fish, and of flesh meats, those are best which are driest: Kid then is better than Lamb, Veale than Mutton, Rabbets and Conies are good, land fowle are better than water fowle. *Hippocrates* himselfe commendeth Porke above Pigs flesh: but neither of both is good: for Pigs flesh is exceeding moist, and in Porke the fat is moist, and dissolveth the stomack; but the leane is hard, and not easely concocted. All supping meats are to bee shunned, for they multiply moisture. *Ludovicus Cornarus* his diet recorded by *Lessius* in his Hygiasticon or treatise concerning preservation of health, is fit for such persons. For above the space of fortie yeares, hee rested contented every day with xij ℥. of bread and meat, and xiiij ℥. of drink: when hee was eightie yeares of age, so able hee was by the observation of this moderate diet, that without any advantage of ground, hee usually backt the fairest Italian horses. One thing is to bee noted, that seeing superfluous humiditie seldome possesseth the body, unlesse there bee some fault in the liver and kidnies, you must by all means labour to reduce them to their naturall temperature. The means to compasse this, are set down by every one, who hath penned the practice of physick, unto whom I remit you, being nnwilling to trouble you with impertinent discourses.

How the liver and kidnies affected are to be cured.

The internall medicaments appointed for the expugnation of this griefe, are of three sorts: for either they purge by stoole, or by urine, or by sweat, and insensible perspiration. To touch the Cathartick medicaments, such are one graine of *Elaterium* with a scruple of *pilulæ cochiæ*, or *de Euphorbio*, or *Alophangmce*: two drams of the seed of the dwarfe Elder, or *Ebulus* beaten to powder and ministred in white wine, & a spoonfull of the juice of *Ebulus*, the flower deluce, or *soldanella* mingled with ij ℥. of the syrup of damask

Internall medicaments.

Cathartical medicaments.

Roses dissolved in ij ℥. of white wine. The purging diet is excellent if you adde to the ordinary purgatives in it, the rootes of *Esula major*, the berries of the bucke-thorne, and Carthamus seeds. Amongst all the simples Mechoacan and Jalop are most commended, both for their efficacie in working, and safety in ministring. As for diureticall means, I commend unto you this medicament: take of the ashes of Broome, and Beane-straw burned, of each a good handfull: straine through those ashes iiij pintes of Rhenish wine three times: then infuse in this wine of the roote of Sassafras sliced ij ℥. of Nutmegs and Cinamon, of each two drammes, of Bay berries, and Juniper berries of each six in number, of Cummin-seeds ij ℥, of Fennil-seeds and Annise-seeds of each one dram and an halfe, of Sugar iiij ℥, of the spirit of Salt j ℥. Minister every morning iiij ℥. of this wine strained, and so much about foure of the clocke in the after-noone: the decoction also of Penniroyall, Time, Calamint, with seeds of the Melon, Pompion, Cucumber and Purselaine made pleasant with the syrup of Althea, de quinque radicibus, and of Isope ministred as the former, is good.

Diureticall medicaments.

As for diaphoreticke medicines, the decoction of Guajacke, Sarsaparilla, Sassafras, and the China roote with Agrimonie, Betony & Coriander, sweet Fennil-seeds, & Annise-seeds carrie away the bell. How effectuall these medicaments are, being judiciously used; not in this griefe only; but in moist ulcers also, and other diseases contagious, I need not to labour to perswade, seeing there are few of this company, who have not often made triall of them: when these decoctions are ministred, a strict diet must bee enjoyned, and plentifull sweat procured, according to the tolerance of the diseased partie.

Diaphoretick medicaments.

The topicall remedies ought not to bee repercussives, although the humor bee thin, because seeing nature can make no use of it, it is to bee evacuated: wherefore the remedies ought to discusse, and rarifie the skin, that vent may bee given to the humor. *Fabricius ab aqua pendente*

The locall applications.

commen-

commendeth this medicament, take of Mallow leaves an handfull and an halfe, of the meale of Lupines j ℥. of the oyle of Dill and Camomill of each ij ℥. with s.q. of white wine make up a cataplasme. The lee of unslaked Lime, and branches of the vine are good. *Avicen* out of *Galen*, against wateriſh Tumors deſcribeth thus the emplaſter of Muſtard, & affirmeth, that if this medicament prevaile not, that there is but ſmall hope that any other will. Take of Muſtard-ſeed, Nettle-ſeed, Brimſtone, *Ariſtolochia rotunda*, of the ſome of the ſea, or Brine and Bdellium of each j ℥. of *Ammoniacum*, old Oyle, and Wax, of each j ℥. make a cerot according to art. Let me advertiſe you of one thing, that the part is to bee fomented before either cataplaſme or emplaſter bee applied. The fomentation is to bee made of a lee made of Beane-ſtraw, Broome, and twigs of the vine burned, with ſome ordinarie aſhes, wherein you are to boyle common Wormewood, ſea Wormewood, the leſſer Centorie, Calamint, Cummin-ſeeds, Bay berries, Juniper berries, Scordium, Camomill flowers, Melilot flowers, and tops of Dill: unto the decoction ſtrained, adde the ſixt part of ſheres Sack. But ſeeing I have diſcourſed ſufficiently of all degrees of diſcutient remedies in my lectures of other Tumors: I will ceaſe to trouble your patience with idle repetitions, commending unto you only theſe few ſpecificall remedies before mentioned. Now to come to the laſt remedie appointed for rebellious wateriſh Tumors, to wit, manuall operation: If they cannot bee diſcuſſed, as oftentimes *Hydrocephalos* and *Hernia aquoſa*; then the humor is to bee let out, ſometimes by inciſion, ſometimes by a cauſtick medicament: then the part is to be mundified, thirdly it is to bee incarnat, and laſt of all cicatrized. But ſeeing I have handled theſe points, when I diſcourſed of an apoſteme, and that I am to ſet downe what is ſingular in every Chirurgicall operation, wherby ſuperfluities are taken from the body, in that part of Chirurgerie, which is called ἀφαιρετικὴ, here I deſiſt, referring every thing to its proper place.

De Tum p.n. p.2. lib. 1 c.20.

LECT.

Lect. XI.

Of a flatulent Tumor.

HAving set downe the doctrine of a wateriſh Tumor, I am to fulfill promiſe, to ſpeake of a flatulent Tumor: In Latine it is called *Tumor flatulentus*, in Greeke πνευμάτωσις, or ἐμφύσημα, for the Grecians call flatuoſitie ſometimes φύσα, ſometimes πνεῦμα.

The names of it.

Perſons moſt ſubject to this griefe.

The perſon in whoſe bodie flatuoſities are multiplied, is often troubled with gudlings in his ſides, he belcheth often, he is troubled with ſinging of the eares, his excrements come forth with flatuoſity, his urine is frothie, he findeth a ſtretching of his belly, yet without any heavineſſe.

The cauſes of this griefe. Differences of weake heat.

The cauſes of flatuoſity are crudity and weake heat. The heat may be accounted weake two manner of wayes, I. Of it own nature, & ſo it hath ſome power and dominion over the humor, and doth in ſome ſort diſſolve it, but imperfectly; and ſo it produceth halituous vapours, which are called flatuoſities, but is not able to diſcuſſe them, and ſo they remaine in the part, and diſtend it, and that becauſe the flatuoſities are groſſe, and the part thicke: this appeareth often in the knees, and troubleth Chirurgeons and Phyſicians much. II. Heat may be accounted weak by reaſon of the matter it ſelfe; when as the matter is ſo plentifull, that the heat cannot wholly overcome it, but leaveth ſome vapours undiſcuſſed.

The differences betweene a wateriſh and flatuous Tumor

I. II.

The cauſes of crudity are ebriety, gluttony, a ſedentary life, and flatuous drink and meats; ſuch are beere or ale not well boyled, peaſe, beanes, cheſnuts, turneps, radices, greene fruit, ſwines fleſh, water fowle, ſalt fiſh, and ſuch like. It is diſcerned from a wateriſh Tumor, whereof we have ſpoken, by the lightneſſe of it; for an aqueous Tumor is heavy, but this not. Secondly, by diſtending the membranes,

branes, and stretching of them, it causeth often intolerable paine, whereas in wateriſh no paine is felt. It is diſcerned from an Oedema by this, that it admitteth no pitting, although it be preſſed: it is diſtinguiſhed from *Schirrus*, becauſe this is hard, but it not: it is diſcerned from a Phlegmon and *Eryſipelas*, for in it the skin is not diſcoloured, neither is there any extraordinary heat felt; but in thoſe both appeare.

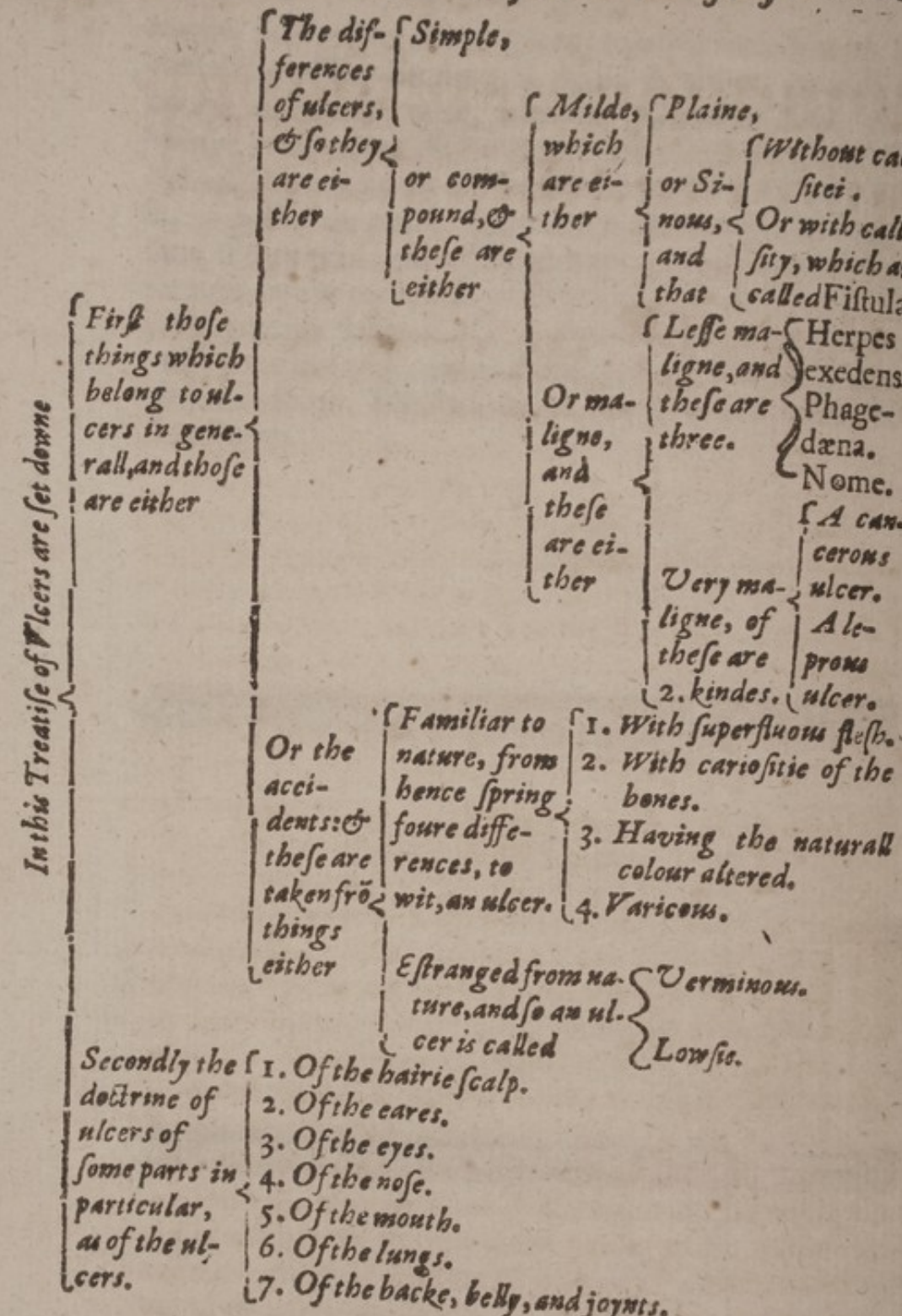
As for the Prognoſticks, receive theſe; If theſe flatuoſities poſſeſſe parts very ſenſible, as great joynts, ſuch are the elbowes, or knees, which are compaſſed with thicke membranes, they are hardly cured, and will buffle the moſt skilfull. The prognoſtickes. I.

As for thoſe which invade other parts, they are not very eaſily cured. Firſt, becauſe theſe halituous ſpirits are groſſe. Secondly, becauſe the parts thorow which they are to be diſcuſſed are thicke. Thirdly, becauſe the naturall heat is weak. Whoſoever goeth about to cure theſe flatuous Tumors; Firſt, he muſt preſcribe a ſtrict diet to the Patient, ſuch as I have ſet downe in the cure of a wateriſh Tamor. Secondly, he muſt bar him of the uſe of all flatuous aliments, whereof I have made mention, and preſcribe unto him meats of eaſie concoction, and which afford a laudable juyce. After meales let him eat a ſlice of the marmalad of quinces, with ſome coriander, and anniſeeds comfits, having but one covering of ſugar. The ſtomack a little before bed time is to be embrocated with the oyle of maſticke, woormewood and rue. II. Why thoſe Tumors are hard to be cured. The indications of curing. I. II.

As for the Topicall remedies, the part firſt is to be fomented with Sheres ſacke, wherein Dil, Rue, Bay-leaves, Camomill, and Melilot-flowers, Cummin-ſeeds, Annis-ſeeds, Fennill-ſeeds, and Bay-berries have beene infuſed. Then the part is to be embrocated with the oyle of Camomill, Lillies, Dill, Rue, Bayes mingled with *Aqua vitæ*. Thirdly, apply to the part the Cummin emplaſter, or that of Bay-berries: if the Patient doe feele inflation in his ſtomacke The topicall remedies. I. II. III.

macke, or in region of the ſpleen, miniſter unto him of the confection of Bay-berries ʒ. ii. in iii. ʒ. either good Hippocras, or Canarie wine, wherein Cinamon hath been infuſed two houres before ſupper. iij. or iiij. drops of the oyle of Pepper, or vj. of Fenill-ſeeds oyle in the wig of a Sacke-poſſet are good. Digeſtion is furthered in ſuch perſons, if they take a cup of Sacke having a toaſt in it, and afterward eat the toaſt, being firſt beſprinkled with ſugar. To ſuch a remedy the meaneſt may attaine unto: you and they will better like of it, than of any remedy ſold in the Apothecaries-ſhop. The Sacke is to be taken two houres before ſupper.

 A Table of the Treatise of Vlcers.



LECT.

A TREATISE OF ULCERS.

The second Treatise.

LECT. I.

Wherein the Authors, and Definition of Vlcers are set downe.

BEfore I addreſſed my ſelfe to diſcourſe of any particular matter belonging to the courſe of Chirurgerie, I allotted in my firſt Lecture, foure parts to Chirurgerie: whereof the firſt was Σωδετικὴ, which teacheth to unite parts disjoyned. Solution of unity I made two fold: either intelligible, to bee apprehended by reaſon or underſtanding, or ſenſible, which may be perceived by the very ſenſes. The intelligible I named a Tumor, in the which very often no ſolution of unity doth offer it ſelfe, either to the ſight or touch,

The differences of the ſolution of unity.

touch, as in many cholericke Tumors, and others in their beginning. Sensible solution of unity, I affirmed either to be in the soft parts, or in hard. As for the solution of unity in the soft parts, I appointed two differences of it; to wit, *Vlcus* and *Vulnus*, and ulcer and a wound.

Quest. But here, not without a cause, a question may be moved, which of those two, in methodicall proceeding, ought to have precedencie. It is an undoubted truth, that the first man that lost his life was *Abel*, and that by wounds; so that by all likelihood, men first of all bent their wits to finde out meanes to cure hurts received by externall violence: for the neerer they lived to the creation, the more pure their bodies were, no hereditary diseases being left by parents, if you except mortality by reason of old age, which no man could escape by reason of the sentence of death pronounced for the sinne of disobedience against *Adam* and his posterity by Gods owne mouth: and so being little troubled with either inward griefes, or outward sores, they troubled not themselves about the invention of medicaments to cure these; so that by the right of time, the treating of wounds

Answ. ought to precede the handling of ulcers. Nevertheless, in

I. our times my opinion is, that the discourse of ulcers, for sundry reasons, ought to goe before. For first of all, an ulcer doth proceed from an inward Humor corroding, but a wound from an outward instrument dividing: so that a silly Empirick, yea a doting old woman, may go about the curing of wounds in fleshie parts, and compasse it; but to the curation of ulcers, the knowledge of Humors, and the constitution of the bodies affected are required, which require a man well versed in that part of Physicke called Physiologia.

II. Secondly, greater variety of medicaments is required in the curing of ulcers, than there is in the curing of wounds, & so still greater skill is required in the curing of the one than of

III. the other. Thirdly, greater estimation doth acrew unto those who take upon them the curing of ulcers, than unto those who deale with wounds, and that by all sorts and degrees

of

of persons, whether they be rich or poore, rude or civill, learned or ideots; so that I need not to retract my opinion in ascribing unto the tractation of ulcers the precedencie, before the discourse of wounds.

In my proceeding, I will handle these ten points: First, I will point out the Authors who have written laudably of this subject. II. I will set downe the definition of an ulcer. III. The causes of an ulcer. IV. The differences of ulcers. V. The generall signes of ulcers. VI. The generall prognostickes of ulcers. VII. I will set downe such medicaments as are fit for all ulcers in generall. VIII. Of the generall indications of curing of ulcers. IX. Of their times. X. I will discourse of every particular sort of ulcers. The scope.

To make the tractation of ulcers perfect and compleat; First then to come to the Authors, I meane not to name all who are come to our hands, and have written of this subject; but such as are famous for their skill and experience. *Hippocrates* and *Galen*, although they have not left to posterity particular large monuments of this matter, yet when occasion is offered, they omit not to set downe both the indications of curing, and medicaments effectuall to cure. *Hippoc.* in his 6. Sect. of ulcers and fistulaes. *Galen* in those excellent bookes of his which he penned, *De methodo medendi, Lib.* 3. of a simple ulcer, *Lib.* 4. or an ulcer with accidents; of the orderly way to cure diseases, for the most part doth illustrate his precepts by examples borrowed from the Practice of Chirurgerie. I. Point.

If you demand why he did so? *Quest.*

I will tell you the cause in *Fallopius* his words, in his first Chapter of ulcers, *Quoniam ut ait Celsus, lib. 7. c. 1. Quum eadem est.* Seeing according to *Celsus*, the meanes which Physicians use in curing, sometimes take effect, sometimes availe not, it may be doubted whether health may be ascribed to the good constitution of the body, or to the meanes applied, but the effect of Chirurgerie is most evident. O pregnant testimony to evince the certainty and excellencie *Answ.*

of Chirurgerie. Let those Physicians who slight the practice of Chirurgerie, thinking themselves to be chicks of the white hen only, consider and weigh the weight of this testimony of *Celsus* and *Fallopius* in the impartiall ballance of reason. *Avicen* the chiefe of the Arabick Physicians, handleth this matter in the fourth Booke of his Canon, and the third Treatise: although he doth write confusedly, yet the reading of him will profit such as understand him, and will not be fruitlesse. *Albucasis* hath some good things, but the number of the trifles are many moe. *Paulus Ægineta* in his sixth Booke of the Art of curing, onely toucheth some points of this matter, as a dog doth *Nilus* when he drinketh. *Gabriel Fallopius* followeth, who hath written an excellent Treatise of this matter; but whosoever shall peruse him, shall finde him in sundry things intricate enough: I will bring him a new companion, but farre surpassing all other moderne Writers, *Minadous*, one of the famous professors of that renowned University of Padua, in his three Bookes wch he penned of the curing of the deformities of the body of man: whosoever he be who shall go about to make a parity between these two and others of the late Writers, I shal judge him worthy of *Midas* his eares, and after that hee hath proceeded, & been promoted in Germany, to be saluted a Doctor with foure feet. To these two Italians, I joyne the German *Samuel Hafenrefferus*, in his foure Books of the affections of the skin, in whom there are many varities, if one with judgement discerne them. The rest that can be named are of the lower bench, as *Guido a Cauliaco*, and he who hath onely taught him to speake a little more eloquently, *Ioannes Tagaultius*, in the third Booke of his Institutions of Chirurgerie. *Ioannes de Vico* accounted thefather of Emperickes. *Marianus Sanctus* in the third Treatise of his compend of Chirurgerie, and *Angelus Bologninus* in his two Bookes of ulcers, shall beare him company. I must not omit that painful and judicious Chirurgeon *Ambrose Parrey*, unto whom Chirurgerie is much beholding. *Vesalius* also

deserveth

deserveth praise. The two latest who have written are the two *Fabricii*, *Ierome* and *William*: *Hieronymus Fabricius* in the third Booke of the second Part of his Chirurgicall workes: *Guilielmus Fabricius* in his learned Chirurgicall observations, who in this course out-strip all their fellowes. These Authors of all others are most to be perused, for in reading of them one shall become both more understanding, and more able to performe the cures which shall be committed to his care and skill. As for the rest, I leave them unto those who rather chuse to feed upon ackornes, than pure manchet. *Riolan* the father, *Iaques Guilmeau*, *Peccetius* and *Pigraus*, although they deserve their owne praise, yet in my opinion they are to give place to those whom I have named. If any one would mispend good houres, let him read *Paracelsus* his great and little Chirurgerie, which are like clouds without raine. If you would be furnished with forrests of Chirurgecall medicaments, peruse the Treatise of the learned *Hollerius de materia Chirurgica*, of Chirurgicall meanes, and *Iacobus Dondus* in his enumeration of Chirurgicall remedies, both simple and compound.

As for those medicaments which in my proceedings I shall from time to time set downe, they shall not be a confused heape, but a choice of the best approved, to ease you of the labour of election.

Now are wee to descend to the definition of an ulcer, which was the second point: I will not stand upon the setting downe of sundry descriptions of sundry Authors, and the examination of them, because this labour would take up too much time, and little edifie you, which was appointed the end and scope of these Lectures. An ulcer in English is deriued from the Latine *ulcus*, and this from the Greeke ἕλκος, ἀπὸ τῦ ἕλκειν, because it disjoyneth the part which it possesseth, and so this tearme, in its generall signification, comprehendeth every solution of unity: and so *Hippocrates* in his Treatise concerning wounds of the head doth entitle it. II. Point.

De caus morb. cap. ult.

But seeing solution of unity may proceed from two causes, to wit, an externall instrument dividing, and a sharpe humor eroding, according to *Galen:* there must be two differences of solution of unity likewise according to the same Author, *de constit. art. c. 6. Vulnus*, a wound, procured by an externall instrument, and *ulcus*, an ulcer, caused of an inward cause eroding. Thus then an ulcer is to be described: It is a solution of unity proceeding from an inward cause eroding the part. The subject of an ulcer, I make not onely the fleshy part, (whereby I understand, not onely all the parts which cover the bones) but the bone it selfe also. Unto the ulcer of a bone the Author of the book *de constit. art. cap. 6.* giveth a peculiar name, calling it *Teredo*, τερηδὼν, which properly signifieth the little worme which piercth wood, and consumeth it. I see no reason why the name of an ulcer may not be ascribed to the solution of unity in a bone, if it proceed from an inward cause eroding, as the terme of a wound is, if it bee divided by an externall instrument, as a sword or hatchet. An ulcer then is a compound disease: for in it there is both solution of continuity, and losse of substance.

The description.

Lect. II.

Of the causes of ulcers.

III. Point.

IN the third generall point concerning ulcers is set downe by me the causes of ulcers. These are either antecedent or conjunct: The antecedent causes may be reduced to foure, to wit, *Cacochymia*, or the evill habit of the body, *Contagium*, or the communication or imparting of an infecting quality, vapour or humor, by the which an ulcer is caused in any part; a venomous moisture, as in biting and stinging of serpents.

L. Or lastly the

As for *Cacochymia*, the speculation of it doth belong unto

to the practice of Physicke: yet in my discourses of Tumors I set downe the signes of every humor, redounding as much as was requisite for any to know, who onely medleth with the practice of Chirurgerie. While any of the three humors (bloud being excepted) in the masse of bloud contained in the veines, is faulty and peccant in quality, it is accounted the cause antecedent of an ulcer. Somtimes these humors are solitary, somtimes they are associate together. distemperature of the part it selfe.

II. *Contagium*, or infection, it is communicated sometimes by a rotten and corroding vapour, and so very often, if one visit often one having *Phthysis*, such vapours being mingled with the aire, infect the party who visiteth, especially if he draw too neere to the diseased party. So ulcers of the yard come from dealing with women whose secret parts are touched with venereall ulcers: yea the itch it selfe, and scabbednesse, is gotten by either lying with one troubled with it, or sleeping in a bed where a scabbed person hath rested.

III. As for the distemperature of the part, it may be procured either by cold, as appeareth in kibes, or by heat, as we may see in a gangren; because the bloud flowing copiously to the part pained, and not being concocted, it putrifieth and erodeth the part. Last of all, by biting or stinging, as of a mad dog, or a venomous serpent, a corruption of the humors may be caused, the conjunct cause of an ulcer: so that every humor that is changed from it owne naturall temperature, whether it be by putrefaction, adustion, or commixtion of any thing unnaturall, may procure an ulcer in whatsoever part it seateth it selfe.

The opinion of dogmaticall Physicians concerning humors. But the followers of *Hippocrates* and *Galen*, speake otherwise of these humors than the Chymists doe. The Galenists, make the three humors of the masse of bloud, to wit, choler, flegme, and melancholy, to be the causes both antecedent and conjunct of all ulcers, if they become contrary to nature. So they will have rheumaticke ulcers to be caused of salt flegme, *Herpes exedens* to be caused of eruginous choler; cancerous ulcers of *Bilis atra*, which are the worst and most deplorable of all others.

The opinion of Chymists.

The Chymists on the other part, affirme that the discourse of humors doth not manifest unto us the essence, and proper nature of any disease. So *Quercetan* in his advise of curing the gout, bringeth in the stone, which he affirmeth not to be ingendred of the *Galenicall* humors. *Petrus Severinus* the Dane in his *Idea medicina philosophicæ*, or Pourtrature of the philosophicall Physick, wondreth at the folly of those, who make those fantasticall humors, bloud, choler, flegme, and melancholy the causes of diseases: wherefore they out of minerals, salt, sulphure, and mercurie, fetch out the causes of all griefes. Although *Galen* call sometimes humors salt, nitrous, and eruginous, yet the Chymists have no reason to reject the ordinary names of humors, and to call contumeliously dogmaticall Physicians Humorists, and to deny any disease to proceed from the ordinary humors of the body becomming unnaturall: for seeing that according to *Galen* 1. *de loc. affect. c.* 2. that is to be accounted the cause of a griefe, which being present the disease continueth, and which being removed the griefe ceaseth: and seeing we perceive diseases to be caused of vitious humors abounding, and these being expelled the griefe to vanish, I see no reason why these humors may not be accounted the true causes of griefes; and that it is a meere folly, and an affection of novelty, to baptize these by names of minerals farre fetched; as to call that which in fevers is cast up by vomit, rather sulphure than choler. Besides this, the Chymists are injurious to dogmaticall Physicians, in labouring to perswade men that they by the name of a humor understand nothing else, but a wateriſh substance void of all other faculty, which should be the principles of all bodies, and the causes of all diseases: whereas every rationall Physician, by the terme of a humor, understandeth a liquid body mixed with bloud: which seeing it is a severall body of its owne kinde, and is more compound than water, so it hath farre more excellent qualities than water. The Physicians their owne selves have set the Alchymists at worke,

That the ordinary humors of the body are causes of diseases.

What a Humor is.

worke, while talking of humors, and the causes of diseases, so much talke of the first qualities, heat, cold, moisture, and drynesse. For although sundry diseases are caused of heat, cold, moisture, and drynesse, yet we shall finde other qualities in the Humor, which may as well hurt the body as these: for *Hippocrates* in his booke *de prisca medicina*, or ancient physicke affirmeth, not that which is hot, cold, moist, or soft, to be most powerfull, but that which is bitter, salt, sweet and sowre, unsavourie, and sharpe with some sowrenesse; these and a thousand such, μυρία ἄλλα being exalted in their faculties, he will have to bee the causes of diseases, and not the first qualities onely: and from these the differences of symptomes in fevers of this same kinde doe depend. These whilest they are exquisitely mixed in the body are harmelesse, yet when one of these is severed from the rest, and is exalted in its quality, it manifesteth it selfe, and annoyeth man; so the corrosive salt doth bewray it selfe in cancers, and corrosive ulcers. Neither is it to be thought absurd, that minerals are in the body of man, for seeing man is fed by plants, and beasts, which feed also upon the plants; seeing also the herbs have their aliment from the ground, which is not alike in all places, but often is mingled with a salt juyce, and other minerall spirits, which the beasts and herbs cannot perfectly convert into their owne substance; one can hardly thinke that a man can live upon these, & have no such thing participate. So we see what variety of wines the diversity of the soiles bring forth; & that in every wine there is *tartar* or *argol*, which appeareth also very often in podagricall persons. In vomiting, sundry times substances like to leekes, green, and eruginous, exceeding hot and sharpe are throwne up, which being received into basins, dry them with a bright eruginous colour. See histories in *Shenkius med. obser. lib. 3. ob. 62.* in the third booke of his physicall observations, the 62. observation. *Michael Doringius lib. 1. de medico & medicina*, in his first booke of the Physician and physick reporteth, that a certaine Lawyer

The first qualities are not the only causes of diseases.

Minerals are in the body of man.

made such urine, as did fret the linings, as if it had beene the spirit of vitrioll; such humors appeare plainly in scabbednesse, fretting ulcers, but specially in a cancer. Wherefore *Bertinus* in his third booke and eleventh of his Physicke, doth rashly and inconsiderately affirme, that not one whit of mercurie, salt or sulphure, lieth hid in the body; for in the itch, scabbinesse, some catarrhes, inflammations of the eyes, and fretting ulcers it may be perceived; but in urine, which is also an excrementitious humor, the salt may be separate,& presented to the sight yea,besides the salt in urine, another substance the cause of diseases may be marked: for if you take a cleare urine, and suffer it to settle, a matter like unto the powder of bricke, and sometimes a white muddie substance will so cleave to the sides of the chamberpot or urinall,that it can hardly be sometimes washed away; of such a matter tophes in gouty persons, and stones in the bladder, are ingendred.

The ordinary humors are not the causes of all diseases.

Whosoever shall goe about to reduce the causes of all diseases to bloud, choler, melancholy and flegme, shall wrap himselfe into a number of difficulties: I will desire him to yeeld me a reason, why he calleth salt flegme so, seeing flegme is said to be cold, but this hot? Why is *Aura bilis* comprehended under melancholy, seeing it is very hot, but this cold? Besides this, if any Physician goe about to cure diseases procured either by contagion, or poison, without any great respect to the humors, he presently goeth about to minister either a *Lexipharmaca*, as in the plague which is gotten by contagion, to abate the force of it, and then he addresseth himselfe to the preparation and evacuation of the humors. If poison be ministred to any one in meat or drink, which according to *Cardan*, commenting upon the 62. aphor. of the 4. sect. may be suspected, if he finde griping in his stomacke, if he vomit and goe to stoole, if within six houres the skin become greenish or spotted, then Antidotes are ministred, and not such as respect choler, melancholy or flegme. Let the Humors then which are ingende-

red

red in the body retaine the accustomed names, but if an externall cause make them degenerate from their nature, let these be distinguished from the ordinary, and have their denomination from that which altereth them. If salt, niter, alome, vitrioll, verdigrease be mingled with any humor, let it be called from the minerall mingled with it, salt, nitrous, alominous, vitriolate or eruginous. And for this cause some late judicious Physicians writing of maligne and pestilent fevers, and considering their notable differences, have affirmed some to participate the nature of arsenick, some of mercurie, some of hellebore, some of opium, some of the leopards bane, some of the hemlock, some to participate of the poison of a viper, scorpion, mad dog and such like, noting the variety of symptomes in sundry persons.

Of the superfluous melancholy Humor.

One doubt doth remaine concerning the melancholy humor, whether it be onely thin and watterish, as *Reusnerus* affirmeth in his booke of the Scurvie, *exercit.* 4. out of sundry places of *Hippocrates*, who calleth melancholy ὑδρωψ, as in his booke περὶ γονῆς, in his booke *de morbis*, and in his first booke *de morbis mulierum*, or whether it be thick and earthie, according to the vulgar and received opinion. Before this doubt be solved, some propositions are to be permitted. I. In the Chylus there are two substances, one liquid and thin, the other thick and terrestriall, which can no more nourish than ashes. II. Nature doth mingle these which are not sent away by stoole, with part of the aqueous and superfluous humidity caused of drink and liquid meats. So in a lie the salt and some adust parts are so mingled, that they are not discerned before separation.

That the spleene draweth superfluous melancholy.

I say then, that this thick and feculent humor tempered with much moisture, is to be accounted the superfluous melancholy humor, and that it is attracted by the spleene. For first, seeing this feculent humor is altogether unapt to nourish, it must be separate from the Chylus, which cannot bee performed by any other part besides the spleene. Secondly, the

the spleene is of a darker red colour than the liver is, which proceedeth from the thick, feculent, and terrestriall humor which it imbibeth. Thirdly, *Hippocrates de aere, aq. & loc.* affirmeth, that such persons as dwell in fenny places are subject to passions of the spleene. The cause is, because the waters are not pure, but muddie. Fourthly, if the spleene did draw onely thin and wateriſh humors, it could not bee so subject to obstructions as it is. The feculent humor mixed with much humidity, is the cause of sundry diseases: the thin part sometimes ascendeth to the upper parts, the grosse to the lower parts of the body, as wee see in the scurvie, wherein the gummes are ulcerated, and the legs tumifie. The spleene being spungeous draweth much humidity to it, wherefore spleenetick persons ought to drink sparingly, for if they bib too much, the naturall heat of the part is easily oppressed, and so they become hydropick. The wateriſh humor of the spleene is not insipid, but sharpe and biting, and copious: so we see those who are troubled with quartanes, about the end of each fit to sweat plentifully; and those who are oppressed with melancholy to spit much. In the thick, feculent, & terrestriall blackish matter, sometimes there is no excesse of the spleene: in qualities, sometimes there is, and those are two: *Acerbitas*, an astringent sharpnesse, such as appeareth in greene unripe fruits; and *Aciditas*, sowrnesse: from these qualities intended and exalted, *aira bilis* becommeth so corrosive. So much I thought good to set downe of melancholy, to cleare the doubts which are moved of it, and to shew one use of the spleene.

The qualities of the wateriſh Humor of the ſpleene.

Object. To returne then to the carbonary crue of unlearned Alchymists, They object thus, The rationall Physicians affirme the body to be nourished by the foure humors, how can they then be causes of the diseases?

Answ. It is strange that any men should wilfully shut the eye of the mind, understanding I meane, that they may not see the truth; seeing man, as *Aristotle* in the very first words of the booke of his Metaphysicks affirmeth, naturally coveteth know-

knowledge, and witnesses are our first parents to their owne and our losse. No dogmaticall Physician ever affirmed any disease to be caused of any humor of the body, as long as it continueth in its owne naturall estate; but then to stir up grieses, when it is separate from the rest, when it doth putrifie, when forraigne substances and qualities are added, which make it of a familiar humor, a professed enemy to health, consisting of the natural constitution of the body, resulting of the laudable commixtion of the foure humors naturall. I have insisted somwhat long in the setting down of the causes of ulcers, because he (whosoever he be) that goeth about to cure ulcers without the knowledge of the causes, is like one, who being blindfolded, is set to thrash a cocke.

Lect. III.

Of the generall differences and signes of ulcers.

OF the ten Points, within the limits of which I resolved to include all my discourses of ulcers, in my former Lecture I dispatched three; in the first I nominated the prime Authors, who have written of this subject: in the second, I set downe the description of an ulcer: in the third, I discoursed somewhat largely of the causes of ulcers in generall.

Now the fourth Point, concerning the differences, and sundry sorts of ulcers, offereth it selfe to be handled, and in truth the course of nature so requireth: for the forme of every particular ulcer doth spring from the cause conjunct of the same: for example, a cancer ulcerate is discerned from all other ulcers by its proper and pathognomonicall signes, all which as effects, are ascribed to *Atra bilis*, impacted in the part the cause conjunct of the same. IV. Point.

Here of purpose I omit the idle and fruitlesse distinctions of ulcers, set downe by sundry Authors, which neither better Differences of ulcers.

ter the understanding, nor further the curation. These only I will set downe, which are matteriall. The matteriall differences then of ulcers are taken either from the nature or constitution of an ulcer, or from the subject or part affected. From the nature and constitution, an ulcer is either simple or compounded.

I. From their nature.

In a simple ulcer, nothing is offered which may stay the Chirurgeon from going about the consolidation of it, as the cause conjunct, a cruell symptome, adjuncts, or some disease.

Differences of a compound ulcer.

A compound ulcer wherein either some of these, or all are found, which must be removed before unition be procured, is either of the milder sort, or maligne.

The more milde sort of ulcers yeeld to ordinary and usuall medicaments, if they be judiciously applied.

The maligne yeeld not, and besides have fearefull symptomes: those maligne ulcers proceed either from inward, or outward causes.

From internall causes spring a cancer ulcerate, *Phagedæna*, *Nome*, fretting ulcers, and others which are called *Chironia*, or *Telephia*, which denominations insinuate nothing unto us concerning the nature or curation of an ulcer, but bring onely unto our memory the names of these who are celebrated by Poets, which belong more to Grammarians than Physicians or Chirurgeons to be knowne.

The externall causes which procure ulcers are two, to wit, *Contagium*, contagion, or a venomous quality, vapour, or humor, comprehended under the name of *Venenum*, or poison.

II. From the parts

The differences taken from the subjects or parts affected are two, for either an ulcer possesseth the outward part, and is called *Externum*, or outward, or it afflicteth the inner parts, and is named *Internum*, or inward. Other differences are taken from the continuance, figure and quantity, are here impertinent, and further only predictions, of the which I will speake in the prognosticks of ulcers.

V.

As concerning the signes of ulcers, an internall ulcer is found out and discerned by the excretions or matter expelled. As for example, if the urine be purulent we conjecture the kidneyes or bladder to be ulcerate. If purulent matter be voided by coughing, it is like that the lungs are ulcerate; if much of such matter be rejected, and signes of an apostеme have gone before, it is an apostematous ulcer; if the purulent matter be but little, and no signes of an inflammation have beene noted, then it is but a primarie ulcer proceeding of erosion, by reason of a sharpe humor separating the unity of the substance of the lungs. These internall ulcers I will leave to the consideration of Physicians, unto whom they are most commonly presented to be cured, who very often purchase fees with no small discredit to the Art and themselves. Onely I will set downe such things as tend to the curation of ulcers of the externall parts. I need not to busie my selfe about the setting downe of the generall signes of such, seeing they are presented to the view of the Chirurgeon by the parties grieved. Onely let me give you warning, that you mistake not a wound for an ulcer: into this errour you may easily fall, if you admit the most ordinary description of an ulcer, set downe even by judicious Physicians and Chirurgeons; which is, that it is a solution of continuity in a fleshy part, yeelding quittor; it skilleth not, they think, whether it be laudable or illaudable. It is strange that there should be set downe no other difference between a wound & an ulcer, than this, that the one is bloudy, and the other purulent. Doth not, I pray you, a wound become purulent of it selfe, although no Chirurgeon deale with it, and may not an ulcer become bloudy if incision be used, as it may dayly be seene? Frivolous it is also in my judgment, that a solution of unity inflicted by an instrument that woundeth in a bone, as a sword, may be called a wound; and that a solution of unity in a bone, procured by an eroding humor, may not be termed an ulcer.

The signes of ulcers.

Signes of the lungs ulcerated

Riolan. Chirur. sect. 2.

Seeing the causes conjunct make the true differences of an

The causes conjunct of wounds and ulcers.

an ulcer and wound: which are an externall instrument dividing, & a sharp humor eroding the parts. Who can imagine that in a venereall ulcer, wherein there is corruption of the bone, there should be two sorts of ulcers specifically differing, to wit, one in the fleshy part, and another in the bone, the same humor causing both.

But a solution of unity in the bone by a corroding is called *Teredo*, say they.

Object. What then? Must a maligne ulcer in the face, because it is called *Noli me tangere*, be exempted out of the list of cancerous ulcers?

Sol. No. Let this then be accounted an undoubted truth, that a solution of unity procured in the body by a humor eroding, whether it be in the flesh or bone, may be, yea ought to be called an ulcer, as a solution by an instrument separating, is called a wound in both.

Lect. IV.

Of the generall prognisticks of Vlcers.

VI. Point.

The presages.

NOw I am to descend to the sixt point touching Ulcers, proposed by mee in the beginning, which is of their generall prognosticks. The consideration of these will make one circumspect, when an ulcer is offered to him to be cured, in the election of his cures: for whosoever taketh in hand a griefe uncurable, hee discrediteth himselfe, and causeth the art to be contemned by those, who are simple and ignorant, imputing the error of the practicer to the

1. insufficiencie of the art. Let this be the I. prædiction: an ulcer in a body of an evill complexion, which may bee conjectured by the colour of the skin, if it bee of a tallowie whiteneſſe, yellow or swartish is not easely cured: for it is likely, that corrupt phlegme, vitellin choler, and feculent melancholie doe abound, which humors hinder the rege-

generation

neration of flesh : but by the contrarie, an ulcer is easily cured in a person of a good complexion, who digesteth well and doth not increase superfluous moisture. II. ulcers in bodies, which are either very moist or drie are hardly cured. This is plaine in the bodies of hydropicall persons, and those which are aged, for as superfluous humiditie contrarie to deiccation hindereth the healing in those : so in these the defect of radicall moisture. III. ulcers in children by reason of their excessive humiditie, and in women with child, because the most laudable part of the blood is turned to the nourishment of the child, are not easely cured. IV. ulcers which fall out after critticall apostemes in the spondils of the back, or great joynts of the body, for the most part are mortall : because after sickneſſe, and apostemation, nature must be exceedingly weakened, the naturall heat much abated, and the radicall moisture almost spent. Such apostemes doe fall out when as sharpe fevers end not crittically in the decretory daies by some evacuation, as bleeding at the nose, vomiting, sweating, purging by stoole and urine, but extend themselves to the fortieth day. V. If the place wherein the ulcer is seated be blackish, blewish, or greenish, it hardly can bee cured : for the bloud must bee naughty, and the flesh corrupt. VI. Ulcers of a round figure are cured with difficulty, the reason is this, Consolidation is procured by unition of the parts; now the farther the parts are asunder, the more slowly it is procured : but a round figure, of all other within the same bounds, is most ample. VII. Painfull ulcers in children are dangerous, because their bodies being raw, and the spirits subtill, they are easily spent, which is the cause that they are much weakened, and so disposed for death it selfe. VIII. If an ulcer become either blewish or pale, the party being ill, death is not farre off; for these colours shew the mortification of the part; and dryneſſe sheweth that the naturall moisture is gone. IX. If an ulcer be cõplicat with a disease which maintaineth it, the ulcer, according to the nature of the disease,

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is either of easie or hard curation. So a venereall ulcer in a succulent and strong body is easily cured, but if the party be in a *Marasmus*, neither the ulcer nor the disease can be cured; because the use of desiccatives, which onely availe in these infirmities, will onely hasten death increasing the extenuation of the body: in like manner ulcers in hectick and hydropick persons are hardly cured; in these because superfluous humidity hindereth desiccation of the ulcer; in those because laudable juyce floweth not to the part ulce-
10. rate. X. If tumors in ulcers suddenly vanish without any evident and manifest cause, as bleeding, or application of a discussive medicament, they portend no good: but convulsions, if they appeare in the hinder parts, because the Spina is very nervous: and madnesse, pleurisie or suppuration if
11. they were red, and in the forepart. XI. Soft tumors in ulcers are laudable, because they will yeeld to medicaments, but hard, not easie to be cured, because the humor is more
12. rebellious. XII. If the haires fall in places of the body about the ulcer, it is an evill signe: for then there must be great acrimonie, and corruption of the humors, as in quartane a-
13. gues, the pox, and leprosie. XIII. If in an ulcer where there is cariosity of the bone, the colour of the flesh be of a livid colour, the party must be in danger: for it is a signe
14. of the extinction of the naturall heat. XIV. Ulcers which afford quittor, which is white, smooth, and uniforme, and not stinking, promise an easie cure, for these qualities in the quittor, shew the dominion of the naturall heat, and the
15. soundnesse of the solide parts. XV. A flux of bloud comming in an ulcer after strong pulsation is ominous, according to *Hippocrates Sect.* 7. *aph.* 21. for there must bee a strong phlegmon, and the arteries must be much pressed, so that a gangren may be expected: howsoever of such furious
16. bloud no flesh can be regenerate. XVI. If an *Erysipelas* appeare, the bone being bare, it is no good signe, *Hipp. Sect.* 7. *aphor.* 19. for neither can flesh be regenerate by such a sharp
17. humor as this, that causeth so hot a tumor. XVII. From

maligne

maligne ulcers two sorts of quittor flow; One thin, and it is called *Ichor*, or *Sanies*; such a virulent matter issueth also from the pricking of the nerves, and corruption of the perioſtion. The other sort of quittor is thick, and is called *Sordes*. XVIII. In ulcers which have continued a twelve- 18.
moneth or longer, the bone must be scaled, and the skinning be hollow, *Hipp. lib. 6. aph. 45*. But to make good this Aphorisme of *Hippocrates*, some conditions are required: The first is, that much flesh above the bone be not in the part ulcerate. Secondly, the humor which floweth to the part must be very corrasive. Thirdly, it must not have beene dealt withall by any Physician or Chirurgeon. If one or more of these conditions faile, the Aphorisme must misse of its prediction. What *Galen* and late Writers have set downe in the explication of this Aphorisme, cleare not the truth of this Aphorisme: onely these conditions set downe by me doe. The signes which leade you to the knowledge of a bone Signes of a corrupted are these: 1. If the ulcer having beene skinned, corrupt bone.
breaketh out again, for it is likely that the bone casteth out an ichorous substance, which is the cause of this recidivation, 2. If the ulcer yeeld more and thinner matter then the bignesse of it requireth. 3. If the brims of the ulcer will not come in. 4. If the brims become reddish. 5. If the bone, being presented to the sight, it appeare rugged, and of a blackish colour, not smooth, or a ruddy white colour. XIX. Whatsoever ulcers cast out much *Sanies* or *Ichorous* 19.
matter, which is too thin, of a leady, pale, or black colour, or glutinous, or stinking, and which fretteth the skin adjacent, are hard to be cured, for this humor keepeth the ulcer moist, and cannot easily be dryed, even if you apply powerfull Topicks. XX. Inveterate ulcers which cast out a quittor, 20.
called by the Grecians ἰλατῶδες, like unto white oyle, are hardly cured: for this signifieth a colliquation of the part, and an extenuation of the rest of the body.

I. LECT.

Lect. V.

Of the generall curation of ulcers and their times.

HAving set downe the generall prognosticks of ulcers in the sixth Point, now the seventh Point concerning the generall method of curing of all ulcers doth offer it selfe.

The universall curation of ulcers is comprised in this one proposition: All ulcers ever desire deiccation, so *Hippoc. in princ. lib. de ulcer. & Galen. lib. 3. method. c. 3.* for whether we goe about to ingender flesh, or to seale up an ulcer by cicatrization, desiccative medicaments are still required.

Foure times of ulcers.

There are foure times to be observed in ulcers.

I. 1. *Principium*, the beginning; In it the quittor is thin and watersh.

II. II. *Augmentum*, the proceeding; In it the quittor floweth more sparingly, and thicker.

III. III. *Status*, the consistence; In it there is no ichorous matter, but *Pus*, yet somewhat thinner it appeareth.

IV. IV. *Declinatio*, when the ulcer is in the mending hand, then laudable *Pus* sheweth it selfe. It is white, being altered by the naturall temperature of the veines, arteries, nerves and membranes, whose substance is white. Secondly, it is uniforme, not grumous or cruddy, naturall heat working equally upon every part of it. Thirdly, it is without all ill smell, seeing the naturall heat hath corrected all the evill qualities of it.

The qualities of laudable quittour.

The meanes of curing of ulcers.

The curation of ulcers is performed by two meanes: The 1. is the removing of the causes antecedent. The second, is the artificiall dressing of them.

Causes antecedent.

The causes antecedent are foure: *Cacochymia, Contagium, Venenum,* and the distemperature of the part.

I. The ill habit of the body is to be removed by alteration and evacuation, if the humor abound.

Contagion

Contagion is to be overcome by *Alexipharma.* II.
Poison is to be contemperate by *Antidota.* III.
The distemperature of the part is to be removed by things contrary unto it. And that we may the more easily attaine to these scopes, a convenient order of diet must ever be prescribed. IV. II

The cause conjunct, which is the eroding humor, that is setled in the part, is surprised by such medicaments as sute for the foure times of an ulcer before mentioned by. The cause conjunct.

In the beginning then Suppuratives or Digestives are to bee applied. First, because the matter which hath left the vessels, and hath infinued it selfe within the porosities, putrifieth: wherefore it ought to be concocted, that it may become laudable quittor. The use of suppurative medicaments.

Secondly, good flesh cannot be procured by sarcoticall medicaments, unlesse the matter be concocted; for so the ulcer is made apt to admit the generation of flesh. These Suppuratives ought in the first qualities to be proportionate to the temperature of the part unto the which they are to be applied, so to parts hot in the first or second degree Suppuratives hot in the same degrees are to be applied: for if they exceed, they are so farre from strengthening the naturall heat, that they rather pervert it, making it aguish and unnaturall: if the part be temperate let temperate Suppuratives be applied.

But Digestives ought not to be applied, First, to putride ulcers; for seeing Suppuratives are hot and moist, if they should bee applied, they would cause the greater putrifaction. In what ulcers Digestives are unfit. I.

Secondly, they are not fit for rheumatick ulcers, for such medicaments relax the part, and make it more subject to receive the matter that floweth, and so a tumor might bee caused. And as Suppuratives are to be applied to the parts ulcerate, because the humor which is hot and sharp would inflame the part if it were not suppurated and cleansed. II.

Sorepelling Topicks are to be applied to the parts about The uses of repelling medicines.

the ulcer to repell the matter which floweth. I. That the heat of the Suppurative medicament draw nothing from the parts adjacent.

I.

II. To strengthen the parts that they may resist fluxion.

II.

III. Because by the repelling of the humor, the desiccation of the ulcer is furthered.

III.

IV. Because the heat of the part ulcerate is intended and strengthened, it being kept in by the coldnesse of the repelling medicament.

IV.

The mixtion of medicaments when profitable.

And for as much as I affirmed that ulcers alwayes require desiccation, it is not amisse to mix with the Suppuratives some driers, yet that in the beginning the Suppuratives have the upper hand, but in the end the desiccatives.

Mundificatives

After that the ulcer is well digested, and yeeldeth laudable quittor, Mundificatives are to be applied: for if you apply sarcoticall medicaments, before the ulcer is well digested, spungeous and naughty flesh will grow, which will admit no cicatrization. In mundifying we must not use too sharp medicaments, for these may cause an unskilfull Physician or Chirurgeon to beleeve that it is a corrosive ulcer. The paine which the Patient feeleth in the part ulcerate wil bewray this errour. These three scopes being compassed to overcome the cause conjunct, nothing remaineth, but to seale up the cure by cicatrization.

How fluxion is stayed Revulsion.

Seeing most ordinary ulcers proceed from fluxion, it is to be withstood, First, by Revulsion. Secondly, by Repulsion. In Revulsion, wherein the matter is drawne to parts farre distant, the rectitude of the part, and vessels is to bee observed. So if the ulcer be in the right leg, Revulsion is to bee procured in the right arme, if you respect the rectitude of the part; but if you consider the rectitude of the vessels, Revulsion is to be used in the left leg, if the ulcer be in the right: for so the communion of vessels is kept.

How revulsion is to be procured.

Revulsion is performed by attractives, and these are three; Heat, paine, and the shunning of vacuity. Hot things which procure attraction, are hot inunctions, and baths: straight

ligatures

ligatures cause paine; but both paine and heat are caused, Ventoses, and Vesicatories. Fontanels attract by reason of the shunning of vacuity; for they sending out still some substance, some other must bee drawne to fill up the place of that.

Repulsion, wherein the humor is stayed in its passage, is performed by applying those medicaments, which commonly are called Defensives: these medicaments are astringent and cold, and rather dry than moist in ulcers. Now that you may know whether you proceed according to Art in the curing of ulcers, receive this Aphorisme: When medicaments applied to ulcers doe good, or at least hurt not, it is a signe that they are convenient; but if they doe harme, by making the ulcer hotter or colder, drier or moister than is fit, then you may gather that such are to be changed, and their contraries applied.

Repulsion.

Defensives.

To know good medicaments.

Albucasis.

To conclude this Point, nine things make ulcers hard to be cured.

Things which make ulcers long in curing.

I. The defect of good bloud in bodies extenuate.
II. The impurity of bloud in cacochymicall persons.
III. Is the filthinesse of the ulcer.
IV. Soft and cadaverous flesh about the ulcer.
V. The malignity of the humor.
VI. The hardnesse of the brims of the ulcer.
VII. A secret cause in the aire of some places, they being hot and moist.
VIII. When the bone is corrupted.
IX. The application of unfit medicaments.

Lect. VI.

Of the medicaments befitting ulcers in generall, and first of repelling medicaments.

NOw at the last I am come to the last generall Point, set downe by me in the first Lecture concerning ulcers, of the which I intended to discourse, which is, of the medicaments befitting ulcers in generall. I meane to spend this Lecture upon this subject, to the end that you may be so furnished with good and approved medicaments, as that you shall not need either to envie or wonder at such as brag of secrets.

It is not unknowne to your selves how many sawcie and malepert Empiricks there are here in London, who basely and irreverently speak of those who are skilfull indeed, and deserve well of the Art of Chirurgerie, (purchasing unto it credit, and to their owne selves profit and renowne, by their methodicall and successefull practice) and so impudently boast of their secrets, and exalt themselves as if they had no forehead. But surely it is to be thought, that there is too great a distance betweene it and their tongue, that the forehead cannot stop the tongue from uttering Thrasonicall speeches of themselves: it is great pity such are so countenanced as they are. The Magistrates let them proceed in their extravagant courses, thinking it not fit for an Eagle to stoope to a gnat. The ruder and ignorant sort, rather consider the promise, than the performance, thinking that there can be no cloud without raine.

That you may be the more able, not only to encounter with these confident cowards, but to overthrow them also; I will endevour, according to that talent of skill which I have, to furnish you with competent both Theorie and Practice. It is a shame for a Chirurgeon not to be furnished with admirable

ble variety of medicament, seeing nature hath beene so provident for him. Turne your eyes whither you will, and behold the fertility of nature, and you shall see and finde that in her works she hath not beene unmindfull of you. As for plants, you have *Dioscorides* and *Galen*, yea all who have written of them, witnesses; that the greatest part of them have fallen to your share. As for the things which lie hid in the bowels of the earth, as metals, spirits, marcasites, doe they not serve your turne? The metals for your instruments, the rest for your medicaments. Let no man think then, that a skilfull and industrious Chirurgeon can by his Art performe no other cures, but such as may be compassed by the compositions in his Salvatory. These he must have in readinesse, other medicaments he is able to fetch out of the treasure of nature, which he hath at his command. This I will make good by the setting downe onely those medicaments which are known to belong to the curation of ulcers. Of these there are two orders or rankes: for some serve for ordinary ulcers, some for those who have a malignity annexed. Those that serve for ordinary ulcers are of five sorts, for some are Repelling, some Digesting, some Mundifying, some incarnating, and some Cicatrizing, and the Medicaments which performe these offices, are either simple or compound.

The Simples repelling are these that follow.

Of these, some are of an Aqueous substance, as Water it selfe, Lettice, all sorts of Succorie, Knot-grasse, Horse-taile, Perwinckle, Nightshade, Comfrey, Pursselaine, Navell-wort, House-leeke, these foure yeeld not their juyce easily; wherefore they must be beaten in a mortar, and some verjuyce, vineger, or juyce of Quinces mingled with them. There be some Simples not so wateriſh as these are, as the Plantane, Millefole, Vine-leaves, astringent red Wine, Verjuyce, Vineger, the fruit of the Barberry, the fruit of the Quick-

beame, Sloes, Mirtle-berries, Pomegranate-rindes, and Flowers infused in red Wine which is astringent, Tanners Wooſe, which will be more effectuall if theſe Simples together with red Roſe-leaves dryed be boyled a little in it; but the Wooſe muſt be taken when it is newly made, and before any leather be put in it. The Leaves and Apples of the Mandrake, the Henbane, the Leaves of *Stramonea*, the black Poppie, and the deadly Night-ſhade are more cooling than the former, but they muſt be left before the part become livid, or of a leady colour. If you uſe the juyces or decoctions of the aforeſaid Simples, which you ſhall be enforced to do, if the curation of ulcers and wounds be preſented unto you, being in the countrey, where no Apothecarie is by whom you can be furniſhed with medicaments which are fit to repell, then you muſt apply to the parts adjacent to the ulcer, pledgets of wooll or tow moiſtened in them, then above theſe ſtups of linnen or woollen cloathes, according to the temperature of the party, and ſeaſon of the yeere, moiſtened in the ſame and wrung; are to be applied.

Laſt of all, the part ulcerate is handſomely to be rowled, the rowler having beene moiſtened in theſe juyces or decoctions. One thing is to be noted, that it is the beſt courſe ſtill to mingle ſome aſtringents with thoſe which have a wateriſh juyce: for as theſe coole beſt, and repreſſe the fluxion and inflammation, ſo theſe by wrinkling of the skin repell more effectually. As you rowle up fractures, ſo muſt you rowle parts ulcerate. Of this kinde of rowling I will ſpeak in its proper place.

The Compound medicaments that repell are theſe.

I. Oyles, as the Oyle of Roſes made of greene Oyle, the Juyce of unripe Grapes, and the Juyce of red Roſes, boyled together over a ſimpering fire untill the Juyces be conſumed. Laſt of all, infuſe ſome Roſes picked in the Oyle: the

Oyle

Oyle of Mirtles, the Oyle of Quinces, the Oyle of Mastick, the Oyle of Henbane, Poppie, and Mandrake. The sallet Oyle whereof these compound Oyles are made must not be old, or rank. If an inflammation hath possessed the parts adjacent, use not Oyles; for they are easily set on fire.

II. Cataplasmes, made of the aforesaid Juyces, and Barley-flowre, with some of the aforenamed Oyles, or Bole, *Terra sigillata*, or Amber tempered with some of the aforenamed Oyles, and whites of Egges beaten, Vineger, or Verjuyce.

III. Unguents, as *Triapharmacum*, *Unguentum album*, *Camphoratum* either of it selfe, or mingled with *Vnguentum Populeum*.

IV. Emplasters, as *Emplastrum de minio*, the Sope Plaster, *Diapalma* made with the juyces of Plantane, Horsetaile, Knot-grasse, Yarrow, Comfrey, and Perwinckle. When you make your *Diachalcithes*, reserve one part for the juyces, which must be added by little and little, as you bring your Emplaster to the consistence. This medicament is second to none.

Of Suppuratives or Digestives.

Being furnished with medicaments repelling, which are to be applied to the parts adjacent to the ulcer to hinder fluxion, you are to looke for medicaments which are to be applied to the ulcer it selfe: Amongst them Suppuratives offer themselves first; Those as the former, are either simple, or compound.

The Simples are these, which are to be temperately warme and moist.

The flowre of Wheat and Barley, Swines-grease, sweet Butter, Capons-grease, Calves-tallow, ripe Oyle, black Rosin, the juyce of the flowers of white Lilies, the pulp of Figs,

Figs, and Raisins, the mucilage of the Marsh-Mallow, Fenugreek, and Linseed: these are convenient, if any hardnesse or callosity be in the ulcer, Saffron, Bird-lime, Pitch, Storax, *Galbanum, Gummi & Lemni*, the Burre-Dock, Melilot, the Flowre de luice, new Wax.

Of Compounds.

Tetrapharmacum of the Ancients, which is made of Pitch, Rosin, Wax, and any of the forenamed fats; *Dialthæa simplex, Basilicum majus & minus, Vnguentum aureum*; if a little Mercurie precipitate washed in Plantane, and Rose-water, be mingled with these unguents, as a scruple with an ounce, they will be the more effectuall: for the precipitate doth excellently thicken and digest any ichorous matter. Above these, applied unto the ulcers, either upon Lint or Tow, lay *Emplastrum diachylon simplex* in the summer, and *Cum gummis* in the winter, if the brims of the ulcer be hard: otherwise use your *Diapalma cum succis*, for there is no Emplaster comparable to this.

Of the aforenamed Simples, as your Flowers, or Meales, Pulps, Mucilages, and Juyces, you may frame unto your selves sundry Suppuratives, according to the temperature of the party, the condition of the ulcer, and season of the yeere. Let this be an example, Take of the pulp of Figs and Raisins, of each one ounce, of the Mucilage, of the Marsh-mallow, Linseed, and Fenugreek, of each two drams; of the juyce of the flowres of the white Lilly, two drams and a halfe; of Barley-meale, three drams; of Saffron beat to powder, halfe a scruple, make up a medicament. This is powerfull in callous ulcers.

Of Mundificatives.

When the ulcer is well digested, which you shall conjecture if the quittor be somewhat laudable, if the brims of the

the ulcer be soft and well coloured; and lastly, if you finde no ill damp to rise from the ulcer; then you are to addresse your selves to the application of Mundificatives, for if you use sarcotick or incarnative medicaments before mundification, onely loose flesh will arise, which will admit no cicatrization.

The Simples that mundifie are these.

Aristolochia or Birthworth, whereof there be two sorts, the long, and the round; Horehound, Smellage, Vitriol calcined to redness, Verdigrease, Orpiment, Arsenick naturall and sublimed, ☿ sublimate and precipitate, the yellow Turbit, if you use it before it be washed, it is as powerfull as Arsenick, or Mercurie sublimate; but much more safe, for it dispatcheth its operation sooner, causeth not so great inflammation, and is more familiar to the body of man. Honey also mundifieth, Savin, Cockle-shels burned, Alome burned or calcined, the flowre of Vetches. All Vegetables calcined mundifie, by reason of the salt in the ashes, but some more powerfully than others, as the ashes of Tobacco, the Vine-stalkes, and the stalkes of Beanes: joyne to these, the juyce of Celandine, the root of the Cuckow-pit, Wormewood, Centorie the lesser, *Carduus benedictus*, the Beete, Colewort, Gentian, bitter Almonds, *Scordium*, the white and black Hellebore.

Compound mundifying medicament.

l. 15. of *Fabricius ab aqua pendente*: ℞ *Terebinth* ʒij. *syrup. ros. vel mel. ros.* ʒß. *succi apii*, ʒiß. *farin. hord. & lupin. aq. q. s. ut inspieentur.* That which is called *Paracelsus* mundificative, is second to none: It receiveth these things, Take of Honey iiij ʒ. of Turpentine ij ʒ. boile these with a very soft fire, untill they come to the consistence of a soft unguent; then take them from the fire, and mingle with it the yolke

yolke of an Egge; incorporate all well together. If a foule ulcer be offered unto you, mingle with an ounce of this unguent a dram of Mercurie precipitate, washed with Plantane and Rose-water, and you shall finde it to excell all other Mundificatives. In the shops you have *Vnguentum Ægyptiacum*, and *Apostolorum*: *Ægyptiacum* is good to bee injected into sinewous ulcers, being mingled with White-wine, and *Mel rosatum*: *Vnguentum Apostolorum* is best for plaine, and superficiall ulcers. If you mingle with your *Basilicum* and *Aureum* precipitate, mingled with Alome calcined, you shall have a medicament which will both digest and mundifie. Take of your precipitate two parts, and one of Alome, and grinde them upon a Painters stone untill they come to an impalbable powder. Of the enumeration of these medicaments you may gather of what qualities Mundificatives ought to be. They are drying without astriction, without any notable cold quality, or great heat; but of a subtill substance: by reason of the dryenesse, they consume the humidity of the ulcer; and by reason of their siccitie & tenuitie, they take away the glutinousnesse of the quittor. These must not passe the second degree of dryenesse; otherwise they would consume the flesh it selfe. Extersion then is the removing of filth cleaving to the ulcer, by drying of it, and abating the viscosity by the which it cleaveth to the part.

Of Incarnatives.

When the ulcer is sufficiently mundified, which you shall learne of *Celsus lib. 5. cap. 20.* If the ulcer appeare red, sensible and cleane, and neither too dry nor too moist, then it is sufficiently mundified: but by the contrary, if it appeare pale or whitish, or of a livid or blacke colour, and want sense, and bee either too moist or too dry, then it is not cleansed sufficiently. These signes may be seene in a plaine and open ulcer.

But

But you may aske, how shall we know when a sinewous ulcer is sufficiently mundified? *Quest.*

Galen will tell you, *l. 4. περὶ γέν. cap. 2.* That you shall conjecture a hollow ulcer to be cleane, when the part beginneth to be more sensible of the mundificatives than it was before. *Answ.*

When these signes of sufficient mundification appeare, then you must goe about the incarnating of the ulcer. And although incarnation be the effect of nature principally, that is, of the temperature of the part, from whence the faculty of the part, the cause of all the ordinate actions of the part do flow: yet it is requisite that the Physician & Chirurgeon should help nature now, being weakened by the griefe, by removing the impediments and lets which hinder the naturall constitution of the part. Nature when shee is in her vigour cannot totally convert the aliments into the substance of the solid parts, but after she hath had a care of the preservation of them, hath a task to expell both a wateriſh or thin, and a thick excrement by the pores of the skin to the outward superficies of it, (as is manifest in the morphew,) when she is disabled by a solution of unitie, much lesse can she effect her purpose, where of the thin excrement a humid ulcer is procured, but of the thick a sordid. Wherefore if you will goe about to cure an ulcer, you must labour to dry the humid ulcers by desiccatives, and the sordid by mundificatives: and because in all solution of unity, nature is ever vigilant and busie; and in ulcers to regenerate flesh, in perfecting of which work, these two excrements must be separated; it is manifest that there cannot be one moment designed in the curing of ulcers where drying and mundifying medicaments are required. Now medicaments indued with these two qualities of desiccation and mundification in a temperate degree, are called Sarcoticall or Incarnative Medicaments.

The Simples are these.

S. *Iohns*-wort, the Clownes-panax, Millefoile, Knot-grasse, Horse-taile, the garden and mountaine *Avens*, our Ladies-mantle, Sanicle, *Salomons*-seale, fresh Gales, Barley-flowre, Mastick, Myrrhe, *Aristolochia rotunda*, Harts-horne calcined, Bones calcined, Sarcocol, Rosin, Pitch, *Gummi Elemni*, Butter, Turpentine, Swines-grease, Sheepes, Goats and Deeres-suet, sweet Tallow, *Olibanum*, Frankincense, the powder of Snakes and Adders: these most effectually. The greene Tobacco.

The Compound are these.

And amongst the first of these, suffer me to commend unto you this of mine: Take of Swines-grease eight ounces, of Rosin iij ℥. of Wax, and *Gummi Elemni*, of each one ounce, of the juyce of the aforesaid Vulneraries one pound, of the leaves of Tobacco stamped two handfull: boyle all these over a soft fire untill the juyces be consumed, then straine the Unguent. Make triall of this, and leave it when you have found out a better. You have in the shops *Vnguentum Basilicum majus & minus*, and *Aureum* set out with glorious titles: and why not, seeing the Farthing-tokens beare the Armes and Crowne. I will shew you anon, how these cannot fit all bodies: *Vnguentum de tutia* is in much use. You may use these compositions if you will, or you may frame unto your selves, of sarcoticall simples, such compositions as you shall think most fit for your purpose.

Conditions to be observed in applying of Deficcatives.

But let me warne you, that your Incarnatives must not exceed the first degree in drying: yet seeing there is a latitude in this degree, for some are milde, some more harsh; you are to apply them according to the constitution of the party, temperature of the part, and the quality and quantity of the ulcer it selfe. So if the party be of a tender, and

1.
2.
3.

soft

soft constitution, milder driers are required to ingender soft flesh: but if a party bee offered to you to be cured, who hath a firme and dry flesh, more strong desiccatives are to be applied. If the ulcer be in a place not so fleshy, as in the joynts, the beginning or taile of the muscules, then your desiccatives must be forcible. Last of all, if the ulcer be large and moist, more strong desiccatives are to be used in it than in small and not very moist ulcers.

When you goe about your compositions of Incarnatives for ulcers, observe these rules: The first is, that they bee neither too soft, nor two hard; for if they bee hard, the weak part cannot easily take benefit of them; if they be too liquid, the heat of the part will cause them to spred, and fall from the ulcer: besides these are apt to ingender spungeous flesh.

The second is, that they be smooth, and equall: otherwise they will cause paine in the part.

Of skinning medicaments.

The ulcer being filled with good and laudable flesh, now are you to skin the part ulcerate. Nature in the wombe doth frame first the skin, but it being afterward lost by any accident, she cannot repaire it any more lacking seminall matter: wherefore here, there is need of the help of Art to supply this defect. This is done by hardening and thickening the upper part of the flesh regenerate, untill it be able to supply the office of the skin.

The Epuloticall medicaments which bring this to passe, must be, I. Cooling, for so the thin parts are wrung out, and the thick parts are brought together, as we may see in the ice.

II. They must be drying, for these consume the thin parts; so the hands of Saylers, and Felt-makers, become dry and hard. Then a Cicatrix is nothing else, but flesh thickned, dryed and made callous. What a Cicatrix is.

These

The qualities of Epuloticall medicaments

These medicaments ought to be drying in the third degree: for incarnatives are dry in the first degree, because they only are to dry the excrements, which are superfluous in the generation of flesh. Glutinative medicaments are dry in the second degree: for they are not onely to dry the excrements, but whatsoever else floweth to the part, although it be alimentary. But Cicatrizing medicaments are dry in the third degree: for these are too dry not onely excrements, and what floweth from other parts; but the naturall humidity of the part it selfe also. But Cathereticall or corrosive medicaments are drying in the fourth degree: for these consume not onely the excrements, and that which floweth to the part, and the naturall humidity of the superficies of the part; but the flesh subjacent also. These Epuloticall medicaments are in the like maner simple or cõpound.

The differences of epuloticall medicaments.

The Simple are these.

Æs ustum, Lead made to powder, the *Amalgama* of Lead and Quicksilver beat to powder. When you would make this, melt two ounces of Lead in a Crucible, then take it from the fire, and put to it an ounce and a halfe of ☿, these will incorporate together: when the masse is cold you may beat it to a powder. The Pumick-stone, and Cuttell-bones calcined, Stags-horne calcined white, all Bones well calcined, the dead of Vitrioll after the spirit is drawne, well washed and dryed; it is called by the Chymists, *Henricus Rubens*, and indeed it is a potent deficcative. Talke powdered is good; to drive it into powder, you must rub it upon a broad file somewhat fine, and then searce it; otherwise you shall hardly doe it. *Terra sigillata*, Bole-Armeniack, Umber, are good; and unslaked Lime, well washed and dryed, Alabaster beat to powder, *Minium*, Litharge, Ceruses, *Calaminaris*, *Tutia*, the *Regulus* of Antimonie, *Crocus Martis*, Gales, Pomegranate-flowers and rindes, the Comfrey roots, *Sandarach* of the Grecians, Egge-shels calcined, the roots of Tormentill and Bistort, Swines-grease, Deeres and Sheep-suet.

Skinning

Skinning Compound medicaments.

Sundry very effectuall medicaments may be made of the aforesaid Simples; wherewith I meane not to burden you at this present, onely I will commend unto you one of *Fallopius*, and another of my owne. That of *Fallopius* is thus described, ℞ *ol. ros. & ol. ompliacin. an.* ℥ vj. *ol. myrtin. & unguent. popul. an.* ℥ iij. *fol. plantag. & solan. hortens. incis. an. man.* 2. *Bulliant ista ad consumpt. succorum ac colentur: colaturæ adde ceræ* ℥ iiij. *Spatha liquea misceantur: Quum incipiunt frigere adde, lytharg. auri vel argenti* ℥ vj. *ceruſſæ* ℥ ij. *tutiæ præparat.* ℥ ij. *plumbi calcinati* ℥i ß. *Ducantur ista in mortario plumbeo per hor.* 2. The ingredients doe shew what is to be thought of this medicament. That which I use is this, ℞ *sevi ovilli lib.* ß. *axung. porc.* ℥ iij, *ceræ, vernicis, colophon. an.* ℥ ij. *liquescant ista simul. Amotis ab igne ac coeuntibus adde, litharg. auri, æris usti, tutiæ præparat. Henrici rub. an.* ℥ ß, *calaminaris,* ℥ j. *fiat ceratum ex l. a.* You have in the shops *Diapalma, Emplastrum de minio, Vnguentum comitissæ, Desiccativum rubeum, & Emplastrum contra ruptnram Fernelii.* Now seeing amongst these, some doe more weakly, some more strongly dry, the gentlest are to be applied to tender and moist bodies, but the strongest to solid and hard bodies: wherefore neither are milde skinners to be applied to the bodies of clownes, and artificers; nor strong to the bodies of children, and dainty women: to these use *Emplastrum album coctum.* Before I conclude this Point, two things are to be set downe: the first is, when these Epuloticall meanes are to be applied. Secondly, how they are to be applied.

As for the first, they are to be applied before the flesh be even with the skin, according to *Galen* 13. *method. cap.* 5. otherwise the cicatrix will be higher than the naturall skin, which will cause deformity: wherefore they are to be applied while there is some cavity.

As for the second, seeing alwayes in skinning there is left a greater cavity in the middle, than about the brims of the ulcer, stronger deficcatives are to be applied to the brims, but milder to the middle, that the flesh be not too soone dryed. Wherefore powders and cerots are to be applied to the brims, but onely cerots or unguents to the middle. When you have cicatrized an ulcer by methodicall proceeding, there bee some persons, who will not rest so contented, as Ladies, who make much of their skins, and whores, who gaine much by theirs; but will desire to have the Cicatrix made by any meanes somewhat beautifull to the eye. I will furnish you with two medicaments, that you may be the more enabled to fulfill their desires.

The first is this, ℞ *unguent. rosat. Mesuis* ℥ j. *ol. de Been,* ʒ ij, *talci pulv.* ʒ iij. *fiat linementum.*

The second make thus, ℞ *Axung. porc. aqua florum fabar. lotæ* ℥ j. *spermatis ceti,* ʒ ij, *ol. amygdal. dulc.* ʒ i ß, *talci præparati* ʒ ij ß. *fiat linementum.*

Every night a little before bed-time anoint the Cicatrix with some of either of these linements, and apply a soft linnen rag moistened with the same.

Lect. VII.

Of the curing of a plaine and hollow ulcer, being Simple.

HAving passed thorow the ten points whereof I intended to speake, before I was to meddle with the curing of any particular ulcer, now it is time to descend to the setting downe the method of curing of ulcers in particular. I would have you to call to remembrance the materiall differences of ulcers delivered by me in the third Chapter, which were taken either from the nature and constitution of an ulcer, or from the parts affected: from the nature of the

the ulcer I deduced two sorts of them: some I called simple, some compounded. Now the simple ulcer is to bee accounted such an one, as hath neither a disease, cause, or symptome annexed to it, or complicate, besides the solution of unitie caused by erosion. Of these simple ulcers there are two kindes: for some are plaine, and equall to the naturall skin, wherein only the *Cuticula* and *Cutis* are lost. Some are hollow, *cavæ*, wherein besides the *Cuticula* and the *Cutis*, a part of the flesh is lost. It is not needfull severally to set downe the curation of *ulcus planum*, or *æquale*, a plaine, or even ulcer; becaus in prosecuting the indications of curing of *ulcus cavum*, a hollow ulcer, I must set downe the meanes of curing a plaine one: for this is contained as a part in the other. *Galen. lib. 3. meth. c. 3.*

Seeing then there are two affections in a hollow ulcer, to wit, solution of unitie, and cavitie, three scopes of curing offer themselves, unition, incarnation, and cicatrization. Wherefore if the quittour be white, smooth, small in quantitie, reasonable thicke, and not evill smelling: If besides the ulcer it selfe be red, and sensible, then we may goe about to gender flesh, by applying sarcoticall medicaments: But by the contrarie, if the *Pus* bee blacke, uneven, grumous, rough and stinking, and if the ulcer it selfe bee not red and sensible, the ulcer cannot be incarnate, before it be prepared by suppuratives and mundificatives. Besides *Pus* which is reasonable thick, three sorts of excrements appeare in ulcers. Indications of curing an hollow ulcer. *Secundum Gal. comm. ult. lib. Prognost. 10.* Excrements in ulcers.

The first is thin, watrish, like to water wherein flesh hath beene washed: this hath received no alteration, but hath flowed pure, as it is in the veines and flesh; this is called *Ichor*. The second is thin too, but it hath received some alteration by the temperature of the part, this is called *Sanies*, or *Virus*. The third is verie thicke and glutinous, and is called *Sordes*. I. II. III.

Now the excrements which are thin moysten the part ulcerate, that it cannot sufficiently discharge it selfe by breathing out the humiditie. Wherefore Deficcatives are

to be used to consume this superfluous moysture: but the excrements which are thick cleave to the part, and hinder the addition of flesh. These are met withall by abstersives or mundificatives. The ulcer being prepared by suppuratives and mundificatives, you are to ingender flesh by incarnating medicaments. There are two causes of this flesh which is to bee procured: 1. Is the efficient cause: This is nature it selfe not onely of the whole body; but of the part it selfe also, which is called *Temperies*, the naturall temperature or constitution of it: whereby it attracteth, concocteth, applyeth and assimilateth the nourishment to it selfe. 2. Is the materiall cause: this is sincere and pure bloud. If the part ulcerate enjoy such, then nothing remaineth but to maintain it: If the bloud be not pure, then it is to be altered, if it be too hot it is to be cooled, if too cold it is to bee warmed, if it be too thin it is to be thickened, if it be too thick it is to be attenuate; if there be too great plentie of it, it is to be diminished; if it be too little, then it is to be encreased by convenient order of diet.

After Mundification, Incarnation

Two causes of the flesh ingendred.

To come neerer to the curarion of a simple ulcer: First, we must discreetly order those things which are called not naturall: seeing a convenient diet preserveth and maintaineth the good constitution of the whole body, and temperature of the part: Wherefore all those meats and drinks which make the bloud too hot, too sharp, too thin, or too thicke, are to be shunned, and those onely to be permitted which afford good juyce, and are of easie concoction, especially if the diseased partie be tender and weake. Besides this they must be taken moderately, and at convenient times.

The Indications of curing a simple ulcer.

Diet.

The part it selfe must bee kept quiet: for motion heateth the part. Care also is to bee had of sleeping and watching: for as watching dryeth the body, and consumeth superfluous humiditie, so sleeping moysteneth the parts; but those chiefly which are nervous or sinewie, as membranes, tendons, ligaments. If then the ulcer be humid, enjoyne watching; if it be drie, command sleeping. As concerning

Quietnesse.

cerning vacuation of the excrements, let it bee appointed that they may answer in quantitie the food which the diseased partie taketh. If he prove costive, either minister unto him a glyster, or give him an ounce of *Electuarium lenitivum* in chicken broth. As perturbations of the minde change the state of the whole body, so the tranquillitie of it maintaineth the same. A speciall care is to be had of the aire; for it wonderfully preserveth the temperature of the part. Southerly and Northerly winds or not fit for ulcers: for as the first moysteneth and heateth, so the second doth much coole and dry: but cold is an enemy to ulcers. So it is observed that the aire in Angieu is hurtfull to ulcers in the legs, but in Paris good. So in Pise and Ferrara it is hurtfull; but in Florence wholsome. As for the prognosticks of simple ulcers: If I should set downe any, you might justly thinke I did abuse the time: for there is none so simple, who may not gather out of the verie denomination of them, that they are most easie to bee cured, and that great skill is not required to compasse the same: onely let mee give you warning that the cure may be either more easie, or hard, according to the nature of the part ulcerate, and the diet of the patient. So simple ulcers are more easily cured in a fleshy part, than in the joynt or a nervous part; for in these stronger desiccatives are required, and in them the naturall heat is not so powerfull to make use of the medicaments applyed. In like manner a simple ulcer is more easily cured in the body of a temperate person, than it is in the body of one given to debosh'ry. Having set downe the right use of the things not naturall, as diet, sleeping and watching, evacuation of the excrements, the perturbations of the minde and aire, I am to deliver unto you some locall medicaments for the accomplishing of the curation of these ulcers, according to the generall indications of curing set downe in the fifth Chapter. Prognosticks.

As for the digesting, mundifying, and incarnating of a simple ulcer if it bee hollow, these intentions and scopes shall Digesting, Mundifying, Incarnating.

shall be performed by the application of my *Basilicum*: The description of it is this: ℞ *Ceræ & resin. an.* ℥vj. *picis navalis* ℥iiij. *gummi Elemni* ℥ij. *Ol. Olivar.* ℥v. *& semiss. vernicis claræ* ℥iiij. *Sevi ovill.* ℥ij. *Terebinth.* ℥ii ß. *Olib. mirrh. pultæ an.* ℥j. *fiat unguentum ex l. a-* If you make triall of this you shall finde it not a little better than the ordinarie two bearing this name, to wit, *Basilicum magnum* and *parvum*: If an hollow simple ulcer prove sordid, mingle with an ounce of this my *Basilicum* two scruples of the cathereticall powder made of Precipitate and Allom calcined: or if you apply *Paracelsus* mundificative tempered with the same, you shall haply mundifie it; but if a plaine or equall ulcer be uncleane, the yellow Turbith or Precipitate washed, besprinckled, and covered with a pledget of lint will serve. Above these medicaments apply *Diapalma cum succis*, and above this a double cloth moystened in red astringe wine, having some Allome dissolved in it. If you be in the countrey, apply to the parts adjacent to the ulcer, clouts moystened in the juyces of cooling and astringent herbs, as Plantane, Garden Night-shade, Knot-grasse, Purselaine: If you anoint these parts with *Triapharmacum*, and *Vnguentum populeum* mingled together, you shall prevent fluxion and inflammation.

Cicatrization. When you have filled an hollow simple ulcer with flesh, nothing remaineth but to cover it. Now the cover of the flesh is the skin it selfe: and as the flesh lost is to bee repaired, so that which covereth it. But seeing the skin is framed in the womb of a seminall matter, it being lost it cannot be restored by reason of the defects of matter: Wherefore we must finde out another cover. This cover is called by Artists *Cicatrix*: This is nothing else but the uppermost *Superficies* of the flesh so dried, that it doth represent the skin. And as in ingendring of good flesh in the ulcer, laudable bloud was the materiall cause of it, so good flesh is the materiall cause of the *Cicatrix*.

How the Cicatrix is procured. This *Cicatrix* is procured by three meanes, by nature it selfe,

selfe, the aire, and epuloticall medicament. That nature hath an hand in this businesse it doth appeare many wayes: for we may see daily ulcers skinned with these same medicaments by Empiricks, which they used in incarnating: so that nature must bee the chiefe efficient cause. Secondly, many times a scab covereth such ulcers being incarnate, which being removed, or falling away of it selfe, the place appeareth skinned: onely nature is the cause of this: for no medicament was applyed. Thirdly, if nature had not a hand in this businesse, such an order would not be observed, that the brims of the ulcer should first be skinned, and then the middle. Fourthly, nature worketh in her actions to the period appointed: so in an ulcer shee not being hindred filleth the ulcer with flesh even unto the uppermost Superficies, which being done she ceaseth from affording any more matter of flesh, whereby it commeth to passe that the upper Superficies being deprived of further nourishment must become dry. I.

What power the aire hath, doth manifestly appeare in the bodies of infants newly borne, their whole skin is soft and red: the cold aire afterward doth repell the bloud, drieth the skin, and maketh it more hard. II.

But seeing nature verie often in such an action proveth slow, so that if you should wholly rely upon her, and expect her leasure, you should seeme of purpose to protract time, & be indanger to lose your patient, it is the safest & best course to aid nature by bringing to aid convenient & good epulotical or skinning medicaments. In the monuments both of ancient and moderne writers one shall finde great varietie, whereof notwithstanding a discreet and judicious choyse must be had, if hee meane to make good use of them; for I dare bee bold to affirme, that there are almost infinite descriptions of medicaments, whereof the first describers never made any triall, but set them downe, being induced onely by imagination. And amongst these medicaments, you shall finde not a small number, which are either ridicu- III.

Epuloticall medicaments.

lous, or superstitious, or both. Seeing then the case so standeth, I will onely commend unto you three medicaments fit for skinning of simple ulcers: The first is, *Diapalma cum succis.* The second my *Epuloticum*, which I described in my former Lecture. The third shall be *Heurnius Sparadrop.* The description of it is this, taken out of his Method to Practise *Lib.1.pag.* 81. of the Leyden edition. ℞ *ol. omphacin. & axung. porcin. an.* ℥iij. *lythargyr. auri vel argent.* ℥iiij. *cerussæ* ℥j. *Coq. ista lento igne ad emplastri consistentiam: tum adde ceræ, picis an.* ℥iß. *colophon.* ℥ij. *plumbi pulverizati* ℥iß. *fiat emplast. sec. art.* Sparadrops made of this, not onely simple ulcers, but parts of the body excoriat by reason of long lying in bed caused of weakness brought by chronicall diseases.

Lect. VIII.

Of the Compound, but milder ulcers, in generall.

IN my former Lecture, I set down what did belong to the curation of simple ulcers, as well plain, as cave or hollow, wherein no other offence besides the losse of the skin and flesh is found. Hereafter I am in like manner to discourse of ulcers compounded, wherein besides solution of unitie, caused by erosion, there is somewhat else that hindereth the consolidation of the ulcerated part.

What a compound ulcer is.

The differences of compound ulcers.

These compounded ulcers are either of the milder sort, or else maligne. Those of the milder sort, have annexed either a disease, or a cause, or symptomes, which hinder the Chirurgeon from going about the unition of the part ulcerate. Sundry diseases in the body of man may keepe ulcers from healing: some from corrupting the humors, as the leprosie & pox, I meane the French: some hindering of laudable bloud in sufficient quantity to be sent, as *Pthysis*, and a Hectick fever: some by sending too much wateriſh humidity

Diseases complicate with ulcers.

humidity with bloud, hinder the unition of the part ulcerated. If ulcers in such persons be presented to you to be cured, you are seriously to ponder in your minde, how hard a taske is put upon you, if any of the former diseases be complicat with the ulcers, if you onely except the French-pox in a reasonable strong body: but if the body of one troubled with the French-pox be extenuate much, then permit the cure of him also amongst the rest, to the charge of such as are onely κοσμοπολίται, or citizens of the world, having no permanent habitation; and resting contented at the first with halfe of the bargaine made for the cure, willingly, although not honestly, commit the second paiment to the arbitration of fortune. They during their life time, continuing scandals to Art and Artists, it is strange, if at the houre of their death, their consciences for the present seared, grow not tender, and fearefully accuse them. Seeing the practice of Physick and Chirurgery are severed within the Liberties of the city of London, I hold it to be the safest course for you to leave the cure of the diseases to learned Physicians, and to assume onely to your selves, the methodicall dressing of the ulcers: for so the whole discredit, (if any redound) will fall to the Physicians share, who cured not the griefe, the onely stay of the curing of the ulcer. This is my advice, if an ulcer complicat with a dangerous disease, come at any time to your handling: (It is not your desire (I know) that I should set downe the manner of curing of any inward disease: for then I should be busie with my sicle in the harvest fields of other men) that then in this case, you have recourse unto some Author, who hath written most learnedly of the manner of curing that disease which is annexed to the ulcer, and follow his indications in dealing with the disease, if you have not the opportunity of a Physician, whose advice you may follow.

In the cure of the French-pox, if you intend to use the unction, be directed by *Ambrose Parrey*, or Master *Clowes*, who, while he lived, was a famous member of this Company. Authors to bee followed in curing the French-pox.

ny. If you resolve to insist the kingly, and cleanly way of curing this disease by dyet, then follow renowned *Fallopius* or *Capivaccius*. There is a Volume in *folio* wherein are contained the monuments of such as have written of this disease, according to the talent of skill granted unto them: I rather would have you acquainted with these, than to range much, and imitate the swallow, which flyeth much, but prayeth onely upon flies.

As concerning the Dropsie, the Cough of the Lungs, the Hectick fever, or *Marasmus*, the extenuation of the body: if these being complicat with an ulcer, hinder the curation of it, have recourse to the learned Works of the famous moderne Writer, *Daniel Sennertus*, the late Professour of Physick in Wittenberg, who hath couched in his learned bookes, what almost can be spoken, either by *Galenists*, or Chymists, concerning these and other diseases. The Plagiary *Barow* in his Method of Physick, and *Bruel*, are but like unto rotten reeds, appointed for the ruine of impotent, and lame persons, if they relie upon them.

II. Of the causes annexed.

From a disease joyned to an ulcer, I will descend to the causes hindering the cure of an ulcer. These are two, the humors that flow, and the distemperature of the part.

How causes in flowing are to be met withall.

As for the humor, if it be in flowing, then you are to meet with it with the ordering the things called, not naturall; as aire, meat and drink, sleeping & watching, evacuation and such like, and by purging of the humor offending: whereof I spake sufficiently in the doctrine concerning Tumors. If it hath flowed to the part, and be impacted in it, then it is to be removed by three meanes: to wit, by drying, expressing, and removing of the causes of the fluxion.

How humours flowing are removed. *Gal. 4. method. 2.*

I. You shall dry the humor, if you use sarcoticall medicaments, drying at the least in the third degree, as Bones calcined, Harts-hornes calcined, and made up in Trochisces with Plantane, and Rose-water, *Æs ustum*, the Pomick-stone calcined, *Calaminaris*, Borax, the powders of Tormentill, Bistorts, Comfrey, and such like; whereof I have

spoken

spoken sufficiently before: yet *Nunquam satis dicitur quod nunquam satis discitur*, a thing remarkable can never be too much pointed at; so fluxible and gliding are the objects of our memory.

II. You shall expresse the humors: First, by using such repelling medicaments as I have often spoken of, which are to be applied to the parts adjacent to the ulcers.

Secondly, by rowling the ulcer, as *Hippocrates* prescribeth in his Treatise of Fractures, that it begin about the ulcer, using so many revolutions, or windings of the rowler, as are fit, and ending in the sound part.

III. As for the causes of fluxion they are three; transmission, attraction, and the furious motion of the humor it selfe. A part sendeth either moved by the superfluity of the humor, or urged by the offending quality, or both. If the humor offend in quantity abounding, then it is to be abated by phlebotomie, purging, slender diet, and such meanes as have been delivered by me in the Treatise of Tumors, to lessen plenitude, or *Plethoræ*, the signes whereof I delivered there also, so that I need not to repeat them here. If the humor offend in quality, urging and pricking the part to the expulsion of it, as the liver, which being tainted with the French-pox, sendeth the humor to the groynes, yard, matrix, the fundament and throat. When wee have observed and noted the quality and nature of the humor, then wee are to goe about the expulsion, or alteration of it, or both.

Galen. 2. de differ. feb. 11. & 12. method. 3, 4, 5.

If the humor offend both in quantity and quality, then are we to use both purging and altering. Now to finde out the humors in quality offending, seeing I have set downe their pathognomonicall, & proper signes, when I discoursed of every speciall Tumor, I will remit you, at this time, to the places where they were set downe. If humors doe flow by reason of the attraction of the part; it is procured either by the heat, or the paine of the part. If a humor flow to the ulcer, neither being sent from a part, nor received by a part; but because the humor it selfe is eliquat, either by the vehement

Gal. 4. meth. 2. & 13. meth. 13.

vehement perturbations of the minde, or an aguish constitution, or the exhibition of an eradicative, or strong medicament: then the tranquility of the minde is to be procured, the aguish heat to be abated, and the exhibition of such medicaments to be stayed. Having spoken of the fluxion of humors so much as is fit for our present purpose, now I am to touch briefly the other cause of milde, yet compound ulcers: to wit, the distemperature of the part.

The distemperature of the part.

The single distemperatures are in number foure: to wit, toodry, too moist, too hot, too cold. A dry distemperature is found out by these signes: the colour of the ulcerate part is ill-favoured, not lively, little or no matter floweth from it, in touching it seemeth hard and dry.

This distemperature is removed by two meanes: First, by drawing out the naturall humidity to the part affected, by opening the passages, which before by reason of immoderate dryenesse were drawne together. In this case friction is excellent.

Secondly, dryenesse is removed by the application of humecting medicaments. Two such are commended by the Ancients, pure Spring-water, and Water and Oyle mingled together.

As for the use of Spring or River-water, it must bee applied luke warme, not very hot; for if it be very hot, it discusseth; because the humors having beene attenuate by it, they are turned into vapours, and so resolved: but if it be temperately hot, and the part fomented by it, it moisteneth.

The second medicament composed of Water and Oyle, by the Ancients is called ὑδρέλαιον. The ulcerate part immoderately dry, is to be fomented with this medicament warme: Take either two parts of Water, and one of Oyle, or equall; warme them in a single Viall-glasse, then shake them well together, that they may be mingled, and apply the medicament. This is a convenient Topick in the winter, for although warme water warmeth the part during

the

the time of fomentation, yet after fomentation it leaveth the part cold, because it drew out the heat to the Superficies of the body: wherefore oyle is excellent, for it stoppeth the pores and keepeth in the heat. These two medicaments are to bee applyed to the ulcerate part by stupes, spunges, or pledgets.

One thing you are to looke unto you, and to provide before fomentation, that the body of the partie unto which they are to be applyed bee neither plethorick, for then too much moysture may bee attracted; nor cacochymicall, for then corrupt humours may be drawne, both which will hinder the curation of the ulcer: use therefore first of all phlebotomie, or purgation, according as you shall see cause. An observation.

But you may not without cause aske, When fomentation is to be left? *Quest.*

I answer, that two things shall declare unto you the period of fomenting: the first is the substance of the part, the second is the colour: wherefore when you see the part a little tumified, soft and moyst, and of a ruddy colour, desist from fomentation, otherwayes the humour attracted will be discussed. *Answ.*

If a moyst distemperature hath possessed the part, then the flesh of the part will be moyst, spungeous flesh will bee apt to grow, and plentie of excrements will flow from the ulcer: In this case strong Desiccatives, or Sarcoticks mingled with *Basilicum aureum*, or *Arceaus liniment* are to be used: with an ounce of any of these unguents you may use one dram and an halfe of these Desiccatives: such are the *Regulus* of Antimony, Lead calcined, *Calaminaris*, Bones and Horns calcined, the powder of the root of Iris, Mastick, *Olibanum*, and such like. *Æs ustum*, the Pumick stone calcined, and *Henricus rubeus* are excellent. If the part bee distempered with heat, then the part ulcerate will bee somewhat tumified, hard and red, and besides the relation of the diseased partie, your owne feeling will assure you. In this case use *Aqua calcis viva*, so called; but more properly *Lixivium calcis*. The curation of a moyst distemperature. The curation of an hot distemperature.

calcis vivæ, wherein some litharge of silver hath beene boyled: you may use also snow water, wherein some of your *Vitriolum album* or white Copperas hath beene dissolved: In a quart of Apsame water dissolve two drams of Roman Vitriol, you shall have a water of the colour of a light Emerauld colour fit for your purpose. In a pint of Plantane water dissolve two drams of ordinarie Vitriol or Allome, and this also is a fit medicament. Let mee acquaint you with one thing, that in Redriffe a Copperas is made of Mars or Iron, which is most fit in the cure not onely of ordinarie ulcers, but of those also which are in the eyes, bladder, throat, and the *Intestinum rectum*. Make triall as I have done, and you shall finde that true which I say. You see how plaine I am with you concealing nothing, which may purchase unto you credit and gaine.

The curation of a cold distemperature.

If cold distemper the part, which you shall discerne by its colour, hardnesse, sense of the patient, and your owne feeling, then apply to the ulcerate part *Basilicum magnum*, my *Basilicum*, *Arcæi* his liniment upon pledgets, and above these *Diachylon cum gummis*, *Emplastrum de mucilaginibus*, or *Paracelsus* his Stictick Emplaster. But before the application of these, foment the part with a fomentation made of Sacke and March-Beere, wherein Calamint, Centorie, Wormewood, Spike, Camomil, Tansey, Scordium, Rue, and Bay-leaves have beene infused and boyled.

III. Of an ulcer with a symptome.

The third thing which wee affirmed to make up a compound ulcer was a symptome annexed to an ulcer. Now of all other, Paine is the cheifest: for first, paine by attraction bringeth much moysture to the part, and so hindreth the curation: Secondly, it inflameth the parts: Thirdly, it causeth watching, fainting, and oftentimes convulsions. Paine is removed two manner of wayes: First, by taking away the cause of paine, which is affluxion of humors: How this is to bee done wee have spoken already: Secondly, by application of Anodine medicaments. These ought to bee temperately hot, & subtill. Simples of this kind are the wa-

Of paine.

How it is ceased.

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ters of warme baths, Camomil, Dill, Millet, Linseed, Fenugreeke, the marish Mallow, the pulp of Cassia, Raisins, sweet Apples, and Turneps, with a little Saffron they are effectuall, Milke, Butter, *Oesypum*, or the greasinesse of wooll, Sapa, new wine boyled to the third part, Swines, Hens, and Mans grease, the fat of Eeles and Calves, Oyle of Egges, Earth-wormes, Foxes, Swallowes, Rue and Elder: the oyle of Wax, & Sallet oyle, wherein *Sulphur vivum* hath beene boyled, are excellent in painfull ulcers of the joynts, Oyle of Camomil, Dill, and Roses: Of these you may frame unto your selves compositions, as occasion shall require. Take this for an example; ℞ *Farin. hord. Milii, Furfur. an.* ℥ij. *Lact. recent.* ℔. ß. *coq. ad consistentiam cataplasmatis, tum adde Pulp. Cass. & Passul. major. an.* ℥vj. *Pulp. Pomor. redol.* ℥j. *Ol. Ros. Lumbric. aneth. Camomil. & Ovorum an.* ℥j. *Oesypi* ℥j ß. *Croci* ℥j. Make a Cataplasme. Sometimes the paine will bee so great that you shall bee enforced to use narcoticall medicaments: The simples are *Opium*, Henbane, Hemlock, the Apple of Peru, Mandrake: Of these adding white Bread crums, Milke and Saffron, you may make Pultices: I will set one downe as an example, after which you may frame others: ℞ *Lact. recent.* ℔. ß. *Mic. pax. albiss.* ℥iiij. *Fol. Hyosciami, Solani, Cicut. Contus. an. man.* 1. *Bullant ista ad cataplasmatis consistentiam: tum adde unguent. popul.* ℥ij. Dresse the ulcer with Plantane water, wherein some Allome is dissolved, or Roman Vitriol. Then apply *Diapalma cum succis*, and above it this Cataplasme. Dresse this ulcer at the least morning and evening untill the paine be gone.

Narcoticall medicaments.

LECT.

Lect. IX.

Of the Differences of the milder sort of compound ulcers, and first of a sinewous ulcer without any callositie.

HAving discourſed in my former Lecture of thoſe things which make the milder ſort of ulcers to be accompted compound, to wit, a ſickneſſe, cauſe, or ſymptome complicate with an ulcer. In this Lecture I will ſet downe the differences of milder ulcers, and the curation of them. Theſe differences are taken either from the figure or adjuncts: from the figure theſe. Of the milder compound ulcers ſome are plaine, ſome ſinewous. I call that a plaine ulcer, wherein the skin is eroded, and the ſubjacent fleſh, and the whole ulcer is preſented to the ſight, being bare and uncovered. No compound ulcer is to bee accompted of an eaſie curation: becauſe both skill and experience are required in performing this.

And although theſe plaine ulcers be ſubject wholly to the ſight, yet let no man imagine that all of them are of equall facilitie to be cured; for according to the nature of the griefe, the qualitie of the cauſe, and the invaſion of the ſymptomes, the ulcers with the which theſe things are complicate, are either of more eaſie or difficult curation. A plaine compound ulcer hath three ſcopes in curation of it: for firſt, that muſt be removed which maketh it compound, whether it be a diſeaſe, cauſe, or ſymptome: ſecondly, that which is by eroſion loſt muſt be repaired: and thirdly, the part muſt be cicatrized: How all theſe three indications are performed, I have ſet downe at large in the former chapter, ſo that I need not to repeat any thing.

Indications of curing a plaine compound ulcer.

Vlcus ſinuoſum, or a ſinewous ulcer, I call that which is like to a Cony-burrow; for *ſinus*, or ſinuoſitie, is a cavitie or hollowneſſe

A ſinewous ulcer.
Sinus.

hollowneſſe of parts under the skin, ſeperate by afflux of an eroding humour, which according to nature were united. There bee two cauſes of theſe ſinuous ulcers, to wit, Apoſtemes lying deepe a long time, or not timely opened, although they be not ſo deepe: and wounds not well cured: for quittour lurking a long time, either in a tumour ſuppurate, or in a deepe wound not well cleanſed, muſt needs corrupt and get a ſharp qualitie, which maketh to it ſelfe theſe cavities, which are not ſo eaſily filled with fleſh and united: for unto the part affected, now weakened, excrementitious humours flow, not onely from the parts adjacent, but from the whole body alſo, which make the ulcer hard to be cured. Theſe burrowes are found out by probes of ſilver, or lead, & wax-candles: If there be more orifices than one, by injections. They ſometimes are ſuperficiall, ſometimes deepe, ſometimes ſtraight, ſometimes oblique, ſometimes there is but one caverne, ſometimes there be more.

The cauſes of it.

Their figures.

Of theſe ſinuous or cuniculous ulcers, ſome have neither hardneſſe nor calloſitie, ſuch I will terme *Vlcera cavernoſa*, hollow ulcers; ſome have both hardneſſe and calloſitie, theſe are termed *Fiſtulæ*. Firſt then I will ſhew you how cavernous ulcers are to bee cured, and then how Fiſtula's. There are two waies of curing of a cavernous ulcer: the firſt is by injection of medicaments: the ſecond is by opening & dreſſing, according to Art. If you goe about to cure ſuch an ulcer by medicaments, without opening, then two ſcopes offer themſelves, to wit, the filling of the cavitie with fleſh, and the agglutination of the parts disjoyned. The Incarnatives muſt be drying without eroſion, and the Glutinatives muſt have aſtriction, beſides deſiccation. Both theſe intentions you may performe with the injection of this medicament following, ℞ *Aq. decoct. hord.* ℔ j. *Mellis roſat.* ℥iij. *Sarcocoll.* ʒijß. *Mirrh. Thur. an.* ʒij. *Rad. Tormentill. Biſtort. Symphyt. an.* ʒjß. *Balauſt.* ʒj. *Baccar myrt.* ʒijß. *Sumach,* ʒjß. *Vini odorifer.* ℥vj. *Bulliant ad conſumptionem tres partes, ac coletur decoctum, cui adde Spirit. vini* ʒj. If you

The differences of ſinuous ulcers.

The manner of curing cavernous ulcers without opening.

Locall medicaments.

I.

perceive that the ulcer is not sufficiently mundified, which you may conjecture if the quittour be either stinking, reddish, pale, blackish, or thin and watrish; then apply this

II. medicament: ℞ *Vini in quo infusa sint marrhubium album, Centaurium minus, Absynthium, Flores Hyperici, & Carduus Benedictus* ℔. ß. *Unguenti Ægyptiaci* ʒij. *Mel ros.* ʒß. *misc.* inject this. You can hardly devise more effectuall medicaments than these are for agglutination of a cavernous ulcer: Yet whosoever shall apply them, not dressing and binding the ulcer artificially, shall hardly cure any such ulcer: wherefore I thinke expedient that I shew you the way of dressing: First, lay upon the whole processe of the cavitie *Diapalma cum succis*, or *Emplastrum album coctum*, or *Emplastrum contra rupturam:* Then inject your medicament warme. Thirdly, in the orifice put in a leaden tent, or pipe; but short, hollow, wider in the upper than lower part, & having the brims of the upper part turned, that it may be kept from slipping in, shut the orifice and the upper part of the tent or pipe with an emplaster; let it be one of those named before: the emplaster must bee snipt, that it may give way to the quittour which floweth out of the cavitie: above the emplaster apply a peece of a spunge, which must be soft, moystned with the medicament with the which you dresse the ulcer, and wrung out: for the spunge sucketh into it selfe the quittour, keepeth the brims of the orifice dry, and preserveth them from excoriations: above the spunge lay a pledget of tow: the lower cavitie, or from the bottome of the ulcer to the orifice it must be boulstered. Above all lay a double soft linnen cloth. Begin your rowling at the bottome, where it must bee somewhat strait, to bring the sides of the ulcer together, both to expresse the quittour, and to procure agglutination, but let it cause no paine; for it would distemper the part: towards the orifice the rowling must bee somewhat slacke, that the quittour may have way to issue out. Everie third day (if much matter doth not flow) dresse it, loose first the rowler, the turnings whereof

The manner of dressing.

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are about the orifice, take away the spunge and emplaster; first, that you may come to cleanse the ulcer; secondly, that you may make triall whether nature doth goe about to agglutinate the parts: which you shall discerne, if the excrementitious matter abate, bee laudable in colour and consistence, and have no ill smell, and if the cavitie bee without paine, and without any remarkable tumor: By the contrarie, if the quittour be plentifull, ill-coloured and stinking, if the cavitie be painfull, and a conspicuous tumor appeare, you may perswade your selves that no unition is procured. Dresse the ulcer according to this manner, untill perfect agglutination be caused, which you shall know by the signes aforesaid going before, if no quittour or verie little appeare in the orifice, if the cavitie be equall without tumour, and no paine be felt: when you perceive these signes, then addresse your selves for the cicatrizing of the ulcer. If after a dressing or two, thin gleeting matter appeare, yet despaire not; for often times such matter is wrung out of the parts by reason of the medicament drying: the nature of the part, as being nervous, membranous, or glandulous; or lastly, by compressing of the ulcer by bolstering and rowling. As for the emplaster applyed to the cavitie it selfe, it is to be renewed when it is defiled with quittour, or leaveth cleaving. Dresse the ulcer as seldome as you can, contrarie to the practice of Empyricks; for often dressing doth give way to cold aire, which is hurtfull to ulcers, and hindreth unition. Thus you may proceed in curing of cavernous ulcers, if the excrementitious matter have way to flow from them freely, which will be if the orifice be in a depending part, or laterall, the cavitie or *sinus* being laterall also; for then, such a posture may be appointed, as will further the evacuation of the matter: But if by reason of other figures of the cavitie, the cavitie cannot discharge it selfe of the filth of the ulcer, then untill this impediment be removed, no expurgation, incarnation, or agglutination can bee expected: wherefore way is to be made by incision or caustick.

Signes of agglutination.

Why such an ulcer is not to bee dressed often.

The manner of curing of these ulcers by opening.

In what cases you are to use these meanes.

This you must doe, first, if the cavitie bee lower than the orifice, either directly or obliquely; but not verie deepe. Secondly, if it goe verie deepe also, as in fistula's, and such ulcers penetrating in the brest, where the cavitie most commonly is lower than the orifice. Thirdly, if the hollownesse be verie broad. In these cases way must bee made by these meanes for the matter, that it may bee expurged; otherwayes if it be kept in, it will erode the parts adjacent, and no incarnation or consolidation can bee looked for. Wee may make way for the quittour two manner of wayes: first, by opening the lower end of the *sinus* only; Secondly, by opening the whole cavitie.

When the ulcer is to bee opened onely in the depending part.

The first course we are to take, if the *sinus* be of an enorme businesse, or if it be in a great joynt; for great wounds in such joynts are mortall, according to *Hippocrates*: or if there bee great vessels, nerves or tendons of muscules in the way, which are like to bring fearefull fluxes of bloud, or lamenesse: which things skill in the Anatomie will teach you. If none of these cases hinder you, then it is the surest way to lay open the whole cavitie, which is the second way. These two scopes wee may attaine unto by two meanes, to wit, by caustick and incision.

When the caustick is to bee used.

The caustick wee are to use, first, if the partie be timorous, and will not admit section: Secondly, if the cavitie be in a part, wherein a great scarre may cause deformitie: Thirdly, if there be feare of a great flux of bloud: Fourthly, if the diseased partie be sicke and weake.

The manner of applying causticks.

If the caustick be to bee applyed, if the situation of the part wherein the *sinus* is bee in the upper side, then apply your *Lapis infernalis*: for it corrodeth soonest, deepest, with lesse paine, and will not bee so apt by running and spreading to burne the parts adjacent, or to cause a greater solution of unitie than wee intended. But if the *sinus* be in the lower side, as in the sole of the foot, or in a part verie depending; then I advise you to use the caustick made of strong sope lees, and unslaked lime, which will not run. It is

an ordinarie practice of some to rub the part with the Caustick stone, and when the part is mortified then to open it: First, this is not to be done, but when the skin is verie thin; besides this, this rubbing causeth farre greater paine, than the application of it to the part being defended: Be ever of this minde in your practice, to use the mildest meanes; the fruits which you reape by so doing will be respect, love, credit and gaine. When you have perceived that the force of your corrosive medicament hath mortified all to the verie cavitie, then procure the fall of the eschar, with the application either of *Dialthæa simplex*, or Butter without salt: there is no substance comparable to this in this purpose. When the eschar is gone then proceed in curing of the ulcer, as hath beene said, by mundificative, incarnative, and cicatrizing medicaments.

When Incision is to be used.

If the partie be couragious and strong use incision: this is sooner performed, hath lesse paine, and sooner will bee cured. When you have made incision, arme dosils and pledgets with a medicament which strongly dryeth and mundifieth; such is this: Take of Aloe Hepatica two drams, of blacke Rosin and Amber, of each a dram and an halfe, of Mill-dust two drams, of unslaked Lime two drams and an halfe; with this powder, and the white of an Egge, and the yolke beaten together, make a medicament in consistence representing an unguent: then apply the medicament to the *Sinus* incised, filling it well that the brims may bee kept asunder. Open not the sore till the end of the second day, at the least; for this medicament will both dry the superfluous humiditie of the ulcer, and will excellently digest it. Afterward dresse the ulcer as the methodicall indications of curing shall move.

Internall medicaments.

If you finde these ulcers thus handled not to heale to your minde, then hold your patient to the decoctions of Sarsaparilla, Guajacke, and the China root, with the which mingle some of your most effectuall Valueraries, as Agrimonie, S. *Iohns* woort, Sanicle, Avens, our Ladies mantle, *Virga aurea*,

aurea, Salomons seale, the roots of Comfrey, Tormentill, Bistort, Horehound, Borrage and Bugloſſe. I will not conceale from you the deſcription of a decoction, whereof I have made often proofe in ulcers of the breſt, joynts and belly: ℞ *Salſ. parill.* ℥vj. *Rad. Saſſafras* ℥jß. *Scob. Guajac.* ℥iij. *Eupator. Scabioſ. Tuſſilagin. Sanicul. Hyper. an. man.* 1. *Rad. Symphyt. Tormentill. Biſtort. an.* ℥ß. *Rad. Borrag. Bugloſſ. an.* ℥j. *Paſſul. major. enucleatar.* ℥iij. *Liquirit.* ℥ij. *Infundantur infundenda per noct. in aq. font. fervent.* ℔. xxiv. *ſequente die coquantur lento igne cum reliquis ad conſumpt.* ℔. viij. *Bibat æger ſingul. dieb.* ℔. iiij. *hujus decocti: Hauriat* ℔. ß. *mane, ac tantundem hor. quarta pomeridiana: In prandio bibat* ℔. j. *ac tantundem in cœna: Quum ſitit ſupereſt* ℔. j. *haurienda.* The ſimples of this compoſition may plead for the efficacie of it. Let him continue the taking of this decoction for the ſpace of 21. dayes: during which time hee is to uſe a ſpare diet, and to eat fleſh affording a good juyce, and of an eaſie concoction. As for the locall medicaments which are to be applyed to the ulcer, I have ſpoken of them already: too much repetition will breed loathing.

LECT. X.

Of the palliative cure of a ſinuous ulcer with calloſitie in generall.

IN my laſt Lecture which I delivered from this place, the vacation from theſe exerciſes being at hand, I ſpake of a ſinuous or hollow ulcer, without a calloſitie or hardneſſe of the inner Superficies of the parts di-joyned: Now the order of doctrine requireth that I diſcourſe of a ſinuous ulcer, which hath a calloſitie in theſe ſame parts. In times paſt it hath been accompted a maſter-peece in the practice of Chirurgerie to cure ſuch: In ſo much that Maſter *Boovie* the

Counſellors

Counsellors father, a brother of this Companie while hee lived, dwelling in Tower-street, set up above his doore a new signe with this inscription; *Here dwelleth one who can cure a Fistula:* young *Hall* having acquainted him with his fathers practice. And in truth not a small skill, or ordinarie proceeding is required to effect this matter: for the greatest part of such an ulcer lyeth hid, and little is offered to the eye. Besides this, ordinarie meanes are for the most part here ineffectuall, and so magistrall meanes are required. Wherefore I have diligently laboured to couch in this my discourse whatsoever can be required in the curing of such an ulcer, as you shall perceive in my proceeding.

First then, I will deliver the generall doctrine of this kinde of ulcer: then I will set downe the manner of curing of such in some particular parts of the body. A sinuous or hollow ulcer with a callositie or hardnesse in the inner superficies of the parts disjoyned and separated is called in Greeke Σύριγξ, from the similitude which it hath with the long and hollow windie instruments of Musicians: in Latine it is called *Fistula*, and so in the English tongue for this same cause.

A *Fistula* then is a sinuous ulcer, narrow and long with callositie. Here you are to observe, that a Fistula besides sinuositie, must have callositie and narrownesse. It happeneth most commonly, when apostemes having been opened, the inner Superficies of the parts kept asunder by a sharp humour, become in progresse of time callous. The humour which causeth this callositie must bee more astringent than sharp; for it rather tanneth the part by reason of its acerbitie, than erodeth by reason of its acrimonie: besides this, Fistula's are for the most part indolent, unlesse they end in parts verie sensible, as nerves, tendons, membranes and joynts. Wherefore the Chymists will have this humour to be the Salpeter of the little world, or man, separate from the naturall salt of the Balsame, or radicall moysture of the body: that this salt is cooling and anodine, the Practicers

The definition.

The cause materiall.

of Physick doe beare witnesse: for in burning fevers it is added to Juleps, which are appointed for cooling, and asswaging of paine under the name of *Sal prunellæ:* It doth also, by reason of its stipticitie unite the spirits, and stay the immoderate exhalation of them.

The signes. The signes are taken either from the essence of a Fistula, or from the accidents. Callositie then with a Fistula, or whistle-like figure, is the pathognomonicall signe of a Fistula. The signes taken from the accidents are two-fold: for they are taken either from the quittour, or the manner of paine. In a Fistula the quittour is ever virulent, ugly and stinking; as for the manner of paine it is but small, unlesse it be by reason of the sensiblenesse of the parts named by me before.

The differences. As for the differences, or divers kindes of Fistula's, I will onely set downe those, which further either curation, or prediction. Let this then bee the first difference: Fistula's either goe shallowly alongst under the skin, or they passe deeper to the subjacent parts. Secondly, Fistula's end either in the fleshy parts, or they passe to the bones, or to the cavities themselves. Thirdly, some are straight, some crooked. Fourthly, some are single, some manyfold, yet proceeding from one orifice. These are the materiall, or profitable differences of Fistula's.

The signes of the differences. Now followeth that I speake of the signes of these differences. 1. Whether there be more callous sinuosities than one, you may conjecture by the quantitie of the quittour; for if more copious quittour flow from a Fistula than can be expected from one *Sinus*, it not passing to any remarkable cavitie, it is likely that there are more than one. The changing also of the position of the body, and compression of the part will shew this; for the flowing of the matter having ceased, if after the changing of the position of the whole body, or one member, it run out againe, it is probable that there are more sinuosities. Moreover, if varietie of quittour flow, it is an argument that sundry parts are affected,

affected, and more sinuosities like to be. But to what parts the Fistula passeth, receive these signes: If it passe to the fleshy parts, the quittour appeareth white, smooth & plentifull; besides this, the part whereon the end of the probe stayeth seemeth soft. If it passe to a nerve, a fattie & oleous matter doth issue out, the motion which is caused by that sinew is impaired, and the Fistula is more painfull than others are; besides, the probe touching the sinew, causeth a pricking paine, with a certaine numnesse. If the Fistula passe to the veines and arteries, yet so that the coats of them be not eroded, then the matter which it yeeldeth is like unto the lees of Claret wine; for bloud sweating thorow the coats of porosities of the vessels mingled with the quittour, causeth such a substance.

If the coat of a veine bee corroded, bloud issueth thick, of a dark colour, and without quavering and leaping; but if the tunicles of an arterie bee pierced, then the bloud is redder, of a more bright colour, and commeth forth with ejaculation. If a Fistula reach to the bone, that which the end of the probe toucheth appeareth hard, and yeeldeth not to the probe, neither is any paine felt. If the probe being pressed slip, no cariositie hath seised upon the bone; for a sound bone is smooth and slipperie: If the probe stay upon it appearing smooth, it is disposed to cariositie; but if the bone appeare unequall and rough, then it is undoubtedly carious. Besides this, the quittour which floweth from a corrupt bone is thin, yellow, and ill-smelling. So much then concerning the signes, which shew us the divers kindes of Fistulæ.

Now let me deliver unto you some remarkable presages or predictions, touching the curing of them, that you may become circumspect in undertaking the curation of such as shall be presented to you. Let this then be the first:

No Fistula is of easie curation. First, by reason of the unaptnesse of the part to admit the convenient application of medicaments: for unlesse they reach to the verie extremitie I.

mitie of the Fistula, which is not so easie a matter, as you shall finde by practice no good can be done. Secondly, by reason of the qualitie of the medicaments, which are able to remove the callositie; for these must be sharp and biting, and so cause paine: from whence come symptomaticall fevers, and fainting verie often, especially in tender and young bodies. And thirdly, by reason of the humour, which causeth a Fistula, which yeeldeth not to ordinarie and vulgar medicaments. Let this be the second.

II. Fistula's which are shallow, passing no deeper than the *Membrana carnosa*, or at the furthest than the membrane of the muscules, or muscule subjacent, are more easily cured than those which pierce deeper; for those by incision may easily be cured, but these not so.

III. The third shall be this: Fistula's wreathed, or with multiplicitie of sinuosities, require incision, that medicaments may be conveyed to all the parts.

The fourth: If a Fistula no passing further than the fleshy parts, bee not of a long continuance, and that in a young and a strong body, it affordeth good hope of curing: Imagine the contrarie event, if contrarie circumstances bee accompanied.

IV. Receive this as the fourth: If the extremitie of a Fistula end in the tunicles of veines or arteries, or both, (the signes whereof I have delivered, when I spake of the differences of Fistula's) then you are to meet with the symptome of hemorrage, the coats being eroded: for if you labour either to enlarge the orifice, or to take away the callositie by sharp medicaments, the flux will bee encreased. This accident happeneth most commonly in Bubo's of the groyne not speedily cured, and Parotides under the eare, and Phlegmons in the arme-pits: These parts being emunctorous, and nere to the divarication of the great vessels, to wit, the *Vena cava*, and the *Aorta* descending and ascending.

V. Fistula's ending in verie sensible parts, as nerves, tendons, the bladder, the *Intestinum rectum*, and the like, are carefully

fully and mildly to be handled, by reason of the symptomes which often ensue, as accidentall fevers, Lipothimies, losse of appetite and sleepe: all which are apt to bring an extenuation unto the whole body, and so to defraud the part of more than requisite nourishment, without the which consolidation cannot be effected.

Fistula's in remarkable cavities, as the throat, brest, belly, are hard to be cured, because the end is more dependant than the orifice, which hindreth exceedingly consolidation. VI.

If in Fistula's of the back the *Spina* be carious, shun the care; for these at the length bring an extenuation of the body, the animal spirits not being with requisite plentie communicate to the extremities of the body. VII.

Fistula's in the joynts are dangerous; for if great wounds of the joynts, even in bodies of a good habit, bee pronounced by *Hippocrates* to be mortall: what shall wee deeme of Fistula's in these parts, where besides the enorme dilatation that must be procured in curation, there is of a necessitie an ill complexion of the body. Secondly, seeing the joynts are framed of parts verie sensible, as tendons, nerves, membranes and ligaments, exceeding great paine must be caused by the application of corrosive medicaments, without the which a Fistula cannot be cured, and so the partie exceedingly bee troubled and perplexed. Thirdly, seeing the joynts are seated in depending parts, and are not fleshy: and so as they are apt to receive humours attracted by paine, they are leffe able to discusse the humours received, partly by reason of the thickneſſe of the membranes, partly by reason of the weakneſſe of the naturall heat: who may not easily perceive the difficultie of curing of Fistula's in these parts?

Fistula's having sundry sinuosities are more hardly cured than those which have but one, both because the labour is the greater, and the medicaments cannot so conveniently be applyed. VIII.

Fistula's which have continued a long time seated in a depending part, remote from any principall, by the which nature IX.

nature hath beene accustomed to discharge superfluities of the whole body, and not painfull, but rather slovenly or sluttish, are rather to be kept open than cured; for they preserve the health of the body, and hinder the assault of other diseases.

An Historie. I knew a Gentleman who had a Fistula *in ano* about 20. yeares, yet unknowne to his wife, who lived notwithstanding verie healthfull to the last period of his life: having sent for me a few dayes before his death, he acquainted me with it: having taken a view of it, and perceived that it was dry, and of a livid colour, I pronounced his end to be at hand, which accordingly fell out.

Indications of curing. Now it is time to hasten to the setting downe of the curation of Fistula's in generall. In the sixth Section of the Treatises ascribed to *Hippocrates*, there is one of Fistula's: In it he doth speake somewhat particularly of a Fistula *in ano*, and of the curing of it by ligation. Whatsoever is delivered in that Treatise, seemeth to be an exscription of notes out of his *Adversaria* or Note-booke, rather than a deliberate or methodicall discourse of the subject. Howsoever, it is to be embraced rather as a pledge and signe of his willing minde to pleasure his posteritie, than a patrimonie to enrich the knowledge, and further the practice of any one, who shall goe about to cure any meane Fistula. Peruse the Treatise, and you shall finde me to speake a truth, if you shew your selves impartiall censurers. Seing I have delivered unto you in the presages of Fistula's, that sometimes it is most expedient to leave some Fistula's uncured, I must make mention of a two-fold manner of curing of them:

Two kindes of curation. The one shall be called palliative or cloaked; the other true and reall. The first affordeth some consolation and ease to the patient; but the second procureth perfectest health. A palliative cure, I would have you to understand, to be when sinuositie is inwardly dryed for a time, and the orifice seemeth to be shut up by a thin skin, untill fresh and new humiditie bedew the inward sinuositie, and open the orifice

againe.

againe. This kinde of curation is most fit to bee used towards those, in whose bodies a Fistula supplyeth the place of a fontanell, to discharge superfluous humours, which nature turneth out from the principall parts, for the preservation of the health of the body.

You shall know this manner of curing to be used, if the partie immediately before the opening of the orifice finde some distemperature, and afterward the orifice being opened, ease. To compasse this manner of cure three intentions are required.

First, a convenient diet must be observed: This is performed by feeding upon such meats as are of easie concoction, and afford good juyce, and in such measure as *Leonardus Lessius* in his Ὑγιεινὸν prescribeth, and *Ludovicus Cornarus* observed from his constant to his decrepit age. They advise moderation both in meat and drinke. Patients now adayes would thinke themselves hardly dealt with, if they should be stinted everie day to eat no more bread and meat than a pound, and to drinke no more drink than fourteene ounces. It is an easier matter to satisfie nature, than the appetite.

Secondly, the body is to bee purged not by any eradicative medicament, wherein Scammonie, Ellebore, or Colocynth entreth; but a purging diet, or a purging Ale; I will deliver unto you a patterne of both. Let your purging diet be thus dispensed: ℞ *Sarf.* ℥iij. *Rad. Tormentillæ, Bistortæ, & Symphyti, an.* ℥j. *Polypod. querc.* ℥iij. *Hermodactyl. fol. Sen. & Semin. Carthami, an.* ℥ij. *Rhab.* ℥j. *Semin. Anisi, Coriandri, & fœnicul. dulc. an.* ℥iiij. *Glycyrrhiz.* ℥j ℈. *Infundantur infundenda in aq. font. fervent.* ℔. x. *per noctem: deinde additis reliquis lento igne coq. ad med. atque aromatizetur decoctum cinam.* ℥j. *ac coletur: Sumat ager mane.* ℔. ℈. *calid. hyeme, ac tantundem hor. quarta pomeridiana.* As for the purging Ale receive this description. ℞ *Scob. Guajaci & Sarf. parill. an.* ℥iiij. *Rad. Tormentill. Bistort. & Symphyti, an.* ℥j ℈. *Polypod.* ℥iij. *Eupat. Sanicul. Alchymill. an. man.* j. *Fol. Sen. Hermodactyl. an.* ℥v. *Rhab.* ℥j. *Semin. Anisi,*

Aniſi, Coriand. & Fenicul. dulc. an. ʒvj. *Glycyrrhiz.* ℥ij. *fiat ex omnibus pulvis craſſiuſculus indendus ſaccvlo laneo rara texturæ, qui ſuſpendatur in gallon. duobus Zythi non lupulati recentis & fortis.* Let the Patient begin to drinke of this Ale the fourth day. Hee is to take halfe a pint in the morning, and to ſleepe upon it; and ſo much about foure a clock in the after-noone. When either of theſe purgatives are miniſtred, let the Patient about ten a clock in the fore-noone take ſome broth without bread, made of a Chicken, Mutton, or Veale, wherein Mallow, Parſley, Fennill, and Succorie roots, with ſome Raiſins, Prunes and Dates have beene boyled. Let him dine on the boyled meat; but ſup with roſt meat. The purging Ale is more convenient for aged perſons, than the decoction, and for ſuch as have a weake ſtomack.

Thirdly, convenient locall medicaments are to bee applyed, to further the drying of the ſinuoſitie, and skinning of the orifice. I will onely ſet downe two injections for the firſt. The one is this: Take of *Aqua calcis*, wherein ſome Litharge either of gold or ſilver hath beene boyled iij. o℥. and of the Syrup of red Roſe leaves dried, or of the Mirtill berries one ounce: mingle theſe together. The other is this: Take of Plantane water iij. o℥. of Roman Vitriol beat to powder, a dram and an halfe: let the Vitriol diſſolve in the water: inject theſe medicaments warme; apply to the orifice a pledget of lint wet in either of theſe medicaments, and above the lint *Diapalma cum ſuccis.* Dreſſe the Fiſtula everie other day only, unleſſe the quittour which floweth from the Fiſtula be plentifull. So you have the palliative cure of a Fiſtula. In the next Lecture I will deliver the true and reall curation of Fiſtula's in generall, wherin you ſhall heare ſundrie things worth the noting.

LECT.

Lect. XI.

Of the true curation of Fistula's in generall.

NOw am I to accomplish and performe my former promise in setting downe the method of curing truly and really Fistula's in generall, and the practice of the same in the curing of some Fistula's of some speciall places of the body, which require some extraordinarie considerations. Such are Fistula's in the great corners of the eyes, Fistula's in the brest, Fistula's *in ano*, and Fistula's in the joynts.

The meanes to attaine to this manner of curation are three-fold; Dieteticall, Pharmaceuticall, and Chirurgicall. The meanes to cure Fistula's.

As for the Dieteticall, I have set it downe amongst other points, which are required in the curation of an ulcer in generall. It shall be sufficient to insinuate now onely, that the diet of those who are troubled with Fistula's must bee verie sparing, and of meats and drinks which afford a laudable juyce, and are of easie concoction, that crudities and sharp humours flowing to the affected part, hinder not the curation. And undoubtedly too liberall a diet, unto the which the Inhabitants of these parts are too much accustomed, is the cause of the recidivation of these, and other griefes. Dieteticall meanes.

As for the Pharmaceuticall meanes, they are of two sorts, to wit, Purgative and Consolidative. Pharmaceuticall meanes.

If the body of the diseased partie be cacochymicall, with some Plethora, minister the purging decoction, or Ale for the space of a weeke, described by me in my former Lecture. And while these are in preparing, you may make for the better operation of these, minister this or such like a portion: ℞ *caricostin. & Electuarii de succo ros. an.* ʒiij. *Syrup. Ros. solut. cum Agarico* ʒj. *Aq. cichor.* ʒiij. *misc. ut fiat potio, sumenda cum corporis custodia.* These two Electuaries I. Purgatives.

purge

purge the body of thin, hot, and sharp humours; the syrup and water correct the malignitie of the humours.

II. 1. Consolidatives.

The Consolidatives are either simple or compound. The principall simples set downe by most authentike Authors, and tried by practice are these; Gentian and the roots of the round Birthwort, a dram of either of these mingled with iij. ℥. of white wine, and ministred everie other day in the morning, and fasting three houres after the taking of the medicament. The lesser Centorie, *Osmunda regalis* the root of it, Agrimonie, *Virga aurea*, the white Hore-hound, the roots of Borrage, Tormentil, Bistort, and Comfrey, Sarsaparilla, the rasping of Guajack, Plantane, Vinca, Pervinca, and Equisetum. Of the juyces of these herbs mingled with Ale, you may make possets; the wig whereof strained and sweetned with some *Saccharum rosatum*, or the Conserve of red Roses, you may minister morning and evening to young persons, and those who are either weake, or abhorre all physicall meanes, whereof there is no small number now adayes, who hasten by their owne misdemeanour to bring on griefes; but when they are to use meanes, esteeme them harsh: not knowing that God of his infinite goodnesse and providence towards mankinde, hath appointed the meanes of recovering of health to be unpleasant to nature, that man should refraine from sin, the primitive cause of griefes.

2. Compound consolidatives.

Of these simples afore-named, you may frame unto your selves sundrie compositions: for a patterne I will set downe one decoction: ℞ *Sars. parill.* ℥iiij. *Scobis Guajaci*, ℥vj. *Rad. Tormentill. Osmund. regal. Bistor. Symphyt. an.* ℥j. *Eupat. Virga aur. & si nil restat præter consolidationem & cicatrizationem, Summitat. Hyperic. & Sigill. Salomon. an. man.* j. *Passular. major. exacinat.* ℥iij. *Liquirit.* ℥ij. *Semin. Coriand. & Fenicul. dulcis, an.* ℥v. *Infundantur infundenda in aq. font. fervent.* ℔. xx. *deinde coq. lento igne additis reliquis ad consumptionem* ℔. viij. *ac coletur decoctum.* If the partie bee strong, let him drinke three pints a day: One halfe pint in the morning, and another about foure a clock in the afternoone

noone, for dinner and supper there remaineth a quart. If the partie be young, or cannot take such a quantitie, by reason of the weakenesse of the stomach, make halfe of this quantitie, which being vj. ℔. adde to the decoction of Sugar and Honey, of each ℔. j. and by gentle vaporing away some humiditie, bring the decoction to the consistence and taste of a pleasant Julep, which minister according to the toleration of the partie. This Pharmaceuticall course you shall (I dare assure you) finde effectuall to your owne credit, and comfort of the patient.

The Chirurgicall meanes afford unto us five intentions. Chirurgicall meanes to cure a Fistula.

First of all then the Fistula is to be dilated; for seldome doth it fall out otherwayes, that this indication is not requisite, unlesse it be in a Fistula in the cheeke, which was caused and maintained by a corrupt tooth, which being drawne, the Fistula will heale of it selfe, a consolidative emplaster being applyed to keepe out the aire. 1.

The Fistula may bee dilated three manner of wayes, by Incision, by putting in tents framed of such things as swell, after they have imbibed the humiditie of the Fistula; and last of all by the Fistula tent. How to dilate a Fistula. 1.

As for Incision, it is to bee used in strong bodies, if the Fistula be not deepe, and onely runneth alongst under the skin, no deeper than the membrane of a muscule, if it be in a fleshy part. Secondly, if the Fistula have many sinuosities: before the Incision is made, the Fistula is to be dilated by some of the three other meanes, which I will deliver presently: secondly, the medicaments which remove the callositie (whereof anon must be applyed) both these intentions must bee performed before Incision, otherwayes you shall hardly know how far your Incision is to bee extended, and shall leave some part of the Callus still, which will make way for recidivation and relapse. Incision when it is to be used.

The second way to dilate a Fistula, is to use in stead of tents such things as swell, whereof there bee sundrie, as the Gentian root, the pith of the Elder, or Dane-woort; but 11.

The use of the spunge.

the spunge twisted with threed, after that it is wrung hard and wrea hed, far exceedeth all these; for it both imbibeth more moysture, and dilateth much more. I will acquaint you with a preparation of the spunge, which is excellent, and this is it: Melt a rowle of your simple Melilot emplaster; when it is yet verie hot, let a thick spunge imbibe it. This spunge having so drawne unto it selfe the emplaster, put betweene two trenchers, which trenchers with the spunge put into a strong presse, and presse them hard. After an houre or two, when you thinke the spunge to bee cold, unscrue the presse, and take out the trenchers with the spunge, you shall finde the spunge become a firme substance, resembling greene cheese. Of this substance you may cut out tents of what fashion you will: This will not onely exceedingly dilate the Fistula, by sucking unto it the humiditie; but will also digest the callositie.

III. The third way of dilating a Fistula, I set downe to bee by the Fistula tent. It is this way to bee made; Make good store of fine lint, from the which draw away all the threeds, that nothing remaine but the fluet, or the soft downe of it; of this downe with the white of an egge beaten, make your tents of what thickneſſe or length the sinuositie of the Fistula requireth, by adding still some of downe: doe this upon a peece of a Deale-board smooth and even: If you still enlarge the quantitie of the tents, you may dilate the Fistula as much as you will; for these tents being dried, will pierce unto any cavititie as a probe without bending (if they bee well made) by reason of their stiffneſſe. Of this manner of tent there is great use, in taking away the callosities of some Fistula's, and in healing of them, besides this use, as you shall heare anon.

The second Chirurgicall intention.

The second Chirurgicall intention is to remove the Callus: this is bred by reason of the influxion of an humor, not of an uniforme substance; for besides the thin parts, which are discussed or dryed, by both naturall and extraneous heat,

The matteriall cause of a Callus.

it must have a thick substance to cause this callus, it being indurated

indurated: this must bee either flegme, if the callus bee white, or melancholy if it be livid, according to the dogmaticall Physicians, the Chymists appoint it to be Salt-peter, as I have said.

In the beginning this callositie is bred rather in the externall orifice, than in the inner sinuositie: for first, the skin which is thick of it selfe, sooner groweth hard than the flesh which is soft: Secondly, because nature still laboureth to thrust out excrements to the skin. In progresse of time Fistula's having become inveterate, the whole passage contracteth callositie. Why the orifice first contracteth a Callus.

You shall know by this, whether the passage be fistulated or no: If by the intrusion of the probe great paine is felt, and bloud issueth out, the Callus is not confirmed; but if no bloud follow, an little paine be felt, bee sure then that it is confirmed. To know when the passage hath also a Callus.

The callositie is removed either by medicaments, or the actuall Cauterie. The medicaments are of three degrees: for some are more milde, and these are of an emolliating and digesting qualitie, fit if the callositie bee but small in a fleshy part and a young body: such are *Dialthæa cum gummis*, and *Vnguentum de pæto*. Everie ounce of either of them having a dram of the Turbith minerall, or Precipitate mingled with Allome with it, is effectuall. How the callosity is to be removed by medicaments.

Secondly, some are more harsh; for they must mundifie strongly, if the Callus bee somewhat hard, and the partie somewhat aged: such are *Vnguentum Apostolorum*, *Avicen.* having Precipitate and Allome, or the Turbith with Allome mingled with it, Ægyptiacum is stronger than this; but I should rather use the *Vnguentum Apostolorum* than it, adding more of the aforenamed cathæreticall powder to it; for it causeth greater paine, and procureth not so good quittour as the *Apostolorum*.

Last of all, the medicaments which are to remove an inveterate Callus are Caustick: and even of these some are more gentle, some exceeding fierce. The more gentle are

these. I. ℞ *Auripigment. Sulphur. vivi, & Calcis viva, an.* ℥j. *fiat pulvis subtilis.* II. is *Pulvis sine pari, cujus hæc est descriptio.* ℞ *Auripigmenti, & virid. Æris, an.* ℥ß. *Vitriol. calcinat.* ℥j. *Alumin. usti,* ℥ij. *fiat pulvis subtilis.* III. ℞ *Turbith. mineralis non loti, Vitrioli vomitivi, & Boli orient. optimi, an. partes æquales.*

Of the strongest of all I will deliver unto you two magistrall descriptions only, farre surpassing all others. I. is M. *Hale* his powder, who was famous in his time for curing of Fistula's: this is the composition of it, ℞ *Aquil. mineral. Vitrioli vomitivi, & Terræ rubr. oriental. an. part. æquales.* II. is this which I use in Fistula's and Struma's: ℞ *Realgar. albi, Auripigment. & Calcis vivæ, an. part. æquales.*

You may enquire how these are to be used: If you have dilated the Fistula by incision, besprinkle the Callus with some of the powders; but if you have done it by the second way set downe by me, then use the powders mingled with *Vnguentum Populeon*, wherewith arme your Fistula tent: or apply a Trochisk made of these powders and Populeum, and afterwards dryed.

After the application either of the Fistula tent armed with the unguent, or of the Trochisk, two things you are to observe: I. That you apply an anodine cataplasme, the fellow to this which I shall now deliver unto you shall not be found. It is also matchlesse in raging paines of the Gout: ℞ *Lact. Vaccin.* ℔. j. *Mic. Pan. albi,* ℥vj. *coq. ad cataplasmat. consist. tum adde Vnguent. popul.* ℥ij. *Gummi Hyosc.* ℥ß. *Croci pulti* ℥jß. *fiat cataplasma, quod applicetur parti affectæ mane & vesperi.* II. You must not force out either the tent armed, or the Trochisk, before they pop out of their owne accord: for so they bring the Callus out with them, and the tent with the Callus will represent a finger within a glove. If there bee many sinuosities, yet doe not pierce to any remarkable cavitie, as of the brest and belly, then you are to dissolve these powders in some liquor, as in *Aqua calcis*, Plantane water, Metheglin, a gentle Lee, Allome water,

water, or Vitriol water. Alchymists exceedingly commend in this case the spirit of Niter.

The second way to remove a Callus by an actuall Cauterie is an invention of *ab Aquapendente*: He will have an instrument like to a setting Iron to bee made, the case to answer the wideness and length of the Fistula, and to bee thrust into the bottome of the Fistula, then must the other round Iron fill the cavitie of this, toward the point onely, and be round an inch long, and bee put in red hot. It is not to stay long where paine is caused, because there is no Callus; but to be rubbed up and downe where the place is indolent, untill paine be caused by reason of the removing of the Callus by the fire. And although hee highly commend actuall fire, and discommend the potentiall; yet I am not of his minde in sundrie cases: As for this invention, whosoever shall goe about to practise it, I shall hold him much like to him who is to throw at a Cock blind-folded.

The third Chirurgicall Intention is, to mundifie the part: this medicament will performe this: ℞ *Vini albi*, ℔. ß. *Vnguent. Ægyptiaci* ℥ß. *Spirit. vini*, ℥vj. *misc.* Inject this this warme, but once a day. You shall conjecture that the Fistula is sufficiently mundified, if the quittour have no ill smell, if it be uniforme, thick, and white. 3. Intention.

Then you are to addresse your selves to the fourth Intention Chirurgicall, which is to unite and consolidate the parts disjoyned. To accomplish this: first draw by an Alembick the spirit of these herbs following, putting so much spring-water as will bee three inches above the simples to them: the roots of *Aristolochia rotunda*, Tormentil, Bistort, Comfrey, the lesser Centorie, *Virga aurea*, Burnet, Plantane, Knot-grasse, Yarrow, and *Salomons* seale. Reserve the spirit by it selfe: take the decoction remaining in the pot from the herbs by straining; for everie quart of this decoction take halfe a ℔. of Honey, and so much Sugar: This mixture being clarified with the whites of Egges, and strained againe, let it bee boyled by a soft fire to the consistence of a 4. Intention. The description of the consolidative Syrup.

The use of it. Syrup. Take two ounces of the spirit, and one ounce of the Syrup, which mingle, and inject into the sinuositie, and deale with it as I prescribed, when I delivered the manner of dressing a sinuous ulcer. If any man deliver a more probable way than this to consolidate a Fistula after the extirpation of the Callus, I shall willingly lend him mine eares.

5. Intention. The last intention chirurgicall is to skin the orifice, which requireth no new directions. You shall know a Fistula to bee neere whole, when the humour which floweth is little, thick, concocted, and the place voyd of paine and tumour: If it be altogether dry, you may pronounce the orifice to be skinned, and the Fistula perfectly cured.

From the premisses you may gather that foure things hinder the curation of a Fistula. I. Is the afflux of a vitious humour. II. Is the narrownesse of it, which hardly admitteth the application of convenient medicaments. III. Is the deepnesse which hindreth the conveighing the medicaments to the bottome. IV. The callositie which contemneth ordinarie medicaments. Seeing I have shewed you the way to remove these lets and impediments; I hope you will give me leave to conclude this point, of the curation of Fistula's in generall. In the next Lecture I shall discourse of the curation of Fistula's in particular places, which when I have done, I will put an end to this Treatise of Fistula's.

Lect. XII.

Of Fistula lachrymalis.

IN my two last Lectures I discoursed amply enough of the nature of a Fistula, by setting downe its description and pathognomonicall or proper signes, and the generall method of curing all Fistula's indifferently. This only resteth to be done before I put an end to this point, to set downe the curation of some particular Fistula's differing onely in

subjects,

subjects, which are the parts wherein they are seated, wherein some speciall directions are required. I will onely speake of three, to wit, of Ægylops in the great corner of the eye, of a Fistula in the breast, and last of all of a Fistula *in ano*.

First then I will deale with *Fistula lachrymalis*, the Fistula in the great corner of the eye. In *Paulus Ægineta, De Arte medendi, lib. 3. c. 22.* there are words in sound much like Αγκίλωψ, and Αἰγίλωψ; but in signification different: He will have Αγκίλωψ to be a tumour or Apostеme before it is opened; but Αἰγίλωψ he affirmeth to be when the tumour is opened, whether it bee fistulated or no: his words are these: *Ægilops abscessus est, qui inter majorem oculi angulum & nares fit: qui ruptus si negligatur, usque ad os Fistulam aperit. Idem priusquam ruptum exulceretur apostema anchilops appellatur.* So according to the version of *Albanus Torinus*, Thus it may bee Englished: Ægilops is an Apostеme betweene the great corner of the eye and the nose: which if it be neglected, it maketh way to a Fistula, even to the bone: this apostеme is called Anchilops before it is broken. All moderne Authors, who left any monument of Chirurgerie, follow him. This kinde of Fistula is called by the neoterick Chirurgeons, *Fistula lachrymalis*. By *Avicen lib. 3. can. fen. 3. tract. 2. c. 14.* the apostеme is called *Kakilus*, or *Akilus*, and the Fistula it selfe, *Garab*, or *Algarab*. *Fabricius ab aqua pendente, de operat. chirurg. part. 1. c. 21.* purposely handleth this matter, and *Ambrose Parrey, lib. 16. c. 15.* and *Taliacotius in chirurg. curtor. lib. 1. c. 21.* The place then wherein this kinde of Fistula is seated, is the inner corner of the eye: although it beginneth first at the holes of the upper and low eye-lid, from whence the teares flow.

Because it doth happen in the place from whence teares flow.

The signes are manifest to the senses: for first, the orifice doth offer it selfe to the view: secondly, by compression the quittour issueth out: thirdly, a small probe may bee thrust within the cavitie to the very end of the Sinus.

The signes.

As for the Prognosticks: First then, all these Fistula's are of

The Prognosticks.

hard curation, for the moystnesse of the place much hindreth desiccation, which is required in the curation of ulcers. Secondly, the part (while one is awake) is in continuall motion. Thirdly, by reason of the niceness of the part, choyse of medicaments must be had. II. If the quittour hath made way for it selfe to the inner passage of the nose, by that hole which passeth thorow the bone of the nose from the corner, then we are only to procure the shutting up of the upper orifice, and not to goe about the scaling of the bone by a fruitlesse labour, which will notwithstanding cost the patient great paine and griefe. III. If a Fistula in this place become cancerous, which you shall conjecture by the hard and livid brims, a stinging paine, and stinking virulent matter, you are onely to use a palliative cure, applying those medicaments which are fit for a cancerous ulcer, whereof in the curation of a cancer I will speake at large. IV. If this continue long, it causeth a consumption of the eye, called ἀπορία τῦ ὀφθαλμοῦ, sometimes blindnesse of that eye, and corruption of the aire, which we draw by the nosthrils, if the quittour passe from the glandule, thorow the bone of the nose to the nosthrill.

The diversities of these Fistula's.

Now to come to the differences of these Fistula's: Some are maligne, the signes whereof I have delivered in the Prognosticks: Some are not maligne. Of these wherein there is no malignitie, some are without cariositie of the bone, and some with cariositie of the bone: you shall know that there is no cariositie of bone: First, if the apostеme was not long continuing before it brake; for if the tumor was first an Oedema Scirrhodes, and continued a long time so before it brake, then it is likly that the humor corrupted the bone before it brake. Secondly, if the probe rest not upon a part hard and rugged. Thirdly, if after dilation of the Fistula, the cariositie bee not presented to the sight. If circumstances contrarie to these be offered, you may conjecture that there is a cariositie in the bone.

The curation.

To hasten to the curation of these Fistula's: If a *Fistula lachrymalis*,

lachrymalis, without corruption of the bone, bee offered to you to be cured, proceed after this manner. First of all, you are to dilate it: secondly, you are to remove the callositie: thirdly, you are to mundifie it: fourthly, you are to consolidate it: and lastly, to cicatrize it.

The manner of dilatation.

You shall dilate it by the Fistula tent framed (as I taught in my former Lecture) according to the proportion of the sinuositie in the beginning: then you shall enlarge it more by spunges prepared with the Melilot Emplaster, which I likewayes set downe, when I taught here last. This manner of dressing will discover all corners of the sinuositie. The Fistula having beene thus dilated, you are to goe about the removing of the Callus. Now in performing this there is not so great libertie granted, as is in Fistula's of other parts. For first, fluid and running meanes having a remarkable acrimonie are not safe: for passing unto the *Conjunctiva*, and from thence to *Cornea*, they are able to erode it, from whence an ulcer may ensue, and so the griefe bee doubled. Secondly, even meanes solid carefully must be applyed, that they goe no further than the sinuositie of the Fistula. It is not unknowne unto you, what horrible symptomes oftentimes afflict the eye, by reason of a familiar humor only exalted in degrees of acrimonie: What mischiefe then is to be expected, if heterogeneall bodies, endued with extraordinarie sharpnesse, as these must be which remove a Callus, doe seise upon the membranes of the eye, adjacent unto the part affected.

Some there are who cure these lachrymall Fistula's with liquid medicaments, as with the water of Elder, or Wallwoort flowers; in everie pint of these dissolving two drams of Mercurie sublimate, or more, according to the hardnesse of the callositie. The proportion of mixture you must conjecture by the continuance of the Fistula, by the age of the partie, and constitution of the body. If therefore a Fistula be offered to be cured in a body young, of a short continuance, and of a tender constitution, then the water is to bee mild;

mild; if contrarie conditions doe offer themselves, then you are to make it more strong, according to discretion. If you take two parts of Plantane water, and one part of the spirit of Niter, you shall have an excellent Topick according to the principles of the Chymists.

Observation. One thing is to bee observed, that these liquid medicaments bee sparingly applyed to the sinuositie, that no part of them touch the membranes, to avoyd the accidents whereof I spake before.

Why solid medicaments are better than liquid. As for mine owne part, I more commend the solid mediments than these fluid: for first, their facultie is more durable: secondly, they are more secure, because they are not so apt to spread. If the body be young and tender, this medicament will serve: Take *Mercur. Præcipitati, aut Turbith loti* ʒij. *Aluminis calcin.* ʒj. *Exquisitè misceantur. postea* ℞ *Vnguent. popul.* ʒj. *Pulveris prædicti* ʒij. *Misceantur ut resultet unguentum.* When you apply this medicament, arming a tent with it: pull it not out forcibly; but suffer it to pop out of it selfe. Continue the application of this medicament untill the Callus bee removed, which you may ghesse if the processe of the sinuositie appeare soft, and the quittour which cleaveth to the tent appeare laudable.

Mundification. The Callus being thus removed, you must mundifie it: To this purpose you shall use this locall medicament: ℞ *Aq. Chelidoniæ aut Rutæ,* ʒij. *Syrupi è succo rutæ, aut Mellis rosati* ʒj. *Misc. applicetur calefactum.* Dresse the Fistula but once a day.

Consolidation. The part being mundified, which you shall know by the redness and tenderness of it: Then goe about the consolidation. This you shall procure by this medicament: ℞ *Aq. Plantag.* ʒij. *Syrupi Mirtillorum, aut Ros. rub. siccat.* ʒj. *Misceantur.* Apply this, and renew it but everie other day; if no remarkable store of quittour flow.

Cicatrization. As for the skinning: *Diapalma cum succis, de minio,* or *Emplastrum rubrum astringens* will serve.

How an Ægilops, with cariositie of the bone, is to be cured. If in an Ægilops or lachrymal Fistula the bone of the nose

nose be corrupted by the humor staying in the emboſment, then two wayes of curing are offered unto you: The first is by actuall cauterie, the second is by Inciſion. Peruſe all who have written of the curing of this kinde of Fiſtula, and you ſhall finde that all with one accord ſubſcribe to the actuall cauterie.

The actuall cauterie muſt repreſent in figure the ſtone of an Olive: The parts adjacent muſt bee defended from the fire, either by an hollow plate according to *Parrey*, or a cane according to *Ab aqua pendente*: you may make choyſe of which you will: you muſt effectually impreſſe it, to drie the humiditie, and the ſooner to procure the ſcaling of the bone. And although Authors, after the application of the actuall cauterie, preſcribe fattie things to haſten the ſeparation of the eſchar, yet I adviſe you not to uſe them; for the part is moyſt of it ſelfe, and ſo the application of ſuch medicaments would procure a ſordid ulcer: Apply therefore onely pledgets, or tents dipped in red wine, and above all *Diapalma*, or *Emplaſtrum de Minio*, or *de Smegmate*. When the bone hath caſt a ſcale, then conſolidate and skin it, as I have ſet downe before.

It is not unknowne unto you, with what difficultie patients admit the application of an actuall cauterie, to a part much diſtant from any of the principall, and wherein there is but ſmall ſenſibilitie. What will a patient troubled with this griefe doe, if you make mention of cauterization to be made in this place, ſo neere the eye and the braine it ſelfe? If at any time you make mention of ſuch a kinde of curation to a patient, to try how hee doth ſtand affected to this operation; let me entreat you not to urge it too much, as if the cure of the Fiſtula could not otherwayes bee compaſſed, if you finde the patient averſe, leſt you drive him away, and ſo you loſe both credit and gaine. When in the Countrey I practiſed Chirurgerie, ſundrie times this kinde of griefe having beene preſented unto me, I ever found the patients ſtrucken into a terrour and amaſement, as ſoone as

mention

mention was made of cauterization; wherefore I set my imagination at worke, to finde out a way to cure a *Fistula lachrymalis*, lesse terrible, but more sure and effectuall, which I will not conceale from you, because this griefe doth often come to your hands, and both great credit and gaine is purchased by performing the curation.

My manner of curing Ægilops.

My manner of curation is this: First of all, having with a small probe bended, found out the cavitie both upwards and downewards, I draw a line with inke betweene the Glandule of the eye, & the Trochlea or the pulley, through which the small tendon of the first oblique muscule called *superior*, or *major*, the uppermost and greatest passeth, and endeth obliquely in the uppermost part of *Cornea*: then I make incision to the bone; the part inciséd I divide with the nailes of the fore-fingers, untill the inciséd bee so much dilated, that it will without difficultie admit a prettie pledget: this being done, I thrust in a small Trochiske made of the Turbith minerall before it be washed, the vomitive Vitriol, and the best *Terra sigillata* wrought with *Populeum* to the forme of a stiffe paste, and afterward dried. About the Trochisk I apply a pledget armed with *Populeum*, which I keepe to the Fistula by an Emplaster of *Diapalma cum succis*, malaxed with the oyle of Henbane. Afterward filling the orbit of the eye with little bolsters made of soft linnen-cloth folded, and moystened in *Aqua spermatis ranarum caphurata*, I rowle up the eye. These same dressings I use morning and evening, untill the Trochisk with the Callus fall out of it owne accord: which when I perceive, I diligently view the bone, to see how much is carious: unto it I apply the powder of *Euphorbium*, if the diseased partie be aged, and of a firme constitution of body; but if the partie be young, and of a tender constitution, I besprinkle the bone with *Pulvis Cephalicus*. The cavitie of the part inciséd I fill up with a peece of the spunge dressed with the Melilot Emplaster, as I delivered in my former Lecture: about it I apply a pledget armed with *Populeum*, all which I couch

downe

downe close, with the emplaster and bolsters kept to the eye with a rowler.

This manner of dressing I continue untill the scale of the carious bone cast, which most commonly falleth out about the twentieth day. When the scale is removed, I mundifie the part with *Mel rosatum*, or *Mel rutaceum*, then I procure consolidation by the Syrup of Mirtles, or of the red Roses dried. And last of all I cicatrize the part affected with some epuloticall Emplaster, whereof I have set downe sufficient store heretofore, and shall hereafter when I shall discourse of an ulcer which hardly admitteth skinning. I have made sufficient experiment of this manner of curing an Ægilops in sundrie persons. And I truly affirme, that I never missed of the cure of any one with whom I thus dealt: neither shall you (I hope) if punctually you observe these observations in your proceedings.

When the bone of the nose is to be pierced.

It may fall out that the whole substance of the bone of the nose subjacent to the Fistula may be carious, being of it owne nature thin, and the head of the partie besides verie rheumatick, so that being often cured in the opinion both of the Chirurgeon and diseased partie, yet it doth breake out againe. In such a case you may demand of mee, how you shall fall off from such a cure with your owne credit. To this I answer, that there is yet a Subterfuge, and a way left to give contentment to the afflicted patient: To compasse this, first dilate againe the sinuositie, untill the corrupt bone appeare, as hath beene shewed heretofore: Secondly, pierce the bone of the nose with a gimlet, that the quittor may have recourse to the nosthrils, which are appointed as shoares to discharge the flegmatike excrements of the braine, and to draw in fresh aire for the refrigeration of the lungs: & then cure the superjacent fleshie and skinnie parts, as I taught you, when I set downe the palliative manner to cure a Fistula. This manner of curation being the last refuge, it will undoubtedly give contentment to the patient: for the eyes of the beholders shall observe no deformitie

externall

externall in him, and he himselfe shall not be able to discerne the turning of the quittor from the glandule outwardly, to the nostrill inwardly: besides this, he himselfe shall perceive no smell that shall offend him; the smell of Garlick is not offensive to those who have eaten of it.

Now to conclude this my discourse of a *Fistula lachrymalis*, if you perceive any such Fistula maligne, or to tend to a cancrosity, which you shall discerne by the signes set downe, when I delivered unto youthe Prognosticks: then use this medicament of *Heurnius* the father, set downe in *methodo ad praxin. lib.* 1. *pa.* 106. which he purchased both with money and entreaty, of one who got much money by it.

This is the description of it: ℞ *calaminanter usti, atque in vini aceto extincti* ℈ j. *myrrhæ, plumbi usti ac loti an.* ℈ ß. *croci gr.* v. *opii gr.* ij. *æris usti* ℈ iiij. *decocti fenugræci* ʒ j. *Misceantur exquisitè omnia super lapidem pictorum.* If you meane to make an oinement to continue long, in stead of the mucilage of Fenugreeke, use new Swines-grease washed in Rose-water. This is admirable eie-salve in all ulcers of the eyes: (whereof I have made often triall) whether they be maligne or no.

Lect. XIII.

Of Fistula's of the Brest.

HAving spoken in my former Lecture of *Fistula Lachrymalis*, I am now to set downe the method of curing other particular Fistula's, according to my promise. Of these, *Fistula Thoracis*, a Fistula of the brest doth first offer it selfe. Of the which *Cornelius Celsus l.* 7. *Ambrosius Parœus l.* 9. *ca.* 31. and *Fabricius ab aqua pendente de operat. Chirurgic. part.* 1. *c.* 47. have written.

How it happeneth. This kinde of Fistula happeneth by two manner of wayes:

wayes: First, by reason of a penetrating wound of the brest.

Secondly, by a Phlegmon possessing the intercostall Musculs, and the Pleura.

It is a superfluous matter to set downe any signes, seeing they appeare to the eye, and are easily found out by applying the signes set downe in the generall method of curing of Fistula's, to every Fistula in particular.

As for the differences, a Fistula ensuing a wound penetrating to the cavity of the brest, hath but one orifice, the passage and sinewosity whereof is according to the penetration of the wound; but a Fistula following after an Aposteme hath frequently more orifices than one, whereof some passe to the cavity of the brest directly, some windingly. The differences.

To come to the Presages. All Fistula's of the brest are hard to be cured, and that for seven reasons; for first, the brest is in continuall motion by reason of its dilatation and contraction caused by the intercostall Muscules: now that motion hindereth the curation of any sore, it is so manifest, and confirmed by experience, that it needeth no probation. The Prognosticks. I.

Secondly, because in penetrating Fistula's of the brest, the Pleura is alwayes ulcerate; which being thin, without bloud, and membranous, as the bladder hardly admitteth any consolidation. II.

Thirdly, seeing the *Virus* of the Fistula doth often corrupt the rib; and seeing the internall substance of the rib is cavernous, and so apt to lodge corrupt matter, the difficulty of curing is increased. III.

Fourthly, in Fistula's of the brest, the end of the Fistula is often lower than the orifice, which hindereth the expurgation of the superfluous matter. IV.

Fifthly, the sinewosity within, in penetrating Fistula's doth frequently extend it selfe betweene the Pleura and the upper rib, to the distance betweene it and the lower rib. Now how hard a matter it is to cleanse this cavity, I referre it to your owne consideration. V.

Sixthly,

VI. Sixthly, that liberty of applying of medicaments, which is permitted in sundry other parts of the body, is here denied; the lungs and heart being lodged in this cavity, whereof speciall regard is to be had, seeing from the safety of these parts the life of the *Individuum* dependeth.

VII. Seventhly, because these Fistula's bring an extenuation of the body, and a Hectick fever.

Let this be the second Prognostick: If the party afflicted with a Fistula in the brest be fallen unto a Hectick fever, and his body begin to be extenuate, pronounce the griefe to be incurable: for if you use desiccative meanes, which are required in curing of ulcers, you shall increase these symptomaticall griefes, and hasten death.

2. Prognostick.

III. The third Prediction *Celsus* delivereth unto us in these words, *Solent quoque, &c.* Fistula's use sometimes, when they have passed by the ribs, to corrupt the midriffe; which may be gathered by the place affected, and the greatnesse of paine, in this case there is no hope of cure.

The curation. As for the curation of a Fistula of the brest; to it three meanes are required, a convenient diet, pectorall decoctions, and locall applications. In a Fistula, which hath caused neither a Hectick fever, nor extenuation of the body, a greater variety of meats is permitted, than when these symptomes are annexed. Howsoever meats of easie concoction, and which afford laudable nourishment, are to bee appointed for the Patient, and a moderate use of them is to be prescribed: of these two meanes I have spoken amply enough, when I set downe the generall curation of ulcers.

The diet.

Pectorall decoctions. As for pectorall decoctions, upon the use of which, the greatest part of the cure of such Fistula's dependeth, you shall finde divers descriptions of them in divers Authors.

The simples of them. The Simples whereof these Decoctions are made are these; The flowers & leaves of Colts-foot, Maiden-haire, the white Horehound, Comfrey, Tormentill, & Bistort-roots, Violet-flowers, Borrage-roots & flowers, Ellacãpane-roots, Hyssope, Germander, the flowers and roots of Mallowes, the roots of

Parsley

Parsley and Fenell, Liquorice, Scabious, Valerian, Burnet, Sarsaparilla, Guajak, the China root, Raisins of the Sun, and blew figs: of these Simples you shall finde sundry decoctions set down by Authors who have written of wounds and Fistula's of the brest.

Amongst all others, the Pectorall Decoction of *Franciscus Arceus* you may most safely and securely trust unto: He while he lived, was so fortunate in the practice of Chirurgerie, that he drew that eminent Linguist and Divine, *Arrias Montanus*, very often to be a spectator of his operations. The Decoction I need not to set downe, because you may fetch it out of the Author himselfe, who is translated into the English tongue.

I will not stick to commend unto you one of my owne, whereof I have sundry times made experiment. This is the Composition of it: ℞ *Sars. parill.* ℥ vj. *scob. guajac.* ℥ v. *rad. Chin.* ℥ iij. *rad. enuh. campan.* ℥ j. *capill. vener. scabios. fol. tussilag. scolopend. sumitat. hyper. an. man.* 1. *flor. borrag. bugloss. viol. beton. an. pug.* 1. *polypod.* ℥ iij. *liquirit.* ℥ ij. *passul. major. exacinat. & ficuum pinguium incisar. an.* ℥ ii ß. *Infundantur ista per nocte. in aq. font. ferventis lib.* 24. *deinde lento igne coq. ad consump. lib.* viij. *ac colatur decoctum. Bibat ager singulis diebus lib.* iiij. Let the Patient every morning about five a clock drink halfe a pint of this Decoction warme, and so much about foure a clock in the afternoone: at dinner let him take a pint, and at his Supper another: the third pint he may drink between meales. Marvell at not this quantity, for a lesse will little availe; for strong desiccation is required in this cure.

My owne.

The reason of the quantity of the decoction to be taken.

Three things vehemently hinder the curation of these Fistula's: The first, is the inconvenient situation of the orifice, when it is higher than the ending of the Fistula.

I.

Things which hinder the cure

The second is the extenuation of the body.

II.

And the third is a Hectick fever: of these in order.

III.

If then the ending of the Fistula be lower than the externall orifice, a lower orifice is to be made by incision. In this

The manner of incision.

operation two things are to be diligently noted: The first is the place. The second, the cautions to be observed in the section.

The region of the brest fittest for incision.

As for the regions of the brest: The left side is more safe than the right: for in this side the liver by its gibbosity beareth up the *Diaphragma*, and doth insinuate it selfe to the cavity of the brest: If then either one of these, or both should be wounded imprudently, it is an easie matter to prognosticate the tragicall event of this operation.

The place.

As for the determinate part of the brest, which is to bee opened, let it be about the beginning of the next rib, and not at the lower end of that rib, above the which the orifice of the Fistula sheweth it selfe; for under it are couched a veine, a nerve, and an artery.

The manner of section.

In your Section proceed thus: First, divide the skin towards the upper part of the lower rib, then make way thorowout the incostall muscules: These things being done, dry all things with a spunge, and put into the new orifice a swelling spunge, both to dilate it, and to draw to it selfe the quittor. If you goe thus to work, you need not feare any danger, if you passe no farther than the division of the Pleura: so that neither the *Diaphragma*, nor the lungs, or the *Pericardium* be touched.

What is to bee done if a Marasmus or Hectick fever be complicate with a Fistula of the brest.

If with a Fistula of the brest, a Marasmus or Hectick fever be complicat, the difficulty of curing is exceedingly increased; two diseases joyntly conspiring to the ruine of the diseased party, which notwithstanding for their curation require advers indications, the Fistula requiring desiccation; and Marasmus and the Hectick fever craving humectation. If then a Fistula of the brest be offred to any one of you, first of all be sparing in your promises, lest you be accounted clouds without raine: who but an ignorant will give free raines to liberall promises to cure a Fistula of the brest complicat with other Deutoropatheticall greefes of their owne nature hard to be cured; when as it is a difficult matter to cure a solitary Fistula of the part?

Marasmus,

Marasmus, in Latine Authors *Marcor*, is an immoderate dryneſſe and conſumption of the whole body, by reaſon of the defect of the ſubſtantiall humidity, according to *Trallianus*. According to *Galen li. de marc.* there are two degrees of it: The one is when this extenuation of the body is in *Fieri*, in conſuming; The other is, when it is in *Facto eſſe*, or conſummate. What a Marasmus is. *Lib. 12. cap. 4.* The degrees of Marasmus.

If it be in *Fieri* onely; the muſcules begin to fall, the skin becommeth flaggie and looſe, ſtrength and agility decay, and the party findeth a manifeſt defect, and impotencie in all the actions of the body, whether they be animall, vitall, or naturall. Againſt this degree, you may contend by inſtituting a diet moiſtening. Signes of it in *fieri*.

If a Marasmus be in *Facto eſſe*, or conſummate; then the eyes grow hollow, and ſeeme to bee kid in pits; the lively colour of the skin fadeth, the skin of the forehead ſeemeth dry, and ſtretched like the head of a drum; the eye-lids ſeeme heavy, and ſcarſe able to lift themſelves up, as it happeneth to thoſe who are wearied by reaſon of watching; the temples are hollow: in the cavities of the breſt and belly, one would think, that there neither *Viſcera* members contained, or guts: for the muſcules are ſo conſumed, and the cavities ſo drawne in, that nothing ſeemeth to remaine beſides the *fibra* and the skin. To conclude, one having a conſummate Marasmus, ſeemeth to be nothing elſe, but a walking *ſceletos*. Whoſoever ſhall undertake the curation of ſuch a one, and performe it, I will give him leave to give himſelfe out for another Saviour, and to publiſh a fifth Goſpell, which the itching eares of our age would willingly perhaps entertaine. The curation of this degree. The ſignes of a Marasmus conſummate.

A Marasmus is two-fold: For one is accompained with heat, and may be called a dry Marasmus, and this is nothing elſe but a Hectick fever, which hath conſumed the radicall moiſture of the ſolid parts, and it is called μαρασμώδης πυρετὸς, or an extenuating fever. 2. Differences of a Marasmus. I.

The other is accompanied with cold. This is two-fold: II.

The differences of a Marasmus caused of cold.

The one is naturall, and it is decrepit old age: for old age is defined by dryneſſe, and coldneſſe.

The other is unnaturall, and it is called *Senium ex morbo*, a decay by reaſon of ſickneſſe: old age commeth by the courſe of time.

This laſt of a violent cauſe, for it followeth after a burning or a Hectick fever; and that by reaſon of the ſickneſſe it ſelfe, or by reaſon of the medicaments uſed in the curing of the aforenamed griefes: for a Hectick fever doth not onely waſte the naturall humidity, but the naturall heat alſo ſeated in the humidity: wherfore the heart it ſelfe, the well-ſpring of this heat muſt become colder than it ought to bee. In this caſe the pulſe is ſmall & weak, and ſlow: in like manner the breathing is weak, ſlow, & cold. By reaſon of the uſe of refrigerating medicaments appointed by the Phyſician in curing of a Hectick, or a *Febris Maraſmodes*, many times *Senium ex morbo* ſucceedeth: and this is more tolerable, becauſe the heart being ſomewhat immoderately cooled, the leſſe of the radicall moiſture is ſpent, than would be if the Hectick had its full courſe.

What a Hectick fever is.

A Hectick fever, is an unnaturall heat which hath ſeized upon the ſolid parts, and waſteth the moiſture of them: But ſeeing there is a three-fold moiſture in the body: to wit, bloud in the ſmall veines and arteries of every part, a dewy ſubſtance in every part, by the which it is nouriſhed; and gluten, which keepeth together the terreſtriall ſubſtance of each part, moiſteneth it, and keepeth it from falling to duſt.

The degrees of a Hectick.

There are alſo three degrees of a Hectick. In the beginning, when the two firſt humidities begin to faile, the Hectick fever is not eaſily diſcerned, although it may be without great difficulty cured: But if the radicall moiſture be conſumed, as it is eaſily diſcerned, ſo it is hardly cured. As long as this moiſture is ſomewhat plentifull, ſufficient to entertaine the naturall heat, the body ſeemeth well coloured, of a comely figure, and of a decent quantity.

If

If therefore you perceive the body of any one having a Fistula in the breſt, by reaſon of the defect of this gluten, or radicall moiſture to become diſcoloured, the figure to be altered, ſome parts bunching out, ſome growing hollow, and the thickneſſe of the members to become ſlenderer, the fleſh colliquating; leave ſuch a one to himſelfe, that he may march peaceably to the period of his life. Having delivered unto you of a Marasmus or extenuation of the body, and a Hectick fever, ſo much as is expedient for you to know in your chirurgicall practices; without the knowledge of which, you cannot poſſibly proceed, warily and circumſpectively, in curing Fiſtulaes of the breſt. I am to ſhew you what uſes you may make of what hath beene delivered. What is to be done in a consumat consumption.

If therefore one having a Fiſtula in the breſt be brought unto you, whoſe body ſeemeth to be nothing elſe but skin and bone, (as the vulgar proverbe is) acquaint him with the danger wherein he is, leſt death ſeize upon him unprepared. Nevertheleſſe, if he implore your aid, of Chriſtian charity withdraw not what comfort you are able to procure unto him: appoint then a diet moiſtening and nouriſhing, if no Phyſician be at hand, which I will ſet down anon; and dreſſe him with thoſe medicaments which are anodyne & healing. Inject into the Fiſtula Plantane-water, having ſome of the ſyrup of red Roſe-leaves dryed, mingled with it; cover your tent and pledget with *Diachylon ſimplex*. If you perceive that there is ſo much of the radicall moiſture remaining as is able to cheriſh the naturall heat, which you ſhall diſcerne, if the colour of the body be freſh, if the figure be decent, if the proportion of the parts be according to nature, and the diſeaſed party can in ſome good meaſure performe all actions; you may conceive ſome hope of his recoverie. The uſes of the diſcourſe of a Marasmus, and a Hectick fever.

Wherefore if a Marasmus hath extenuate his body, appoint for him a diet, which is likely to repaire the natural moiſture impaired. Let him then take broths made of Mutton, Veale, Remedies against a Marasmus.

or Chickens, wherein Damaske Prunes, Raisins of the Sun stoned, Currans washed and bruised, Mallow-flowers and roots, Marigold-flowers, Cinquefoile, Cowslip-flowers, and Colts-foot leaves and flowers have beene boyled: Gellies are good, made of young Cockrels, and a knuckle of Veale; use no other spice to it than a little Mace, and Nutmeg. Let him betweene meales take Almond-milks, made of the broth of a Chicken boyled with French-Barley. It is good for him also every morning and evening, to take a draught of Asses or Goats-milke; or in want of these, of Cowes-milk, milked thorow the Conserves of Borrage, and Bugloss-flowers; Calves and Sheeps-feet stewed with Curranes are good: sometimes let him eat Pigs-flesh. If he have a minde to fish, grant unto him Whiting-mops, Smelts, Perches, young Pickerels, Trowts, yea sometimes Eeles: the Sole, Flownder and Plaice, may also be permitted; poched Egges, and sweet Butter without any Salt, or Almond-Butter, are good for break-fast.

Remedies against a Hectick fever.

If an extenuation of the body doe proceed from a Hectick fever, then you must not onely moisten the body, but coole it also. In the broths then boyle Borrage, and Succorie-roots, common Sorrell, wood Sorrell, Primrose, Violet, Borrage and Bugloss-flowers: let his Sallets be Lettice, Spinage, & Purselane, boiled in Chicken-broth. An Almond-milk made of the Decoction of French-Barley, wherewith the emulsion of the seeds of the Pompion, Musk-melon, Cucumber, Purselane, and white Poppie hath been drawne, is excellent taken morning and evening. Permit no Milke but Butter-milke, and that when it beginneth to be a little sowrish, with a little of Sugar, of Borrage, or Bugloss. If the diseased party complaine of immoderate heat, and watching, minister unto him twice a wecke *Philonium Persicum*, with the syrupe of white Poppie, red Poppie, Gillie-flowers, Maiden-haire, Colts-foot, or of the juyce of Limons, or Citrons, in *Aqua Spermatis Ranarum*, or red Poppie. If you perceive that by the following of these courses, the party hath

hath recovered his ſtrength, and a good habit of body, then you may conceive a good hope of his recovery, and put him in good comfort: and ſo boldly proceed in the Cure, ſtill endevouring by following the indications (as *Theſeus* did the threed of *Ariadne* to come out of the Labyrinth) to reſtore perfect health to the Patient. In the beginn ng of the Lecture, I appointed three indications for the curing of Fiſtula's in the breſt; to wit, a convenient diet, pectorall decoctions, and locall applications: I have ſufficiently diſcourſed of the firſt two; the third then remaineth of locall applications.

In ſetting downe of theſe I will be briefe, becauſe they little differ from the generall, if you except a few obſervations. You may ſafely dilate a Fiſtula of the breſt, with the Fiſtula tent and ſponge; but in removing of the Callus you muſt be wary, for if you apply the Trochiſck, it muſt not reach to the cavity of the breſt, for the point of it will relent, breake, and fall upon the *Septum tranſverſum*, which undoubtedly will erode it, cauſe an inflammation, procure a ſharpe fever, a *Paraphrenitis*, and at laſt death it ſelfe. Apply then a tent armed with Populeon, where with the Fiſtula powder muſt be mingled, as hath beene taught: The Callus being removed, mundifie the ulcer with *Aqua calcis*, and *Mel roſarum* mingled together: Take heed that you inject no bitter medicament, for ſuch medicaments are eaſily ſucked in by the lungs, from whence by the *Trachea Arteria*, they eaſily paſſe to the throat and mouth, from whence there is felt a horrible bitterneſſe, a deſire to vomit, and an overthrow of the appetite. *Paræus lib. 9. c. 31.* affirmeth this to have happened unto him twice: be you ware by the example of others. The ulcer having beene mundified, proceed to conſolidation, for ſores in this part are not to bee long kept open. This you ſhall procure by injecting two or three dayes the ſyrupe of red Roſe-leaves dryed, mingled with Plantane-water; and then onely moiſtening a pledget wet in this ſyrupe, or the ſyrupe of Mirtles. Above the

Locall applications.

pledget apply *Paracelsus* his Stictick *Emplastrum*, for in this case it exceedeth all others; for it doth not onely draw the brims together, but it skinneth also.

Lect. XIV.

Of Fistula's of the belly and joynts.

HAving insisted so long in discoursing of the nature and curation of Fistula's, you may think, not without cause, that I ought to hasten to an end. In this Lecture I will set downe the indications of curing Fistula's of the belly and joynts, and so I will conclude this point.

The differences of Fistula's of the belly. 1.

The Fistulaes of the belly are two-fold: for they are either in the *Inguinal* parts, or else in *Ano*.

Of these in the groynes I will discourse; because they most frequently fall out, being accidents, for the most part, which ensue after *Venereall Bubo's*, either neglected, or ill cured: yea, they fall out in plethorick and cacochymicall bodies very often, wherein there is no Neapolitane seed: and that somewhat above the emunctorie it selfe; the matter not comming to the emunctories themselves, which receive the excrements of the liver; but being hindered, either by reason of the weakenesse of the expulsive faculty, or by the crossing and thwarting of the muscules, oblique and transvers in those places, as you, who are skilfull in the Anatomie, well know. It is no wonder that both Abscesses, and Fistula's often fall out in these places, seeing the belly is as a draught or a sinke in a house, or a keele in a ship, whither all imparities flow. Yea, such plenty of sharpe humors sometimes floweth to these parts, that perforation of the guts is caused, and that the excrements come out at the orifice of the Fistula; a lamentable case, noisome to the diseased party, and intolerable to the company. It falleth out sometimes

sometimes that some of the *Vertebræ* of the *Spina* are corrupted.

As for the Presages: The Fistula's in these places, which passe not to the cavity of the Abdomen, are hardly cured.

First, because the liver is still apt to afford new matter. I.

Secondly, because great circumspection is to be used if you shall use either incision, or corrosive medicaments, by reason of the *fibræ* of the muscules, and the branches of the *Vena cava*, and *Aorta* descending.

I visited once in Smithfield, a Preacher who had a Fistula by reason of a *Venereall bubo* ill cured, who entertained for his Chirurgeons Master *William Clowes* of famous memory, Master *Anthony Spademan*, & *William Bray*, brothers of this worshipfull company while they lived. Although no convenient meanes were omitted, yet the Cure came but slowly on. The diseased party impatient of delay, and not being comforted by any certaine hope of recovery, addressed himselfe to one in the countrey, who was accounted famous for curing of Fistula's: for Master *Hall* at that time had acquainted sundry with his practice of curing of Fistula's. After the Chirurgeon had applyed his corrosive to remove the Callus, it corroding, the tunicles of the great vessels descending, the eschare parting from the sound parts, in the night a strong flux of bloud ensued, which deprived him of life before the curer could come. Wherefore let me advise you, diligently to observe whether the bottome of the Fistula doth reach as deepe as the great vessels, that you may avoid the like fatall event. A historie.

The second Presage is this: If the *Vertebræ* of the *Spina* be corrupted, pronounce the Fistula to be incurable: you shall conjecture the *Vertebræ* to be foule, if extraordinary store of stinking sanies issue out of the Fistula, and the party daily grow weaker, and more extenuate, notwithstanding that you use all convenient both internall and externall meanes. II.

The third Presage shall be this: If the guts be eroded, & the excrements come out at the orifice of the Fistula, the life of III.

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the diseased party is in great hazard, because the guts are thin, membranous, and destitute of store of bloud.

Secondly, because the Fistula is apt to creepe thorow the distances betweene the muscules, which in those places are many; to wit, the oblique and transvers, one placed above another.

Thirdly, because in curing such Fistula's, we finde little helpe of hand and eye.

Fourthly, because topicall meanes can hardly be kept to the guts to helpe consolidation.

The cure.

The removing of the Callus.

As for the curation of these Fistula's: If they be not deepe, but run alongst superficially, the best course is to make incision, and then to apply one of the Fistula powders described by me, care had of the age and constitution of the party.

The mundification.

As for the mundification, consolidation, and cicatrization of such, seeing no speciall observation is required, you are to have recourse to that, what I have copiously delivered heretofore. If the *Vertebræ* of the *Spina* be foule, you are to promise no cure.

Nevertheless, if persons of worth will (upon good consideration) entertaine you to dresse them, they finding a comfort by your pains: Make an injection of Plantane, or *Carduus Benedictus* water, adding some fragrant water of Medow-sweet, the syrupe of red Rose-leaves dryed, and the spirit of Wine, having the tincture of Aloe, Myrrhe, Mastick, and some Saffron. Let your emplaster be *Diachylon cum gummis*, or *Paracelsus* his Stictick. If the guts fall out to be perforated, having acquainted the friends of the party with the danger, yet despaire not, but goe on, and use methodicall meanes. Let the party eat Calves and Sheepsfeet stewed, Sheeps and Calves heads, for they afford a glutinous juyce, Rice boyled in Milke, wherein steele hath beene often quenched, is also good. Every morning and evening let the party take a draught of Allagant, warmed with a wheat toast, when he hath drunke off the wine, let him

him eat the toast. Make injection of red Wine, having a little Alome dissolved in it, & some of the syrup of the Mirtles-berries: keepe the orifice open with a spunge, untill the gut be consolidate; then proceed to the extirpation of the Callus, mundification, consolidation, and cicatrization, as hath beene often heretofore taught. Event oftentimes falleth out above expectation.

Not long agoe a countrey youth, who had an Enterocele, was bound to a Barber in Alder*s*gate street; one applying to the Rupture a Truſſe somewhat strait, caused a sideration or mortification of the part, so that the excrements came out plentifully, with much stinking matter, out of the cavity of the belly. Notwithstanding, by diligence, and application of convenient meanes, the gut was consolidate, and the youth kept alive. So much I thought good to deliver concerning the curation of Fistula's which happen in the inguinall region. A historie.

Now it followeth, that I speak of Fistula's in *Ano*, which was said to be the second kinde of Fistula's invading and possessing of the Abdomen, or the lower belly. Of the *Fistula ani.*

This kinde of Fistula very often followeth after a Phlegmon in the *Anus*, broken and ill cured.

There be two sorts of these Fistula's, for some pierce not the *Inteſtinum rectum*, and some doe; and both these are either shallow or deepe.

You shall conjecture the Fistula to passe thorow the *Inteſtinum rectum*: First, if after breaking of wind, part of it make way thorow the *sinus* of the Fistula. Signes of a Fistula piercing the gut.

Secondly, if the excrements appeare mingled with the quittor, or if the quittor smell as the excrements use.

Thirdly, if injection being made at the outer orifice of the Fistula, part of it passe within the *Anus*.

Fourthly, the forefinger being put into the *Anus*, if you feele the probe bare it being thrust thorow the *sinus* of the Fistula, this is an infallible and certaine signe.

As for the Presages of these Fistula's: First, No *Fistula* Presages.

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ani is of an easie curation: for this part being the jax of the body, it affordeth great plenty of impurities, and much superfluous moisture, which hinder the curation.

Secondly, if a Fistula in this place be not very painfull, and noisome, by reason of much & stinking quittor, but shutteth and openeth it selfe sundry times, it is expedient for the health of the Patient, if such a one be left uncured: for by this meanes the body is discharged of superfluous humors, and the body kept in health. I have knowne this accident to have happened to sundry, and to have continued to the end of their lives. Some I know yet living thus affected, neither doe I doubt, but that sundry of this worshipfull Company have observed the like.

The curation. Now to come to the curation of these Fistula's: The meanes to attaine to this are five: to wit, Diet, Internall medicaments, Incision, Deligation, and Topicall meanes.

As for the Diet and Internall medicaments, I have discoursed sufficiently heretofore, so that I need not, distrusting your memories, to repeat any thing.

As for Incision and Deligation, they have place when the Fistula is shallow, but if the Fistula be deepe, neither of these meanes are to be attempted.

The curing of Fistula's not passing to the gut. If therefore the Fistula be shallow, and passe not to the *Intestinum rectum*, after you have dilated it, and removed the Callus, upon a tent incise all the hollownesse: then fill it with dosels, armed with a medicament made of a restrictive powder, and the white of an egge, to keepe the brims of the inciséd parts asunder; for if you goe about to unite the parts too soone, it may be feared that a cavity will still remaine, and make way for recidivation: wherefore it behooveth you, to see that sound and laudable flesh be ingendered in the bottome. Let not your incarnative medicaments be fatty, for such will cause loose and spungeous flesh: use therefore the sanative syrup made of the vulnerary plants, having some *Pulvis cephalicus* mingled with it. If the Fistula goe deepe inwardly, so that you cannot use con-

conveniently incision, dilate the Fistula with the Fistula tent, and the spunge; then remove the Callus with a Fistula trochisk: the trochisk being come out, and the Callus quite spent, mundifie it with *Mel rosatum*, mingled with *Aqua calcis*: when you perceive laudable quittor, endevour to consolidate the part, by applying the sanative syrup, and *Pulvis cephalicus* upon the tents, which you must day by day shorten, until at the last the whole *sinus* of the Fistula is shut up; which you shall conjecture by the little and laudable quittor which the Fistula yeeldeth. Then nothing else remaineth, but to cicatrize the part with your *Diapalma*, or *Vnguentum de minio*. If the Fistula penetrate to the *Intestinum rectum*, then cutting asunder of the whole *sinus* of the Fistula by deligation is most fit. But first of all, you you must dilate the *sinus*, and remove the Callus, (as hath beene said) for so the part which is to be bound will be more thin, and so more easily cut asunder. As for the threed wherewith you are to binde the *sinus*, two I commend unto you; first, sealing threed, which is made of the best hemp, unboyled, and unwhitned: for it is exceeding strong, and will not rot before it hath wrought its effect. The second, is a strong threed of silke, twisted; there is no great matter in the colour, whatsoever scrupulous Authors affirme: you may use either of these as opportunity shall be offered.

The cure of a Fistula piercing the gut.

When you goe about to binde the *sinus*, put in one end of the threed in the eye of a small and flexible probe, then thrust the eye with the threed thorow the *sinus* into *Intestinum rectum*: this being done, put into the *Anus* your finger, and with it pull the threed out of the eye of the probe, and draw it out at the *Anus*, or having bent the eye of the probe, bring it without the *Anus*; and then putting the threed into the eye, draw that end thorow the outer orifice of the Fistula. If the *sinus* be not very thick and long, you may by one strong deligation binde off all the *sinus*; but if the *sinus* be thick and long, you must use sundry constrictions, tying still the ends of the threed with a running knot,

The manner of binding.

knot, that it may be the more readily looſed. Some after one deligation onely, more and more draw in the ends of the threed, with a round piece of a ſticke turned about. When all the *ſinus* after diviſion, by deligation, lieth open, goe forward in the cure, as hath beene ſet downe when the *ſinus* was inciſed. Now nothing remaineth to conclude theſe diſcourſes of Fiſtula's, but to ſpeake ſomewhat of the curing of the Fiſtula's in the joynts. Theſe griefes, what paines they procure to the Patients, and troubles to the Chirurgeons who dreſſe them, it is ſo well knowne to thoſe who have beene imployed in ſuch buſineſſes, that I need not to uſe many words to perſwade any to beleeve this: experience bearing witneſſe.

1. The differences of theſe Fiſtula's are theſe. Some are without corruption of the bones and cartilages, and ſome have theſe annexed.

2. Againe, ſome of theſe are without any tumor of the adjacent parts, and in ſome there is a remarkable ſwelling of the parts adjacent; ſo that the skin it ſelfe is either brawny and hard, or looſe and *oedematus*; and ſome of the tendons of the muſcules are foule, and corrupted very often: ſuch tumors often fall out, when Fiſtula's happen in the wriſts and anckles.

3. Thirdly, in ſome of theſe Fiſtula's the joynt abideth firme, but in ſome it becommeth looſe and weake, by reaſon of the relaxation of the membrane which covereth it, and the ligament by the which it is ſtrengthened.

The manner of ſearching. Before I come to prognoſticate of the events, let me acquaint you with one thing, and that is this; that if you bee called to children or young perſons troubled with a Fiſtula, or Fiſtula's in the joynt or joynts, that you make triall of the *ſinus* with a Mallow ſtalke anſwerable to it: for this kinde of probation is of all others leſſe painfull, and will incourage the diſeaſed perſons to commit themſelves to you care, when they perceive that you ſearched the ſores ſo eaſily, hoping that your proceedings will be according to you-

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beginning. The small stalke of the Mallow next to the leafe is alwayes slimie and flexible, and so is apt to slip into the *sinus*, causing either no paine, or very little.

As for the presages: I. No Fistula of the joynt, although it be without corruption of the cartilages or bones, is of an easie curation: for first by reason of the paine which is caused by reason of sensibleness of the part, and the increase of it by reason of the sharpe medicaments which must be applied to remove the Callus, symptomaticall fevers, losse of appetite, watching, and at last extenuation of the body; and at last a Hectick fever may be procured. The presages.

II. If a Fistula of the elbow or knee, have corruption, either of the cartilages or bones annexed, it will require a long time to have it cured: for the joynts themselves being very sensible, it must be gently dressed.

III. If in Fistula's of the wrist, the bones of it, or of the backe of the hand, be carious, you shall finde the cure to be difficult: for these bones are very spungeous, apt to receive superfluous humidity, and so are hard to be scaled.

IV. For these same reasons, the bones of the joynt of the foot and the instep are hard to be cured.

V. If Fistula's in the wrist or instep be accompanied with large and hard tumors of the hands and feet, pronounce the cure to be uncurable: for then the membranes, tendons of the muscules, and bones most commonly are corrupt.

VI. If an extenuation of the body, or a Hectick fever doe accompany Fistula's in the great joynts, shun the cure: for the indications of curing, which prescribe drying and cooling, in drying increase these griefes. Besides this, complicate diseases are more hardly cured than those which are solitary.

If you shall demand of mee, what course is to be taken with those who are possessed with such uncurable Fistula's, if you bee intreated of the diseased party, or the parties friends to doe your best? *Object.*

I answer, that if after some triall, you perceive the party *Answ.*

to

to be uncurable, you ought to move the party to suffer exstirpation, and dismembring of the limme, whether it bee foot or arme, before he grow weake, and become unable to endure any such operation. In young persons you may attempt this operation; for I have adventured it with good successe; but in aged and crazie persons be not too bold: for the losse of the radicall moisture is more easily, by diet and medicaments, restored in those, than these: the other may, but these must die.

The topicall meanes.

Now to come to the Topicall meanes, which are convenient for the curing of Fistula's in the joynts, (for as concerning the diet, and internall medicaments, I have spoken of them sufficiently already) you must note that you must have good anodine Cataplasmes to asswage paine, and good, easie, and effectuall meanes to remove the Callus. If you apply Mercurie sublimate, or Arsenick to remove the callositie of Fistulaes in the great joynts, you shall alwayes cause a symptomaticall fever, and sometimes a mortification of the part, if the party be of a cacochymicall constitution.

Anodine meanes.

As for the meanes which mitigate paine, I commend unto you *Fallopius* his Cataplasme which he describeth in his Treatise of Vlcers, *cap.* 17. And it is this: ℞ *ol. lumbric. chamemel. & aneth. an.* ʒ ij. *furfur. flor. chamem. farin. hor. cypi, an.* ʒii ß, *vini allagant.* ʒ x. *fiat cataplasma.* Renew it every twelfth houre.

How the Callus is removed.

As for the removing of the callosity, no medicament is comparable in parity with the powder of Turbith minerall, before it be washed, being mingled with *Terra Lemnia, sigillata*, Orientall bole, and the vomitive Vitrioll; this composition may bee applied, being made up in forme of a trochisk, or mingled with populeon, and applied upon a tent. This medicament neither procureth extraordinary inflammation, or any horrible symptome.

As for the mundification, consolidation, and cicatrization of any Fistula in the joynt, after the removing of the Callus, seeing these intentions may be compassed by the meanes

which

which I delivered in my former Lecture, I will cease to trouble you with the repetition of them, and so will conclude this Treatise concerning Fistula's.

If in Fistula's of the joynts there be carosity of the bones, I will deliver the meanes to meet with this accident, when I shall discourse of the accidents of ulcers, before I make an end of this subject.

Lect. XV.

Of Herpes Exedens.

HAving delivered unto you, what I thought pertinent of compound ulcers without malignity, method doth require, that I speake fully in like manner of maligne ulcers.

What a maligne ulcer is.

Maligne is that, which differing from ordinary ulcers is not easily cured. By *Gal. de crisib. l. 1 c. 3.* not ulcers only, but all diseases which have a malignity annexed to them, all called κακοήθεις, and κακοηθῶν. As a milde griefe hath a mild cause, and no horrible, or extraordinary symptomes, and yeeldeth to ordinary medicaments: so that which is maligne hath a fierce cause, extraordinary symptomes, and yeeldeth not to ordinary medicaments. These maligne ulcers doe happen, when such a κακοχυμία hath possessed the ulcerate part, that it doth corrupt the good nourishment which is sent to the part affected. The aliment sent to the part is corrupted, either by putrefaction, or a venomous quality communicated.

How the aliment of the part is corrupted.

Then the signes of a maligne ulcer are three: First, it corrupteth the part which it invadeth, either by putrefaction, or a maligne fretting quality. I.

Secondly, It causeth extraordinary symptomes, as paine, and plentie of virulent and stinking matter. II.

Thirdly, It yeeldeth not to ordinary medicaments. III.

Differences of maligne ulcers.

The differences of maligne ulcers are these: First, these ulcers are either ancient or moderne. I call those ancient, whereof mention is made by the ancient Authors: those I call moderne, which were onely knowne to late Writers: such are those ulcers which appeare in scorbuticall, and pockie persons, whereof I meane not to speake in this doctrine of ulcers, because they are symptomes of the scurvie and pocks, which cannot be cured unlesse the griefes themselves be cured. Now the setting downe of the curation of these diseases, will require large and particular Treatises.

Of maligne ulcers knowne to the ancients, some are lesse maligne, some more maligne. Of the lesse maligne there are three sorts: *Herpes exedens*, *Phagedæna*, and *Nome*. *Herpes exedens*, ἕρπης ἐσθίων in Greek, being caused of thick and sharp choler, it corrodeth the skin even to the subjacent musculous flesh. It differeth from Phagedæna, because it erodeth the skin onely; but Phagedæna, both the skin and subjacent flesh. *Celsus lib. 5. cap. 28.* thus describeth it: *Herpes fit cum cutis exulceratione, & est sine altitudine, latus, subliuidus, inæqualis tamen, medium quo sanescit extremis afflictis, &c.* That is, a *Herpes* is caused when the skin is ulcerate. It is not deepe, but broad, of a livid colour, uneven; notwithstanding, the middle doth heale, the brims remaining sore. Wherefore if you perceive an ulcer to spread, and cause sundry other small ulcers, which reach no deeper than the skin, you may pronounce it to be *Herpes exedens*, or *Formica ambulativa*, or *Corrosiva*.

The name of the tumor.

Nom.

One thing is to be noted in the words of *Celsus*, that a *Herpes exedens* may be of a livid colour; & so with thick and corrupt choler, that melancholy must be joyned, wch is bred of *Bilis atra*, and so it must somewhat participate with a cancerous ulcer. And in truth, such ulcers often shew themselves in old persons about the beginning of the tailes of the muscules of the legs; and from these a moist noisome and stinking virulent matter will flow, and the ulcer it selfe will be very painfull, and rebellious.

The

The signes then of a *Formica corrosiva* are these: It onely corrodeth the skin, and so is not deepe, but broad; uneven it is, and sometimes of a livid or leady colour, if melancholy caused of *Bilis atra* be joyned with thick and putrid choler: otherwise the brims of this ulcer, and the parts adjacent are of a yellowish colour, bewraying the humor, which is the materiall cause of this kinde of ulcer. The signes.

As for the Prognosticks: First, that *Herpes exedens*, which is caused onely of thick and putrid choler, is not easily cured. For first, the body which is troubled with such an ulcer, is not so soone altered; for the liver, the gall it selfe, and the *Porus biliarius* must be much out of frame, when they cannot make shift to dispatch this humor by the passages appointed for the evacuations of it; to wit, by the guts, and passages of the urine; but suffer it to passe to the habit of the body by the vessels which carry nourishment; to wit, veines and arteries. The Prognosticks. I.

Secondly, because this humor being altogether contrary to nature, it causeth a κακξία, or ill constitution of the part; by the which the profitable nourishment which is sent to the part, for preservation of it, is corrupted: and so not onely the part affected is defrauded of aliment, but the parts adjacent also are drawne to the same society of corruption. II.

Let this be the third Prognostick: If a sincere *Herpes exedens*, proceeding onely of thick putrid choler be hardly cured, as hath beene proved; then if *Bilis atra* be annexed, surely the curation must be much more hard; for this is a humor which causeth more fearfull symptomes; as extreme paine, greater corrosion, and rebellion to ordinary medicaments: and if the body hath gotten a habit of breeding of it, it is hard, without regeneration, to reduce it to its naturall constitution, and to hinder the provent and increase of it. Alchymists promise much, but for the most part they prove clouds without raine. III.

The Alchymists will have the efficient and materiall causes of all ulcers, to be the superfluity of the salt of the naturall balsome The causes of ulcers according to the Spagyricks.

balsome of the body, consisting of a due proportion of salt sulphur, & Mercury. This superfluous salt being separate from the natural balsom by the expelling faculty, it is turned somtimes to one, & somtimes to another part of the body, according as it is apt to be moved, according to its thinnesse or thicknesse, volatility or fixation. It setling in the part, it is more coagulate and calcined (the expelling faculty not being able to expell it by the pores of the skin) and so it acquireth a certaine corrosion, and is the cause of those ulcers, which have no maligne quality accompanying the salt. They will have a volatill and subtill salt, such as is in the nettle, and crowfoot to be the cause of an Erisypelas, and *Herpes miliaris*; but a thicker and more fixed salt, such as that is of the Vitrioll, to be the causes of these ulcers, which corrode the parts adjacent: such a salt then as it, not very thicke, and throughly fixed, they will have to be the cause of *Herpes exedens*: but such a salt as is dense and thick, and throughly fixed, having some malignity, to be the efficient cause of a Phagedæna and Nome. This is their Philosophy of the efficient, and materiall causes of these ulcers. And in truth it doth fitly represent to the eye of the understanding the nature of the humor, which dogmaticall Physicians will have to be the causes of ulcers. It is no herefie to maintaine either opinion; but he deserveth both credit and gaine, who shall performe the curation of those ulcers which he taketh in hand. Most Patients require rather speedy and easie curation of their griefes, than learned discourses of them. Howsoever, these discourses are requisite for you, who meeting sometimes with scrupulous Physicians and Patients, shall be drawn to shew your Theoricall as well as your Practicall part.

The curation of *Herpes exedens*.

As for the curation: Three intentions are required to cure a *Herpes exedens*: The first is, that the humor which floweth to the part be stayed. The second is, that the humor which is impacted in the part, be evacuate. The third is, the curation of the ulcer it selfe by convenient meanes.

The

The first intention, which is the staying of the humor from flowing to the part affected, is performed by purging of the body from thick choler, and *Bilis atra*, if the *Formica corrosiva* be of livid colour. To this purpose prescribe such a Potion: ℞ *electuar. lenit.* ʒ vj. *pulver. santli* ʒ j. *aq. endiviæ* ʒ iij. *Misc. ut fiat potio.* Or if the Patient be of a dainty taste, and loath electuaries and powders, then such a potion as this which I will set downe will be convenient: ℞ *rhab.* ʒ j. *fol. sen.* ʒ iij. *zinzib.* ʒ ß. *spicæ* ∋ ß. *Infundantur istæ per hor. 2. in aq. font. ferventis* ℥ vj. *deinde lento igne exhalent* ℥ iij. *ac coletur decoctum, in quo dissolve mannæ, & syrupi de cichor. cum rhab. aut syrup. Augustan. an.* ʒ j. *Misc. ut fiat potio.* If the body of the party troubled with the ulcer, be plethorick and cacochymicall, it is convenient that hee take a purgative decoction for sundry dayes together. I will set downe such a one as a patterne; according to which you may frame unto your selves others like unto it in efficacie. ℞ *rad. cichor. malvar. borrag. an.* ℥ i ß. *polypod. querc.* ℥ ij. *flor. borrag. bugloss. viol. an. pug.* i. *fol. sen. & hermodactyl. an.* ℥ ij. *semin. anisi & fœniculi dulc. an.* ʒ vj. *rhab.* ʒ vj. *liquiret.* ℥ i ß. *Infundantur infundenda per noctem: in aq. font. ferv. lib.* viij. *sequente die adjectis reliquis coq. ad medias ac coletur decoctum, quod aromatizetur cinam.* ʒ vj. *sumat ager mane lib.* ß. *ac tantundem hor. quarta pomeridiana.* Between ten and eleven a clock in the morning, let the patient take some broth without bread, or a caudle, or aleberrie. These medicaments must be ministred cold in the summer time, and warme in the winter.

1. Intention purging of the body.

The description of a decoction purgative.

The second intention in curing of *Herpes exedens*, was said to be the vacuation of the humor impacted in the part. This is effected by cathæreticall medicaments, or such as correct spungeous flesh: they are sharper than the strongest mundificatives.

2. Intention.

In the monuments of the Ancients, we finde the trochisks of *Andron*, *Polyides*, and *Musa*, exceedingly commended in such fretting and creeping ulcers: which I will

The locall medicaments of the ancients.

set downe both to ease you of the enquiring of them, and the better to apprehend and understand them. The *Trochisci Andronis* are thus described: ℞ *malicorii* ʒx. *alumin.* ʒiiij. *vitriol.* ʒxij. *mirrh.* ʒiiij. *thur. aristol. rot. gallar. an.* ʒviij. *sal. armoniac.* ʒiiij. *fiat ex omnibus pulvis.* *Trochisci Polyidæ* are thus set downe: ℞ *malicor.* ʒvj. *myrrh.* ʒviij. *alumin.* ʒv. *thur.* ʒiiij. *vitriol.* ʒiij. The *Trochisci Musæ* receive these things: ℞ *alum. aloes, myrrh. vitriol. an.* ʒvj. *croci* ʒiij. *malicor.* ʒiiij. I should advise to calcine both the Alome and Vitrioll, which enter into these Trochisks, because they more strongly drie than those which are uncalcined. No substance is so fit as *Vnguentum populeum* to make up the Trochisks. When you are to use these Trochisks, you are to beat some of them to a subtill powder, and to mingle some of the powder with some convenient unguent, taking a dramme of the powder for every ounce of the unguent: but what unguents are most fit you shall heare anon. These are the magistrall meanes, which the Ancients used in curing spreading ulcers.

The Topicall meanes of the moderne Chirurgeons.

The moderne and neoterick Chirurgeons, not contented with these, have found out other meanes not inferiour to these: The one is Mercurie precipitate, first nobilitate by *Iohn de Vico*, and fithence his time much used by all famous Chirurgeons. This powder being washed with Plantane and Rose-water, and mingled with sarcoticall unguents, doth admirably heale rheumatick ulcers in tender persons. If it being unwashed be mingled with alome calcined, taking ʒij. of it, and ʒj. of Alome, it is a cathereticall medicament, and fit to be applied to foule and spreading ulcers, such as *Herpes exedens*, Phagedæna, and Nome are. The other medicament invented by the late Chymists, is the Turbith minerall precipitate by the oyle of sulphur, or Vitrioll; it is now much used both in the practice of Physick & Chirurgerie; it is ministred with good successe to persons infected with the Neapolitane lues; if they have either *Cephalea Gallica*, extreme paines in their heads, or venereall ulcers.

ulcers. As for the use of it in the practice of Chirurgery, I dare ascribe to my selfe the invention of it (in these parts) without suspition of any arrogancie. After that is precipitate and calcined, it is very white, and is an excellent escharioticall medicament, farre surpassing either Mercurie sublimate or Arsenick: for it is more safe, and is not so painfull: besides this, it doth not cause such inflammations as these do, neither doth it procure so promptly symptomaticall fevers. Being washed, it is used to work these effects which Mercurie precipitate doth, but much more effectually. To cause these medicaments to evacuate the peccant humors out of the parts affected, you are to mingle these with *Paracelsus* his mundificative; taking for every ounce of the unguent, a dram either of the Mercurie precipitate, or of the Turbith minerall washed, if the parties grieved be of a tender constitution: or a dram of either, washed and mingled with *Alumen ustum*, in that quantity as hath beene said, if the bodies of the persons who are troubled with the ulcers be firme and hard, such as labouring men have. You are to continue the use of these topicall meanes, untill the ulcer spread no more, and be red, and very cleane. Having the two first indications required in curing of *Herpes exedens*, the third indication followeth: which is the curation of the ulcer it selfe.

To effect this, two scopes are required: The first, is to fill up the cavity caused by the losse of the skin. The second, is to cicatrize the ulcers.

As for the first scope, those medicaments are to bee used which drie strongly, yet have no corrosive facultie. *Paulus Æginet. de art. medend. lib. 4. cap. 20.* hath sundry medicaments for this griefe: if you peruse the Author, and consider the descriptions, you will esteem them but sorry ones. *Tagaultius in institut. Chirurgicis lib. 1. de tumoribus præt. naturam*, hath transcribed them, whom you may see: he hath done this, for no other cause (as I suppose) than this, that he had no better of his owne. *Ambros. Paræus lib. 6. c. 14.* How the cavity in such ulcers is filled up.

ha th some medicaments for this griefe, which are not to be contemned. The first is this: ℞ *cerusſ. & tut. præpar. an.* ℥ j. *ol. roſ. & adipis capræ an* ℥ ij. *cort. pini* ℥ ß. *cer. q. ſ. fiat unguentum.* If you adde to these things some lead calcined, Pomegranate-rindes and flowers beat to powder, the unguent will be more effectuall. The second is, *unguentum emulatum cum Mercurio*, which he commendeth as an infallible medicament: if to every ounce of it you adde ℥ j. of the flowers of brimstone, you shall not misse of your purpose. He doth give one good note, that if you perceive the brims of the ulcer more and more to be eroded, you touch them with *Aquâ fortis*, *Oleum vitrioli*, or *Sulphuris*, for by these meanes, sores which seeme uncurable are often healed. *Hieron. Fabric. ab aq. pendent. part. 2. lib. 1. cap. 28.* adviseth to minister inwardly either Goats-milke, or the decoction of *Sarſa pariglia*, and without all doubt both are good; but there is no parity betweene the Goats-milk, and the decoction of *Sarſa*: there is none of this company, who is ignorant of the faculty of *Sarſa* in curing all maligne, and creeping ulcers: Goats-milke may have some place, if the party be extenuate, and a Hectick fever feared.

As for the locall medicaments, he commendeth this cerat. ℞ *ſucci de pæo* ℥ iij. *ceræ citrinæ* ℥ ij. *roſin. pini* ℥ i ß. *ol. myrtini* ℥ i ß. *terebinthin.* ℥ j. *Bulliant iſta donec conſumptus ſit ſuccus tabaccæ, ac fiat ceratum molle.* I will not stick to communicat with you the description of an unguent of Tabacca which I use mine owne selfe, neither am I ashamed to preferre it before all others of this kinde: the descriptions whereof I have seene. Thus then it is to be made: ℞ *axung. porcin.* ℥ viij. *colophon.* ℥ iiij. *cer.* ℥ iij. *ſucci de pæo lib. 1. pæ. contuſ. man. ij. coq. hæc ad ſucci conſumptu: tum adde gummi Elemni, vernicis alb. terebinthin. an.* ℥ j. *ac coletur unguentum.* It is an excellent incarnative in wounds as well as ulcers: besides this, no better mundificative can be devised in tender bodies, if one dramme of Mercurie precipitate washed, or of the yellow Turbith be mingled with an ounce

of

of it. When you perceive the ulcers to bee filled up; then skin them with this Desiccative of mine: ℞ *Sevi damar.* ℔ß. *Axung. porcin.* ℥iij. *Cer. vernic. colophon. an.* ℥ij. *hisce ab igne amotis insperge calaminar. in vino aloter extinct.* ℥j. *Lythargyr. Plumbi calcin. Æris usti, Henrici rub. an.* ℥ß. *fiat ceratum.* The two prime medicaments which are set downe in Antidotaries to effect this, are *Desiccativum rubrum*, and *Unguentum de minio*, otherwayes called *Unguentum rubrum caphuratum.* Your Emplaster *de Minio* doth not come neere to these in efficacie. Let this which I have delivered serve for the discerning and curing of *Herpes miliaris*, or *Formica ambulativa*, or *corrosiva.*

How these ulcers are skinned.

LECT. XVI.

Of Phagedæna and Nome.

HAving discourséd in the former Lecture of the first kind of the lesse maligne ulcers, which were said to be, *Herpes exedens*, or *Formica ambulativa*, or *corrosiva*, I am to proceed to the other two, to wit, Phagedæna and Nome and because they have not a small resemblance, by reason of the similitude of Symptomes, I will joyntly speake of both: and because what latter barbarous writers have delivered of them is confused, I wil labor diligently to distinguish them, that you shall not need to feare to talke of them before the most learned, if occasion shall be offered. These late writers, in the number of whom are *Gordonius*, *Bayrus*, *Valescus de Taranta*, *Ioannes de Vigo*, *Petrus de Argelata*, *Guido de Cauliaco*, and sundrie others, who lived in our fore-fathers times, when barbarousnesse had exiled eloquence, and ignorance learning: and when all liberall Arts and Sciences had suffered a strange and fearefull eclips, although they set downe sometimes medicaments not to bee rejected; yet I wou'd not have you to trust much to their discourses, or to labour

labour to imitate their phrases. And as the Arabian Physicians doe farre exceed these, so the Grecians are to bee preferred unto the Arabians in their discourses, although they come not neere unto the Arabians in setting downe remedies for the griefes.

If you consider either the varietie or pleasantnesse of them: for many ages together here in the West, *Hippocrates*, *Galen*, *Paulus Æginetæ*, *Oribasius*, *Alexander Trallianus*, and the rest of the Greeke Authors lay unrespected, and the Arabians only were in request, although most rudely and barbarously translated; which no judicious and impartiall Reader of their monuments will or can deny. Wherefore concerning these griefes, I will deliver unto you what the Grecians, the parents of Physicke, and all other liberall Arts and Sciences, have delivered methodically: As for the medicaments which are to be applyed, I will pick out the best, which either the ancient or the moderne writers have revealed to us: neither will I conceale from you what I have found effectuall in mine owne practice.

The Etymon of the name.

φαγέδαινα then is a Greeke denomination, derived from φάγω, which is *edo*, to eat: so that φαγέδαινα may be called in Latine *Vlcus exedens*: in English an eating ulcer.

The significations of it.

It signifieth two things: First, it is taken for all manner of corroding ulcers, which seize not upon the skin onely, but upon the subjacent flesh also: In this signification it is taken by the ancient Physicians, who flourished before *Galens* time. Secondly, it is taken for a speciall kinde of ulcer by the later Physicians, as *Galen. comment. in aphor. 45. lib. 6. aphor. Hippoc.* witnesseth. And it is fit that in discourses and writings all things bee set downe distinctly; for this much helpeth the memorie.

The description of it.

It being taken thus for a particular kinde of ulcer, it may be described an ulcer tumified without putrefaction, deepe and corroding the parts adjacent: In that it is said to bee an ulcer tumified, it is distinguished from νομὴ, the third kinde of eating ulcers, which corrodeth the sound

parts

parts neere unto it, without any remarkable tumor, as more at large you shall heare anon. It is said to be deepe, because it fretteth not onely the skin, but the fleshy part also under the skin. And by this circumstance it is distinguished from *Herpes exedens*, which is an exulceration of the skin only. So this kinde of ulcer is not without cause called φαγέδαινα, or *ulcus exedens*, because it eateth and fretteth the sound parts neere unto it, making them of this same condition with the diseased.

It is caused of the bilious humor adust inclining to that melancholy humor, which is superfluous and not naturall; yet it is not to bee thought that it is very thicke, as is that which procureth a cancer: or so thin as that which causeth Erisypelas and Herpes. This humor, by reason of the plentifulnes of it, doth fill the brims of the ulcer, and causeth a swelling to appeare; but by reason of its malignitie and acrimonie, it fretteth the parts adjacent which are sound. Nevertheless this humor is without putrefaction, which is alwaies in the ulcer called νομὴ, or *ulcus depascens*, an ulcer which feedeth upon the parts adjacent that are sound; for in Phagedæna there is erosion proceeding of a maligne qualitie without putrefaction, or corruption of the whole substance, which is alwayes joyned with malignitie in a νομὴ. The materiall cause of it.

Then the pathognomoni call signes of a Phagedæna are these: First, it corrodeth not the skin onely, as *Herpes exedens* doth, but the subjacent flesh also: The second is this, that in Phagedænicall ulcers the brims are tumified: The third is, that although there is erosion of the sound parts adjacent, yet there is no putrefaction: And by these two last signes it is distinguished from νομὴ, *ulcus depascens*, a consuming ulcer. The signes.

Νομὴ in Greeke, in Latine *Vlcus depascens*, in English a feeding or consuming ulcer. It is derived from νεμω, *Depascor*, I feed upon: for it passing from the diseased parts, it seizeth upon the sound and whole parts, and feedeth upon Νομὴ. The Etymon.

on them by communicating unto them both malignitie and putrefaction. It may be thus described.

The description.

Νομὴ, it is a corrosive ulcer, without any tumor in the brims, indued not onely with malignitie, but putrefaction, or corruption of the part, also feeding upon the adjacent sound parts, and that deeply. In that it is termed a corrosive ulcer or maligne, it agreeth in this with *Herpes miliaris* and Phagedæna. But whereas it is said to bee without any tumor in the brims, I meane remarkable, and to have putrefaction annexed, by these two signes it is distinguished from Phagedæna, or *Vlcus exedens*, an eating ulcer: for so I think fit to name it; that in denomination also it may bee knowne from νομὴ, *ulcus depascens*, a consuming or feeding ulcer. Last of all, where it is affirmed that it doth corrode not superficially onely the skin, but the subjacent fleshy parts also: as it hath this common with Phagedæna, so by this it is knowne from *Herpes exedens*; for this causeth exulceration onely in the skin.

Chironian and Telephian ulcers.

But seeing there is often mention made in the monuments of the ancient Physicians, of χειρώνεια, and τηλέφια ἕλκη, of Chironian and Telephian ulcers, as of *Galen*, *Paulus Ægineta*, and others who follow them, it will not bee amisse to discourse a little of such ulcers: that you may know what is meant by these denominations, and bee able to answer any, if you be demanded what is meant by these termes.

Of these ulcers thus speaketh *Galen. de tumorib. præter nat. c.* 13. ὅσοι δ' ἐν αὐτοῖς, &c. whose discourse may bee thus Englished: Those ulcers which consume, and meddle with the sound parts adjacent, or about, corroding them; all these are called Phagedænica. So that Phagedæna is framed of the ulcer and the tumor. *Herpes* in like manner doth erode the parts about it; but it resteth in the skin onely: but Phagedæna doth extend it selfe as well to the subjacent parts as to the skin. But it is to no purpose to call ulcers Chironian, or Telephian. It is sufficient to call all such ulcers κακοήθη, *Malignae* that is, of an ill condition or qualitie. By this passage

sage of *Galen* translated by mee, you may gather three conclusions.

The first is, that in a Phagedæna there is an erosion not onely of the skin; but of the fleshy parts subjacent also, by the which it is distinguished from *Herpes exedens*, or *Formica ambulativa*, whereof I discoursed in my former Lecture.

The second is, that in a Phagedæna there is a tumor in the brims of the ulcer, whereas there is none in a ῥυπῶδι, or a consuming ulcer, called by Latine Authors *Vlcus depascens*, to distinguish it from *Vlcus exedens*, an eating ulcer.

The third is, that the denomination of Chironian and Telephian ulcers, doe onely signifie maligne ulcers in generall; but no speciall kinde of ulcer in particular. In *Paulus Ægineta de art. medend. lib. 4. c. 46.* bearing this inscription of ulcers of an evill condition, which are called Chironian and Telephian by Physicians: these words are read as I have translated them. Old and inveterate ulcers, which hardly admit skinning, which are named κακοηθῆ, or maligne, some call Chironian, as if they did require the hand of the Centaure *Chiron*, the most excellent in the Art of curing: others call them Telephian, such as *Telephus* was troubled with, which require the helpfull hand of *Achilles*, who cured him. So hee jumpeth with *Galen*, that these titles were ascribed to all maligne ulcers; but did point at no particular kinde of ulcer.

Now it cannot be amisse briefly to shew unto you what men *Chiron* and *Telephus* were, seeing they are so famously recorded by the Poets: They who are Scholers amongst you, cannot but be delighted when the studies of the youth are brought to remembrance. *Chiron* then was one of the Centaures, which were a people who inhabited the places neere to Pelion, the hill of Thessaly. These first began to breake great horses, and to fight on horse-back: wherefore the neighbouring people, when it first saw them, beleeved them to bee strange creatures, composed and framed *Chiron.*

partly

partly of humane, partly of horses members: O strange simplicitie! This *Chiron* was the sonne of *Saturne* and *Phillyra*. It seemeth that he was called *Chiron*, because hee had a singular dexteritie in the manuall operations of Chirurgerie: for ἡ χειρ, χειρὸς, in Greeke is an hand. He taught *Æsculapius* the Art of curing: *Peleus*, *Achilles* his father, was his sonne in law, of whose daughter *Thetis* he begat *Achilles*, so much commended for valour and strength by the Heathen Poets. He taught *Achilles* being his grandchild, Chirurgerie, playing upon the Citherne, and horsemanship. The two kindes of Centorie, the greater and the lesser, *Centaurium majus & minus*, are named of him, whereof there is great use in the practice both of Phyfick and Chirurgerie. It is like that hee was fortunate in the curing of malign ulcers, by reason of the great skill which he had in the knowledge of the facultie of plants. Hee lived but 2690. yeares after the creation of the world, that is, 77. yeares before the destruction of Troy, which fell out *Anno mundi* 2767. Then 2685. yeares are expired sithence famous *Chiron* lived. This may serve to prove the antiquitie of Chirurgerie. Posteritie for his worth named the ninth signe of the Zodiack *Sagittarius*, who ruleth the thighs, from him: From whence *Virgil* of the twelve Signes:

Armatusque arcu Chiron, & corniger hircus.
Chiron armed with bow, and the horny goat.

By this we may gather how vertue and learning were regarded in the rude and simple ages, which are verie little esteemed in these civill times, wherein most men are given to enjoy their pleasures, which will cost them too deare, when the generall accompt shall be made.

Telephus. *Telephus* was one of *Hercules* his sonnes, who being adopted by the King of Mysia who then reigned, after his death succeeded him in government. When he would have hindred the Grecians marching towards Troy, from passing

thorow

thorow his countrey, in combat he was wounded by *Achilles*; but afterward being reconciled to *Achilles*, he was cured by him, hee mingling with either an unguent or a cataplasme, (for *Malagma* signifieth both) the rust of his speare, and it is not unlikely; for there is none here (as I suppose) who knoweth not the facultie of *Crocus Martis* in cicatrizing of rheumatike ulcers, it drying strongly without any sharpnesse; unto which the rust of old iron washed and prepared commeth verie neere. So *Achilles* made sufficient proofe of his skill in the Art of Chirurgerie, which he learned of his grand-father *Chiron*. Goe to then, let effeminate Hind-calves despise the Art of Chirurgerie, which so eminent a person as *Achilles* was, was not ashamed to practise. From *Achilles* Millefole is called *Sideritis Achillea*, *Achilles* his Star-woort: and it may bee that it was one of the chiefest ingredients of the cataplasme: surely it is an excellent healing plant. To conclude then this point: maligne ulcers who are not easily cured, are called *Chironia*, because *Chiron* was able to cure them, and *Telephia* because *Telephus* was troubled long with such an one.

Now time calleth to goe forward in the handling of these corrosive ulcers: but before I set downe the manner of curing, the predictions of the events which are like to fall out in the course of curation are first to be set downe. I. Neither of both these corrosive ulcers are of easie curation, what body soever they light upon; and for three causes: for first, there is a κακόχυμια, an ill constitution and temperature of the part, by the which the aliment which is sent to the part, although it be good, is corrupted. Secondly, a fresh supply of noxious humors is sent most commonly to maintaine the griefe. Thirdly, because the ordinarie medicaments which are applyed with good successe most commonly to other ulcers, in these ulcers are ineffectuall. II. If these ulcers light upon a cacochymicall body, the case is yet worse: for the constitution of the body must be altered before these griefes can be cured, which is a matter of no small difficultie. III. If Presages.

these

these seize upon decrepit persons, the case is in a manner desperate: for in such the naturall heat is weake, and the radicall moysture almost spent: so that great store of corrupt and saltish humors are bred in the bodies of such, which being sent to the weak parts ulcerate, increase these griefes.

The intentions of curing.

Diet.

The curation is performed by three meanes: to wit, a convenient diet, internall medicaments, and locall applications: As for the diet, those meats and drinks must be used which afford a laudable juyce; whereof I have spoken before: and in that measure that the naturall heat may bee able to concoct them, that no superfluities be bred. Besides this, meats which are easily corrupted in the stomack are to be shunned, as milk meats, summer fruits, and salt meats: slimie fishes, and Swines flesh are to be shunned, because they afford no good nourishment.

Internall medicaments.

Of internall medicaments I meane not to speake much, because this would require a longer time than now can be permitted. If a person be troubled with an ordinarie Phagedæna or Nome, be of strong constitution and plethorick, you may minister unto such *Hiera Diacolocynthidos magistralis*, or *Pilulæ aggregativæ majores:* If the partie be weake, you may minister *Pilulæ stomachicæ:* Those which I use are these; ℞ *Aloes* ʒij. *Rhab. Agar. Trochiscat. an.* ʒj. *Mirrhæ*, ℈ij. *Mastich.* ℈j. *Syrup. Augustani, q. s. ut fiat massula. dos. Pilul.* 2. *pond.* ʒß. *à primo somno: vel sumat unam paulo ante cœnam, alteram paulo antequam ineatur somnus.* Whether the parties be strong or weake, who are troubled with these corrosive ulcers, they are to use decoctions made of Sarsaparilla, Guajack, *Radix Chinæ*, Tormentil, Bistort and Comfrey roots, with the which you are to joyne some Vulneraries, as Agrimony, the tops of S. *Iohns* woort, Sanicle, our Ladies mantle, mountaine and garden Avens, *Salomons* seale.

Apud Rivadæum de bieris cap. 4.

Noma of the privie parts were knowne to the ancient writers, as we may perceive by *Paulus Æginetæ de Art. med. lib.* 4. *c.* 44. *sub finem.* In our times they seldome are seene

Noma verendorum.

to

to proceed from any other cause, than impure copulation. Such are often seene, in the which the whole *Præpatium* doth sometimes rot away. These corroding venereall ulcers require the generall cure of the Neopolitan disease, besides effectuall Topicks.

Now followeth the last indication of curing these corrosive ulcers, which is the application of locall medicaments. In a Phagedæna wherein there is a tumor of the brims, you are to apply *Vnguentum populeum*, and *Vnguentum album caphuratum*, mixed together in equall quantitie to them. The second thing which I would have you to observe is this, that Nome, or *ulcus depascens* doth require stronger Topicks than Phagedæna, or *ulcus exedens*. Marke then these medicaments which I have picked out of *Ægineta*: I. ℞ *Calcis viva, Vitriol. Vomit. an.* ʒij. *Auripigmenti* ʒj. *fiat pulvis subtilis ex his.* For a Phagedæna apply the unguent of Tobacco, having some of this powder mingled with it, as ʒij. for an ounce of the unguent. If you have to doe with a Nome, make a liniment of this powder and Oxymel, and apply it to the ulcer. II. ℞ *Vitriol. albi* ʒj ß. *Croci Martis*, ʒvj. *Gahar.* ʒviij. *Crocus Martis* well prepared farre exceedeth their *Squamæ ferri*, the scales of iron. Receive this medicament of my description: ℞ *Calc. viv. Vitriol. albi, Auripigmenti, an* ʒj. *Malicor. Balaustior. cornu Cervi ust. Gallar. Pumicis calcinati, Alum. usti, rad. Aristol. rot. an.* ʒß. *Croci Martis, Plumbi calcinati, æris usti, an.* ʒvj. *Cum melle despumato fiat Electuarium.* Let mee commend unto you an Ægyptiacum which is not the vulgar: *Primò infundantur absynthium, Carduus benedictus, Centaurium minus, Scordium, Chamædrys, Malicorium, Balaustia, Galle, & rad. Aristol. rot. in aceto fortissimo:* ℞ *hujus Aceti colati* ʒvij. *Ærug.* ʒv. *Mell.* ʒxiiij. *coq. lento igne ad unguenti consistentiam.* This medicament is effectuall in venereall ulcers of the throat, and privie parts, and in all sordid ulcers.

The application of Topicall meanes.

You are to continue the application of these medicaments untill you see the corrosion stayed, and the ulcers red

How long you are to use these medicaments.

and well mundified. When you have perceived this, incarnate the ulcers with some of the consolidatives before set downe by me. Last of all, cicatrize the sores with such epuloticall meanes as I set downe in my former Lecture.

An admonition.

But to shut up the delivery of these ulcers, which are of the mildest sort of the maligne, so much as concerneth the knowing and curing of them: let mee advise you that you promise no sudden cure of any ulcer, if it hath continued but one moneth: for the bodies of the inhabitants of this Iland, are for the most part plethorick, they will observe no good diet, and will not bee estranged from the sacrifice of *Venus*. It is a strange thing to see what corrupt and ugly stuffe is covered by the curtaines of a beautifull skin, in a number of them. I make no doubt but many amongst you, who are least employed in practice, have had sundrie patients, who have come to you pretending that they were only troubled with a pimple of the forehead, a red eye, a difficultie of swallowing, shedding of the haire, watching in the night time, and paines betweene and in the joynts: whereas indeed these griefes were venereall pustules, the Neapolitan Opthalmia, virulent ulcers of the throat, *Alopecia Gallica*, the vigils of *Venus*, & last of all the pockie joynt ague. It is no hard matter to those who are judicious, to finde out the symptomes of that griefe, which *Vigo*, the father of Empyricks, doth affirme to be able to bring the accidents of all diseases in particular, according to the diversitie of the constitution of the bodies upon the which it seizeth. If therefore you see any ulcers, in what part soever, more painfull than the solution of such an unitie requireth, that it yeeldeth not to ordinarie medicaments appoynted for ulcers, than suspect that there is a latent malignitie. Value not therefore your credit at a trifle, bee not too bountifull in promises, lest they bee required at your hands: suspect and pronounce in doubtfull cases alwayes the worst; for the best will save it selfe. Thus doing, you shall bring in no new practice. Many practicers there be, it

is

is uncertaine whether of ignorance or policie, who aggravate the griefe of those who wholly commit themselves to them, that the greater credit and gaine may redound unto themselves, if the persons diseased escape, and the lesse blame may be laid to their charge if they die. In these proceedings there are two excellent teachers, Skill and Conscience: The first is to enable, the second is to direct practice. So much I thought good to deliver unto you of the three mildest kinds of maligne ulcers, to wit, *Herpes exedens*, Phagedæna, and Nome.

Lect. XVII.

Of a Cancer and a cancerous ulcer.

When I ceased from reading last, I put an end to the doctrine of ulcers lesse maligne. Now am I to discourse of these ulcers which are accompted most maligne, and are so indeed. Of these there are two sorts, a cancerous ulcer, and a leprous ulcer: of purpose I referred the handling of a Cancer and a cancerous ulcer to this place, because it fitteth them best, as you may perceive anon. First then, I will discourse of a cancerous tumor, and then of a cancerous ulcer. A cancerous tumor is called by *Galen*, *de tumor. prat. nat. c.* 12. καρκινώδης ὄγκος, in Latine *Cancrosus tumor*; It may be thus defined:

The description of a cancerous tumor.

It is a tumor proceeding of *Bilis atra*, round, hard, unequall, of a leady colour, hot, verie painfull to the patient, and having full veines implanted in the adjacent parts. For as a crab, in Latine *Cancer*, hath a body and feet of a livid colour, and whatsoever it claspeth with the clawes, it holdeth it firmly, so this griefe is of a livid colour, and so girdeth the part which it possesseth, that it seemeth to bee nailed to the part, and about it the full veines exquisitely imi-

The cause of the name.

tate the feet of a crab: and from these similitudes the tumor hath its name.

In the description the tumor is said to proceed from *Atra bilis*, or melancholy, or choler aduſt; for it signified both: for there are two sorts of *Atra bilis*: the one is caused of naturall melancholy aduſt: the other is caused of yellow choler burned, and it is much more maligne than the former. See *Galen, lib. 3. de atra bile.*

The differences of *atra bilis.*

The efficient causes.

There are sundry efficient causes which ingender these humors in our bodies: First, a strong hot distemperature of the liver, which burneth the naturall melancholy and yellow choler, and so hatcheth this *Bilis atra.* Secondly, according to *Galen, c.* 10. *lib.* 2. *ad Glaucon.* the spleene by reason of its weakneſse and distemperature, doth not draw unto it selfe the superfluous naturall melancholy, and so staying long without it owne proper place it is inflamed and burned. Thirdly, sometimes this humor is caused of the menstruall courses, and Hemorrhodes stopped. Fourthly, verie often an ill diet breedeth this humor, as when one useth meats of an ill juyce, and of a thick substance and hot qualitie, as garlick, onions, leekes, snailes, veniſon, peaſe and beanes, and such like. But there is nothing more pernicious than the immoderate use of potent and strong wines, such are all kindes of Sacks, and Greeke wines, which exceedingly burne the humors in the masſe of the bloud: An hot aire and perturbations of the minde set forward also this humor. But seeing there are degrees of malignitie in *Atra bilis*; the cancerous tumor, or Cancer not ulcerate, is caused of the milder sort of it; but a Cancer ulcerate is procured of that kinde which is most maligne.

The cause of a Cancer not ulcerate and ulcerate.

Take heed that you imagine not any sort of Cancer to be engendred of natural melancholy, which *Galen, de art. curat. ad Glaucon. c.* 10. *lib.* 2. affirmeth to be that part of the bloud which representeth the wine lees, when it is made by the liver, which is drawne by the spleen, wherwith it is nouriſshed: for superfluous naturall melancholy causeth only Scyrrhus.

Why a Cancer is not bred of naturall melancholy.

Of

Of the materiall cause of a Cancer thus speaketh *Galen*, *De tumor. pret. nat, c.* 12. When *Bilis atra* seateth it selfe in the flesh, if it bee sharp it corrodeth the adjacent flesh, and doth cause an ulcer; but if it be milder, it procureth a Cancer without ulceration. *Æginet. lib.* 6. *c.* 45. hath these words: A Cancer is a tumor unequall, with tumified brims, ugly to behold, of a leady colour, indolent, sometimes not ulcerate, which *Hippocrates* calleth κρυπτὸν, or hidden; sometimes ulcerate: And seeing it hath it beginning from *Atra bilis*, for the most part it becommeth ulcerate: So he. The materiall cause of a Cancer.

Where you are to note, that he affirmeth a Cancer to be indolent, or without paine, which is contrarie both to experience and reason. *Celsus* also, *lib.* 5. *c.* 28. seemeth to grant some Cancers to be without paine. For first, there is a solution of unitie, by reason of plentifull matter stretching the parts, and pressing the sensible parts. Secondly, there is a verie hot distemperature, by reason of the humor which cannot be discussed, which of a necessitie must cause paine. The explication of the rest of the particles set downe in the description, shall be set downe in the deliverie of the signes, to avoyd tedious repetition of the same things. That a Cancer can hardly bee without paine. I. II.

The signes then of a cancerous tumor are these: I. according to *Galen*, *lib.* 14. *method. c.* 9. a Cancer in the beginning is hardly discerned: for the symptomes are but mild, and sometimes it is no bigger than a pease, or a beane, or a filbert-nut. II. It is hard, by reason of the thickneſse of the humor, which withstandeth the touch. III. It is of a leady colour, representing the colour of the humor whereof it is bred, yea the more maligne it is, the more livid and black it appeareth. IV. The tumor is verie painfull: First, because *Atra bilis* the materiall cause of it is hot: Secondly, because no heat can breath out, the substance of the Cancer being so compact. V. It is round, because the matter being thick, is not so apt to fleet abroad. VI. It is unequall, by reason of the ebullition of the humor, which notwithstanding is not equally active in all parts of the tumor. Last of The signes of a Cancer.

all, a Cancer hath black or livid veines extended to the adjacent parts; for this atrabilious humor cannot sweat out of the veines, which is the cause that they appeare verie full.

What parts a Cancer may possesse.

As for the parts which a Cancer invadeth, although it may breed in all parts of the body, yet it is most often seene in the brests and matrices of women, and in the lips and nose of the face. I have seene it also *in ano*, and in the top of the yard.

Why it doth possesse the brest.

The brests most promptly receive this atrabilious humor, because they are of glandulous and loose substance: Besides, the *Mammariæ* veines meet with the *Vterinæ* under the straight muscules of the belly; so that the matrix may discharge it selfe of adust and feculent melancholy bloud by regurgitation, which may cause a Cancer if it passe to the dugs.

Why the matrix.

A Cancer in like manner doth appeare verie often in the matrix, by reason of the detention of the menstruous bloud, which staying above the ordinarie time is burned. The lips also are spungeous & soft, and so apt to receive *atra bilis*, the materiall cause of a Cancer. *Galen, de art. curat. ad Glauconem, lib. 2. c. 10.* hath these words: Cancerous tumors may bee in all parts of the body, but chiefly in the paps of women, which have not their purgation according to nature. *Æginet. lib. 6. c. 45.* saith; A Cancer doth happen to sundry places of the body, but chiefly to the matrix and paps of women.

Prognosticks.

As for the predictions before curing, receive these: I. Although Cancers may appeare in all the quarters of the yeare, yet most commonly they shew themselves about the ending of the summer, and during the whole time of the harvest: because in these seasons, the melancholick exceedingly increaseth, and humors become adust. II. No Cancer is easily cured; for if all ulcerate Cancers be incurable, according to *Galen, c. 5. lib. de atra bile:* no cancerous tumor can easily bee cured, it having the same efficient cause. III. A

Cancer

Cancer not ulcerate, if it hath possessed any deepe cavitie of the body, as the matrix or *anus*, it is not to bee dealt withall, according to *Hippoc. lib. 6. apher.* 38.

You must understand that hee meaneth the curing by excision, causticall meanes, or ustion: for the ulcer will not admit cicatrization, and so the diseased parties live in continuall paine and filthinesse, and at the last die miserably. But hee forbiddeth not the application of locall meanes, which asswage paine and gently mundifie. IV. Cancerous tumors in the outward parts, and onely superficiall in the beginning, may be cured according to *Galen, lib. 2. c. 10. ad Glaucon.* V. When cancerous tumors are come to a remarkable bigneſſe, they onely can bee cured by extirpation. VI. If a Cancer not ulcerate hath possessed the matrix, the partie feeleth great paine in the groines, and hath often a difficultie in making of water: If the Cancer be ulcerate, it sendeth out a loathsome and cadaverous smell, the vapor whereof ascending to the heart and braine, causeth sometimes fainting. VII. If the afflicted partie be weake, and the cancerous tumor be inveterate, or of a long continuance, it is not to bee dealt withall with excision, adustion, or potentiall cauterie: onely lenitives are to bee used to procure a palliative cure: for sundry have continued even to their decrepit old age, with a Cancer not ulcerate.

The explication of *Hippocrates*.

Now it is time to addresse my selfe to the setting downe of the curation of a cancerous tumor: The meanes appointed for it are three, Dieteticall, Pharmaceuticall, and Chirurgicall.

The curation of a cancerous tumor.

As for the Dieteticall meanes, all thick and strong wines are to be shunned, course bread, Cabbage, and Colwoort, Cheese, old and salt flesh, old Hares, and Venison: Watching, immoderate labour and griefe are to be shunned; as also all other things, which thicken the bloud, and inflame the humors. Let the diet bee cooling and moystning. Barley creame is good, and Ptisan, Mallow flowers and roots, Succorie flowers and roots, Borrage, Bugloſſe, Violet

I.

flowers, Endivie, Spinach, Purselaine, and all sorts of Sorrell in broths are good: young Mutton, Veale, Kid, Capons, Pullets, Chickens, young Leverets, Partridges: Fishes which live in cleare and gravelly rivers, and poched Egges are permitted: let the drinke bee Beere or Ale, of a reasonable strength, not too new, or too old: small white wine with Sugar, Borrage, and Burnet, is best of all others.

II. As for the Pharmaceuticall meanes they are two, Phlebotomie and Purgation. It hath beene observed, that the most convenient time for bleeding is the full of the Moone; for it miraculously stayeth the ebullition of the bloud, asswageth the paine, and hindreth the increase of the tumor. But you may demand of me what veines are to be opened? I answer: If the tumor be in the lip, open the Cephalica; if it be in the brests, open the Basilica of the right arme, if it be in the right brest; and of the left arme, if it bee in the left brest: If the tumor be in the matrix or anus, open *Vena poplitis*, or the Saphena.

Phlebotomie.

What veines are to be opened.

Purging. As for purgation, minister *Hiera diacolocynthidos*, or *Electuarium lenitivum* in whey; the infusion of Sena in Endive water, and ministred with the Syrup of Succorie with Rhubarb is very effectuall: yea ʒi ß. of *Pulvis sanctus*, with an ounce of the Syrup of damask Roses in whey is excellent. It is not sufficient to give these medicaments once; but at the first they are to be ministred twice a weeke, and afterward either a day before or after everie quarter of the Moone and full: for so not onely some part of the humor will be drawne from the tumor; but new matter also will be hindred from flowing.

Now having set downe the cause of the name of a Cancer, the description of it, the signes, the prognosticks, and the Dieteticall, and Pharmaceuticall meanes of curing of a Cancer not ulcerate, onely the Chirurgicall or Topicall meanes rest to be set downe.

The chirurgicall meanes. But seeing the constitution of bodies is not uniforme, and the griefe it selfe is of a most maligne qualitie, varietie

of

of locall medicaments is required: I will labour therefore to answer your expectation in this: But first of all, seeing in a Cancer there is a double poyson, as learned *Heurnius* upon the 38. Aphorisme of the sixth Booke noteth: for the one is putrefactive, the other corrosive: If you apply hot and moyst medicaments, which usually bring maturation in Apostemes, you shall procure putrefaction: if you apply corrosive medicaments, you shall assist the other poyson, and increase the griefe. Wherefore those which repell and digest are aptest, as *Galen* hath noted fourteene method: wherefore no emplastick medicament can bee good; for it hindreth perspiration.

The faculties of medicaments fit for a Cancer.

Of all things which give a consistence to juyces, Rye-meale and the flowre of Lupines are the best: for by a secret facultie they tame the fierceneſſe of a Cancer. To proceed then in the setting downe of locall meanes, you may apply a cataplasme made of the juyce of Night-shade, Rye-flowre, and some *Vnguentum populeon*, or the juyce of Comfrey with the flowre of Lupines: you may use in like manner the juyce of the Horse-taile, Knot-grasse, Plantane, Perwinckle, Shave-grasse, Millefoyle, Tapsus barbatus, Clownes all-heale, and Dracontium.

What things are best to give consistence to medicaments.

A cataplasme of Snailes and ground Ivie is excellent: If the tumor be verie painfull, apply a cataplasme of the pulp of the roots of Henbane and Hemlock, with Rye-flowre and some oyle of Myrtils: or a cataplasme of the flowre of Lupines; the water of the sperme of Frogs, and the leaves of herb Robert, which is a kinde of Cranes bill, exceedingly commended by sundry. If you take ij. ℥. of the oyle of Quinces, and one ounce of the Vineger of Roses or Elders, and worke them in a leaden mortar, untill they become of a leady colour, you shall have an effectuall medicament: you may also dissolve *Diapalma cum succis* with oyle of Roses, that it may bee brought to the consistence of a liniment. Goats dung with hony brought to the forme of an unguent is commended: as also Rettish seed beaten & mingled with vineger.

vineger. Many commend a cataplasme of Raisins stoned, Rue, and the leaves of Night-shade. This *Fabricius, ab aquapendent.* commendeth: ℞ *Solan. hort. virg. aurea, sonchi, an. man.* ij. *coctis in aqua & contusis adde far. filigin.* ℔ j. *Ol. ros.* ℥v. *fiat cataplasma.* The Chirurgeons in Italy had in *Fabricius* his time, a medicament of greene Frogs effectuall against a Cancer, and in the Gout: thus it is made; Take a good number of greene Frogs, whose mouths fill with sweet butter, afterward put these Frogs in an earthen pot well glazed, having a cover, and the bottome full of holes: place this pot in the mouth of another earthen pot placed in the ground; lute these well together, and the cover of the upper pot: then for the space of three houres, let a gentle fire of Charcole bee set about the upper pot, to drive downe all moysture and fat to the lower: when the pots are cold, take out the Frogs out of the upper pot, and beat them untill you feele no roughnesse betweene your fingers: Last of all, mingle the fat and moysture in the lower pot, with this substance, and keepe this mixture in a cleane galley-pot. Receive also this medicament from *Parrey, Lib. 6. de tumor. prat. nat. c.* xxx. ℞ *Theriac. veter. Succi lactuc. & ol. Ros. an.* ℥j. *Succi cancrorum* ℥ß. *Vitellos ovorum indu-ratos numero* 2. *Ducantur in mortario plumbeo ad unguenti consistentiam.* Hee also in this same chapter commendeth a thin plate of reed anointed with quick-silver. The Cancer is to be dressed morning and evening. So much then of a cancerous tumor, or a Cancer not ulcerate, now am I to deliver unto you the curation of a Cancer ulcerate.

How often the Cancer is to be dressed.

Of a cancerous ulcer.

A cancerous ulcer is an ugly ulcer, having a most stinking smell, thick lips, and turned outward, greenish and fretted, which yeeldeth a Sanies black, or of a dark yellow colour, and is exceeding painfull. *Riolan* the father in his Chirurgerie, in the second Section of ulcers, *c.* 13. affirmeth this sanious matter to be a strong poyson. No death could be devised too cruell for such an one as should give it to a man.

The signes.

The partials of the definition containe the signes of a

Cancer

Cancer ulcerate, so that I need not to insist longer in the explication of this point.

Of a cancerous ulcer there are two meane differences, *Lupus* and *Noli me tangere:* that is in the thigh or leg, this in the face. A Cancer in other parts of the body hath no particular denomination; but doth retaine the generall appellation, with addition of the part affected, as a Cancer of the breast. The differences.

One thing is to bee noted, that in other countries, if a *Lupus* be troublesome, they apply the flesh of an hen, chicken, pigeon, whelp, or kitling cut asunder, according to the length: for so the furie of the disease ceaseth, the malignitie of the sanies is eased, and the corrosion is stayd: See *Riolan* and *Ambrose Parrey* in the places before cited. A Note.

As for the prognosticks: First, if a Cancer not ulcerate be of hard curation, an ulcerate must bee of an harder: Secondly, if the partie bee weake and feverish, the matter is desperate. The Prognosticks. I. II.

As for the curation, the diet, phlebotomie and purging, which I have set downe for the curing of a cancerous tumor will serve here also: wherefore this onely remaineth to set downe the locall medicaments. The curation.

This then shall be the first: ℞ *Plumbi usti & loti, Tutiæ & Thuris, an.* ℥v. *Absynthii* ℥j. *ol. Ros.* ℔. ß. *Ceræ,* ℥j ß. *Succi Solani, q. s. Ducantur in mortario plumbeo ad unguenti consistentiam.* Apply this upon pledgets of lint, or fine tow: above this, to asswage paine, apply a cataplasme of the leaves of Succorie, marish-Mallow, and the white Poppie beaten, and tempered with oyle of Roses. Locall meanes. I.

The second shall bee the application of the juyce of Night-shade out of *Tagaultius, tractat. de ulcer. c.* 19. Moysten a double cloath in the juyce of the Night-shade, and apply it to the ulcer; then apply above this cloath a pledget of tow or wooll moystened in this same liquor. II.

You may keepe the juyces of herbs all the yeare long, by putting them in a glasse, having a fosset in the bottome, and powring How the juyce of herbs is to be kept.

powring oyle upon the juyce, that it may bee three inches thick above the juyce.

III. You may also use the juyce of our English Tobacco, and those which I named in curing of a Cancer not ulcerate.

IV. The distilled water of the herbs with Camphir, applyed after this manner is effectuall.

V. If you dissolve the Camphir first in the spirit of wine, it will mingle the better with the waters: ℞ *Mellis verbascini,* ℥ij. *pulv. Malicor.* ʒiij. *ol. Nuc.* ℥j. *Misc.*

VI. This medicament of *Fallopius* is excellent: ℞ *ol. Ros. & Omphacini, an.* ℥vj. *ol. Myrtini & unguent. popul. an.* ℥iij. *fol. Solan. & Plantag. an. man.* ij. *Bulliant lentissimo igne ad Succorum consumptionem, tum colentur: colaturæ adde ceræ* ℥iiij. *hæc eliquata omnia amoveantur ab igne: Quum adhuc tepent adde lithargyr.* ℥vj. *Cerussæ,* ℥ij. *Tutiæ,* ʒij. *Plumbi usti* ʒij ß. *Ducantur in mortario plumbeo per duas horas.* All these medicaments which I have set downe, only are to stay the increase of a Cancer, and to abate the raging paine in those Cancers which are large and deepe.

De ulcerib. c. 12.

The use of corrosives. If a Cancer be but superficiall, it may bee eaten out with Arsenick sublimed: The manner of the sublimation of it and use, I did shew when I discourse of Fistula's.

The curation of a *Noli me tangere.* A *Noli me tangere* in the lip, if it hath not eroded a great quantitie, it may bee cured as an hare-lip, with little deformitie.

For a Cancer in the matrix or anus. As for a Cancer in the matrix or anus, use this medicament: ℞ *Stercor. bubul.* ℔. iiij. *herb. Robert. Plantag. Sempervivi, Hyoscyami, Portular. Lactucæ rend. an. man.* j. *Canc. fluviat. numero* 12. *Contundantur omnia, ac distillentur in Alembico plumbeo, imbuatur caphura, ac frequentèr injiciatur, aut sola, aut cum aqua sperm. ranar.* As for the method of the extirpation of a Cancer, I will reserve it to that part of Chirurgerie which teacheth the way to remove things inconvenient to nature, called ἀφαιρετικὴ.

Medicaments in the shops. The medicaments in the Apothecaries shops fit for Cancers are, *Unguentum de tutia, de lithargyr. de minio, Desiccativum*

tivum rubrum. Fabricius ab aq. pendent. de tumor. c. 3. setteth downe a method whereby an Empyrick cured sundry *Noli me tangeres*, and Cancers in other places: and it is this, ℞ *Vitriol.* ℔. j ß. *Auripigment. Sulphur. vivi, an.* ℥iiij. *Sal. gemm.* ℥ij. *cum aceto fiat pasta. In olla terrea probè lutata siccetur in furno.* With this powder he consumed the Cancer, but by divers applications. Empyricall meanes.

You shall know that the Cancer is quite extirpate, if laudable flesh appeare, like to the seeds of the Pomegranate, if it yeeld good quittor, and no sanious and stinking matter: then he healed it with this unguent: ℞ *Mell. despumat.* ℥iiij. *Sevi hircin. limatur. capri, an.* ℥j ß. *Litharg. auri,* ℥j. *Misc.* Another in Essex about thirtie yeares agoe, in curing of Cancers, used onely the greene Treat, and white Vitriol, for everie ounce of the Treat taking ℥j. of the Vitriol: and by all likelyhood the medicament of *Payne* the Smith, with the which he went about to cure *Noli me tangeres*, was but a medicament composed of Arsenick, Orpiment, unslaked Lime, Bole and sweet Butter. You see how I conceale nothing from yon. How we shall know a Cancer to be exstirpate.

The Chymists will have arsenicall, realgarian, and orpimentall substances separated from the naturall balsome, or composition of the body, to bee the causes of these cancerous tumors and ulcers, when they settle in the parts, and cannot bee discussed: howsoever, they represent fitly the nature of a Cancer: for as it is, so are they of a putrefactive qualitie. Let no man marvell, that sundry minerals may be in the body, seeing we see stones in the gall, kidneyes, and bladder. The cause of Cancers according to Chymists.

For the curing of Cancers they commend Antimony so prepared, as it doth not vomit, or trouble the body; but either procureth sweat, or purgeth downward: and indeed it is an excellent medicament: for it changeth the constitution of the body, and mundifieth the masse of bloud. The manner how to cure Cancers according to Alchymists.

As for the Topicks, use the oyle of Arsenick, or whereof *Mercuries vitæ* is made, mixed with oyle of Roses in due proportion, Their Topicks.

proportion, and these two have no fellowes; for I protest, I have often made experiment of both. If any be desirous to know, and make use of any thing which I have delivered, I will not be nice to impart it.

Lect. XVIII.

Of the Leprosie and a leprous ulcer.

NOw followeth the second kinde of ulcers most maligne; to wit, a leprous ulcer. But first of all, I will discourse of the Leprosie it selfe, and then of the nature of a leprous ulcer.

The names of it.

The Leprosie in the Greeke and Latine tongue is called λέπρα, from λέπος, *scaber*, rough: for it maketh the skin rough and uneven: or from λέπις ἰδος, *squama*, or *cortex*, a scale or bark, because it sendeth out scales, & maketh the skin rough like to the bark of a tree. There be two sorts of leprosity: to wit, the Grecian and Arabian Leprosie.

The divers kindes of leprosity.

The Grecian leprosity may be thus described: It is a tumor with a confirmed hot and dry distemperature of the skin, both in the outer and inner part of it, wherein scales, like those of fishes, are sent out: so that *Pruritus*, *Scabies*, and *Lepra Græcorum*, the itch, scabbinesse, and the Græcian leprosity differ onely in degrees of tumifaction, and distemperature.

The difference between itching, scabbines, and the Greeke leprosie.

In itching there is no remarkable tumor, neither doth any thing fall away from the *Cuticula*, unlesse it be fetched away by hard scratching. In scabbinesse there is a remarkable tumor, and whether we scratch or no, both sanious matter, and scales like to the cast skin of a snake. In the Græcian Leprosie, there are greater tumors than in scabbines, and bodies like unto the scales of fishes, fall from such as are possessed with this griefe: so that *Avenzoar* fitly calleth scabbinesse *Pruritum vesicalem*, a blistery or powckie itching, but the

the Græcian leprosity *Prurituм squamosum*, a scaly itching.

The signes of this Leprosie are these: the skin is dry, rough, and full of small knobs, which itch exceedingly, and sendeth out bodies like to the scales of fishes. The signes.

The causes of it, are either the externall efficient causes, or the internall materiall. The causes.

The externall efficient, are I. unwholesome meats and drinks. The efficient.

II. Slovenlinesse, sluttishnesse, and filthinesse. *Serenus* the poeticall Physician hath comprised these two causes learnedly in two Hexameter verses thus:

Illotus sudor & inopia nobilis escæ
Sæpe gravi scabie correptos asperat artus.

Sweat not washed away, and want of good food, often doe make rough the lims, being taken with noisome scabbinesse.

III. The menstruall courses, or hemorrhodes which were wont to flow, being suppressed, may cause this disease.

IV. Fontanells which have long beene kept open, being shut up may procure the same.

V. *Varices*, the veines tumified by reason of melancholy bloud, being cured, sometimes are the causes of this griefe.

The materiall causes are discerned by the colour of the griefe: for if the knobs bee of a livid or leady colour, superfluous impure melancholy is the cause; if they be white, or of a grayish colour, then salt flegme is predominant, which is mingled with melancholy: and because aged persons multiply salt flegme, they are often troubled with this griefe. The materiall cause.

As for the Presages, let this be the first: this griefe if it be habituall, and of a long continuance, it is not easily cured. The presages.

Secondly, if it be neglected, it may turne to the Leprosie of the Arabians.

Thirdly,

Thirdly, the scabbinesse is more contagious than this griefe; for it is more superficiall, and so the contagion is more readily communicate, if any lying with a person infected lay his skin to the others.

The curation. This griefe is cured by a convenient diet, purgation of the body, and locall meanes. The diet must be cooling and moistening, and afford a laudable juyce, whereof I have spoken sufficiently before in sundry of my Lectures.

As for the purgation, minister *Electuarium, lenitivum,* or *diacatholicum,* or *Manna* with *pulvis sanctus,* or *diasena*: for an example receive this description, ℞ *Electuarii, lenitivi, diacathol. aut manna* ℥j. *pulveris sancti* ʒj. *aq. cichor. aut endiv.* ℥iij. *Misc. ut fiat potio.*

Locall medicaments. As for the locall meanes: One Topick cannot be convenient for all bodies: for some have a tender habit of body, and some an hard and firme: for those who have a tender, these two of *Minadous* will serve: ℞ *lithargyr. acerrimo aceto ros. diluti, ac siccati, semin. artue, rad. lil. albor. contus. an.* ʒij. *ol. ros. butyr. op. an.* ℥j. *succi limon.* ʒij. *caphur. gr.* iiij. *pulverizand. pulverizatis, fiat ung. s. a.*

De extern. affect. lib. 2. c. 14.

II. ℞ *Elleb. utriusque, salis petr. an.* ℥ß. *unguent ros.* ℥j. *succi limon.* ʒiij. *farin. lupin.* ʒß. *fiat unguent. s. a.* if you adde ʒj. of *sulphur vivum* beat to powder, to either of these unguents, they will be the more effectuall.

This of *Rinodaus antidotar. lib.* 5. *sect.* 1. *cap.* 9. is good: ℞ *axungia suilla in succo scabios. sapins lotæ lib.* ß. *rad. oxylapathi in aceto ad putrilaginem coctar. & per setaceum trajecta, sulphur. vivi in succo limon. ablut. an.* ℥iß. *unguent. popul.* ℥ß. *succi rad. enul.* ʒiiß. *ex omnibus probe in mortario subactis fiat linimentum.* If it be a stubborne scabbinesse, or Greeke Leper, use *Vnguentum enulatum cum Mercurio duplicato.* So much I thought good to deliver of *Pruritus, Scabies,* and *Lepra Græcorum,* of itching, scabbinesse, and the Greeke Leprosie. And although it was not my principall intention to speak, yet because there is sometimes a passage from the one to the other, these could not well have beene omitted.

omitted: howsoever, the time which hath beene spent in setting downe the causes, signes, and curation of these griefes, cannot be thought evill spent.

Now I will proceed to the Arabian Lepra; with the which whosoever is troubled, he is called a Lazarous person. The Arabian Lepra.

This griefe is called by the Grecians *Elephantiasis*, and that for three causes. The names of it

First, because the skin is deformed with rough wrinkles, yea the chinks being sometimes deepe, appeare like furrowes in a hide, representing the skin of an Elephant.

Secondly, because if it possesse the legs, it maketh the leprous person goe stiffe, as an Elephant doth.

Thirdly, because as an Elephant of all beasts is the mightiest, so this griefe is most rebellious: so that it was called *Leontiasis*, according to *Atius*, because it is invincible as a Lion; and because the forehead is wrinkled like to a Lions. *Lib. 13. cap. 130.*

It is also called *Satyriasis*, and that for two causes: First, because leprous persons faces represent in figure the faces of the Satyrs, as they are described by the Poets: for their lips are thick, their nose swelleth, wherefore in the ridge it seemeth low, their cheeks seeme red, and the tumors in the forehead looke like hornes: all which expresse the face of a Satyr, fained by the Poets.

Secondly, because in the beginning of the diseases, the persons affected are very leacherous, as the Poets faine the Satyrs to be: See *Galen. lib. de caus. morb. cap. 7.* In the Introductorie booke ascribed to *Galen* it is said, that it was called *Draconciasis*, because as the Dragon is said to be the worst of all serpents, so this disease is the worst of all other griefes. Amongst us Christians it is called the griefe of *Lazarus*.

As for the causes of the Leprosie, I will divide them into the externall efficient, and the internall materiall cause. The causes.

To the externall efficient, I referre the continu all use of aliments apt to breed *atra bilis*; and for this cause the Germans have many lazarous persons, and habitations ap-

pointed for them: for thorowout the whole yeere they eat cabbage salted, much cheese, old butter, and flesh dryed in the smoke, but most of all bacon. In like manner it is familiar to Ægypt: because there they eat much asses-flesh, and drink standing and corrupt waters, if you except those who inhabit places neere to Nilus. *Lucretius* learnedly expresseth this, *lib. 6. de natur. rerum.*

Est Elephas morbus qui propter flumina Nili
Gignitur, Ægypti in medio, neque praterea usquam.

The Leprosie is a disease which is bred by the River of Nilus, in the middle of Ægypt, and no where else.

Hence it is that *Moses* threateneth the disobedient Iewes thus, *Deut. 28. vers. 27. The Lord will smite thee with the botch of Ægypt, and with the emerods, and with the scab, and with the itch, whereof thou canst not be healed.* In the Hebrew Text, it is with the ulcer of Ægypt, whereby is meant the Leprosie; by the scab, he meaneth the Greeke Leprosie, whereof I have spoken. In Spaine and Africk it is more common than any where else. In the Province of France, Delphinat, Languedock, and in Aquitane it is more frequent than in other parts of the countrey, *Paræus l. 19. ca. 6.* Before the time of *Pompey* it was not seene in Italy, as witnesseth *Plin. nat. hist. l. 26. c. 1.*

Secondly, the Leprosie may be taken by having carnall copulation with an infected person, see *Gordon. l. med. particul. 1. ca. 22.* and *Philippus Schopsius* in his Treatise of the Leprosie.

Thirdly, the Arabians, *Avicen*, *Albucasis*, and *Averoes*, think that if a woman conceive while her courses flow, the childe will prove leprous, but it is not likely: for that bloud in sound women is good, and after conception it is retained to nourish the childe: so that if that bloud were venomous (as some think) no man or woman could be sound.

Fourthly,

Fourthly, this disease being often heredetary, it is propagate from the parents to the children.

Fifthly, continuall conversation with leprous persons cannot be but very dangerous, for if one may become *Pthisick*, by often receiving the breath of one who is troubled with that griefe, according to Classick Authors, much more may one be infected by receiving the aire infected with the breath of a leprous person, which is most corrupt and stinking: wherefore lazarous persons, in every well ordered place, dwell by themselves, that they infect not others; and so God himselfe commanded, *Levit.* 13.4. and *Numb.* 12.14.

The internall materiall cause, by all is concluded to be *Bilis atra*. Now seeing this humor is caused of three severall humors altered from their naturall qualities, three kindes of Leprosie doe spring. The materiall cause and differences of the Leprosie.

First, it is caused of the superfluous melancholy juyce burned; this Leprosie causeth the skin to be of a ruddie black colour: this kinde of leprosity commeth on but slowly, and hath milder symptomes.

The second is of yellow vitelline choler adust: This speedily corrupteth the inner parts, chiefly the liver and spleene, and from thence passing furiously to the habit of the body, produceth horrible symptomes: in this kinde of Leprosie the skin is of a yellowish colour, tending to greene.

The third is caused of salt or nitrous flegme burned: In this the colour is a palish white colour, the Leprosie which is caused of this humor, is not so fierce as the former. There be two other differences taken from the progression of the disease: for a Leprosie is either in the beginning, or consummate.

The signes of a Leprosie beginning, are these: The face seemeth to be of a livid reddish colour, the breathing is with some difficulty, the voyce seemeth to be somewhat hoarse, livid spots appeare in sundry parts of the body, the skin beginneth to loose its exquisite feeling, the urine is muddy The signes of the Leprosie beginning.

Nat. hist. l. 26. cap. 1. and thick. *Plinie* affirmeth, that it was not seene in Rome before the time of *Pompey*, and began first in the nosthrill, not exceeding the bigneſſe of a lentill, and from thence paſſed to the whole body, producing ſpots of divers colours, making the skin unequall, and raiſing ſcurfes, and hard ſcabs.

The ſignes of the Leproſie confirmed.

The ſignes of a confirmed Leproſie are theſe: I. The skin loſeth altogether its feeling, ſo that you may thruſt a needle thorow it, without any offence to the diſeaſed party; this happeneth becauſe the humor, by reaſon of its thickneſſe, ſtoppeth the ſinewes, and ſo hindereth the animall ſpirit to paſſe. Nevertheleſſe, the muſcules move, although ſluggiſhly; becauſe they have veines and arteries, by whoſe bloud and ſpirit they are fed.

I.

II. II. Knobs appeare in ſundry parts of the body, but chiefly in the face, about the forehead; the eares become thin, the noſe flat upward, the lips thick.

III. III. The face is of a leady reddiſhneſſe.

IV. IV. The voyce becommeth very hoarſe, the lungs and wind-pipe being affected.

V. V. The eyes become round, the thickneſſe of the humor bearing in the corners.

VI. VI. When the griefe is conſummate, warts very often doe appeare thorowout the whole body, like to haileſtones, as we ſee in meaſly hogs.

VII. *De occult. nat. mirac. l. 2. c. 52.* VII. *Levinus Lemnius* affirmeth, that the powder of lead calcined will ſwim in the urine of leprous perſons, but ſink in the urines of all others.

VIII. VIII. They are troubled with much belching.

IX. IX. Their ſweat and breath is moſt ſtinking; their breathing is with difficulty and ſtinking, by reaſon of the conſtriction of the breſt.

X. X. The haire of the head beginneth to fall, that of the beard to grow thinner, and thoſe of the eye-browes and eye-lids to fall alſo: this falleth out, becauſe corrupt nouriſhment is ſent to the haire, for if you pull out a few of

their

their haires, you shall also pull out with the roots a fleshie substance.

XI. The nosthrils without are tumified, but within they are narrow, and ulcerate. XI.

XII. The veines under the tongue seeme varicous, small knobs also like to haile-stones appeare there. XII.

XIII. The skin is unctuous, and will not admit water. XIII.

XIV. The skin is wrinkled, and full of wrinkles and chops, as an Elephants skin is. XIV.

XV. The Muscules of the thumbe waste. XV.

XVI. If the body, the fingers, and toes have stinking ulcers, and chops, you need not much to doubt. XVI.

XVII. If you open a veine, it will be thick, burned, feculent, and have as it were fat upon the top, and it being strained thorow a cloth, leaveth a greety substance behinde it. XVII.

Now it is time to addresse my selfe to the Prognosticks, whereof this shal be the first: A leprosie in the very beginning is hardly cured, for the materiall cause of it is *Atrabilis*: now all diseases of *Bilis atra* are of hard curation. I.

Secondly, a Leprosie consummate is altogether incurable by Art.

Now the meanes of curing a Leprosie beginning, are three: Dieteticall, Pharmaceuticall, and Chirurgicall. The meanes of curing.

As for the diet: That which I delivered for a cancerous tumor and ulcer, in the former Lecture, in this griefe is also effectuall, so that I need not idly to spend the time. It is fit that leprous persons eat of the biggest Snailes dressed as Wilks, or Perwinkles; and Frogs, and that for a moneth together; for this food doth exceedingly contemperate the heat of the bloud: the water also distilled of them is good to be drunk. *Rodericus Fonseca* commendeth this drink: *Consult. 66.* ℞ *rad. chin.* ℥ j. *succi limon.* ℥ iij. *aq. cichor. lib.* vj. *Infund. per diem natural. deinde coq. in B. M. per hor.* iiij. *vase bene clauso, decoctum postquam refrixit coletur*: This same China will serve the second time, but to the third decoction The diet.

you must have new China. The flesh of Vipers or Adders eaten, is good: let them be boiled in water, with some salt and oile; eat both the flesh and broth, but the heads, tailes, and intrals must be taken away: the trochisks of the Vipers or Adders are good, being ministred in Succory water: Poultry also fed with paste made with the flesh of these, and Barley-flowre is good, if it be used a long time; Corall and Pearle prepared, ministred in broths, are excellent; young Hares in March are good. *Galen* commendeth the Viper wine, and setteth downe the histories of sundry who were cured by the use of it. And *Aretæus lib. 4. cap. 12. de signis ac causis acutorum:* but that preparations of vipers ministred in a confirmed Leprosie, *Erast. part. 4. disput. cont. Paracel.* and *Palmarius lib. de morbis contag.* witnesse to be ineffectuall, for they made triall of them.

Isagog. c. 12.

The Pharmaceuticall meanes are of two sorts: for either they are Cathartical, or Specificall. Amongst the Cathartical means, ℈ j. of the extract of black Ellebore is excellent; the next is the purgative, or Diaphoretick Antimonie: the third is the flowers of the *Regulus*, ministring gr. viij. in conserve of Roses: the fourth is the infusion of the glasse it selfe, mingling with it a spoonefull of the syrup of Violets; Mercurie precipitate with gold is admirable, gr. iij. are enough for a dose.

As for Specificall meanes, these are commended; the decoctions of the Elme, Larix-tree, the roots of Tamarisk, Caterach, Fumiterrie, and Juniper-berries, boyled as Guajack is, and drunken for a long time; three ounces of Strawberry water, or of the Cuscuta, Dodder taken morning and evening. *Crollius* commendeth ℈j. or ℈ij. *Spiritus tartari in aqua conveniente*, or *gr.* 7. of the spirit of salt ministred after the same manner, *gr.* vj. *Bezoar similiter laudantur*, for it withstandeth malignity.

Chirurgicall meanes.

As for Chirugicall meanes, they are two; Phlebotomie, & locall applications: If Phlebotomie be required, open the *Saphena* about the change, or the *Hemorrhodes*, but take not much

much bloud at a time, for leprous persons are weak.

As for the locall meanes, they are either baths or liniments; this bath is commended, Take of Crow-foot ten handfuls, of Colts-foot five handfull, of Tabacca two handfull and a halfe; boyle these in a sufficient quantity of spring water: use this morning and evening, untill the body yeeldeth no filth. Baths.

Of all other liniments, *Roderic. Fonsec. consult.* 1. commendeth this: ℞ *viperas duas quas nulla parte rejecta inde phialæ vitreæ continent.* ℔. ij. *Ol. ol. veter. exponatur phialæ æstivis solibus: tandem sub finem æstat. evadet ol. rubrum & fœtens, hoc oleo inungnentur axillæ, inguina, carpi. Intus autem exhibeatur* ʒ j. *Trochis. ex viperis, vel colubr. in* ʒ iij. *aq. card. benedict. &* ʒ j. *syrup. aceto fit citri, per dies* 14. To these ulcers apply a linement made of this oyle, and Goats-suet, taking equall quantity of both. Wee may make an effectuall Oyle of our Adders to this same purpose. *Gardanus* used to anoint the *Spina*, Joynts, and Pulses of hands and feet with the fat of Vipers, for the space of seven dayes in a hot-house, & affirmeth, that he not only did mitigate the Leprosie, but did cure also consumptions of the body, and the *Pthysis* it selfe. If you have not these medicaments at hand, you may apply such as I set downe for the curing of a cancer, in my former Lecture: which require no repetition. Liniments. Oyle of Adders.

Lect. XIX.

Of the abating of superfluous flesh.

HAving set downe the maine differences of ulcers, and the method and meanes how to cure them, I must discourse in like manner of the accidents of ulcers, which may hinder the prime intentions of curing of them, and so prove a let and impediment to you in your proceedings.

The well-springs of accidents.

These accedents are taken either from things familiar to nature, or things contrary to nature.

Differences of ulcer taken from things familiar to nature.

Things familiar to nature hinder the curation of ulcers, when they decline from that which is according to nature; from these, foure differences of ulcers spring: for an ulcer is either with excrescence of superfluous flesh, or with cariosity of the bone, or with the colour of the part altered, or varicous. Thus you see, that although flesh, bones, veines, and colour be required to the naturall constitution of the body; yet they may become domestick enemies, being altered by the unnaturall temperature of the part ill affected.

The differences of proud flesh.

First then I will handle an ulcer wherein superfluous flesh groweth: The flesh it selfe is either soft and loose, or hard. The soft flesh is either but beginning to increase, or else it is much arisen. If it doe onely offer to increase, then strong desiccatives will serve, such are Galls, *Terra sigillata*, *Terra Lemnia*, Bole orientall, Umber, *Olibanum*, *Aloe hepatica*, the roots of Tormentill, Bistort, Comfrey, the Flowre de Luce dryed. Metallicall things, or minerall, afford greatest variety, and are most effectuall, chiefly if they be prepared and washed; such are *Crocus martis*, *Calaminaris*, *Tutia*, *Æs ustum*, Lead calcined with Brimstone, the dead head of Vitrioll calcined, being well washed, *Minium*, Ceruse, Litharge, chiefly of gold.

How to abate soft proud flesh in the beginning.

The use of the Vegetables.

As for the use of the Vegetables, although these which I have named may be used in forme of powders, yet they are not so effectuall as the decoctions: and then you may adde to these the Plantane, the Knot-grasse, the Shepherds-purse, Yarrow, the Horse-taile, the Barke of the Oake, Owlar, and Willow. If you adde to the decoctions strained, a convenient quantity, either of Alome or Roman Vitrioll, you shall not onely suppresse the soft and fungous flesh budding, but shall incarnate the ulcer also, and bring it to cicatrization.

A patterne of a decoction.

Receive this decoction which I will deliver unto you as a patterne, according to which you may frame other, having

ving a regard of the age, and constitution of the party. ℞ *rad. symphyt. tormentill. gallar. an.* ℥ j. *fol. plantagin. polygoni, Sursæ pastoris, millefol. equisetti an. man.* 2. *rut. salu. si malignitas aliqua subsit. an. man.* ß. *Bulliant ista in lib.* xij. *aq font. ad med. ac coletur decoctum: Decocto colato si addideritis aluminis* ℥ v j *habebitis decoctum colore vinum malvaticum referens: si vero addideritis tantundem vitrioli Romani decoctum nigrescet.* And although the black decoction be not pleasing to the eye, and staineth the clouts and rowlers; yet it is more effectuall than the other, but chiefly in maligne ulcers. You may adde to such decoctions as these are, *Sumach*, Myrtle-berries, red Rose leaves dryed, Pomegranate-pils and flowers: you see what choice of Simples I afford unto you.

The use of the decoctions.

These decoctions if you meane to use, moisten either pledgets of tow or lint in the decoctions, warmed and wrung, and dresse the ulcer morning and evening. In your practice you shall find such decoctions much more effectuall than either unguents or emplasters.

The use of the minerals.

As for the use of the minerals, if they be applied in forme of a powder, although they are more effectuall than the vegetables, yet they procure more paines to the Chirurgeon to make cleane the sore, and are not so pleasing to the Patients, as when they are applied, being reduced either to the forme of an unguent or emplaster.

An unguent.

If an unguent be fittest, as in a hollow ulcer, receive this as a good one: ℞ *Ninii, litharg. auri, ceruss. an.* ℥ i ß. *calaminar. æris usti an.* ℥ j. *tutiæ* ℥ iij. *caphur.* ʒ i ß. *ol. ros. & myrtin. an. lib.* 1. *&* ℥ iiij. *ceræ alb.* ℥ iij. *fiat unguentum s. a.*

An emplaster.

If you will have for a plaine ulcer an emplaster, let this be a patterne unto you: ℞ *sevi ovill. lib.* ß. *axung. porci* ℥ iij. *ol. myrtin.* ℥ ij. *ceræ alb.* ℥ iiij. *calamin.* ℥ j. *litharg. auri, Æris usti, tutiæ, Henrici rub. an.* ℥ ß. *fiat emplastrum ex v. a*

How soft fungous flesh much encreased is to bee abated.

If the proud flesh be growne to that height that it will not stoope to desiccatives, then you are to have recourse to

The nature of cathæreticall medicaments.

to those medicaments which are called *Cathaeretica, Auferentia*, which take away the superfluous fungous flesh. These are not so hot as either escaroticall, or septick medicants, and those which blister: yet hot they are, and burne, although gently; being then hot and dry in the fourth degree, they are of a thick and astringent substance; wherefore such medicaments pierce not deepe, partly by reason of their thick substance, partly by reason of their rebated heat; wherefore these onely superficially dry and corrode the flesh. Neither doe they cause any great paine, because their heat is not very intense, unlesse they be graduate by the admixtion of some other things. So we see Mercurie precipitate, or burned Alome, if either of them be applied to any sore, to cause no great paine; but if they be used being mixed, both to cause paine, and a small eschar. Such are Alome calcined, Shels burned, the powder of Hermodactils, Asphodill, Vergidrasse, but Mercurie precipitate excelleth, and exceedeth all these: for it doth work with small paine, and doth by concoction make thick, thin, and ichorous quittor: yea it being washed, and mingled in small quantity with incarnative unguents, furthereth their operation. The yellow Turbith minerall exceedeth it in faculty, for the oyle of Vitrioll or Sulphur, whereof the Turbith minerall is precipitate, is more familiar to nature, and astringent, than the *Aqua fortis*, or *Aqua regis*, whereof the precipitate is made.

Two Cathereticall unguents are much used, *Unguentum Apostolorum*, and *Unguentum Ægyptiacum*.

Vnguentum Ægyptiacum.

Of these two, the *Ægyptiacum* is the strongest: In plaine ulcers I would not advise you to use it, for it spreadeth, and by touching the sound part causeth great paine. It is effectuall in fretting sores of the mouth, and sinewous ulcers, being dissolved, either in decoctions, or distilled waters convenient for the kinde of sore.

Vnguentum Apostolorum.

As for *Vnguentum Apostolorum*, if it be made according to Art, it is a cathereticall medicament in tender bodies; but

but onely a mundificative in those who have a firme and solid constitution of body.

It falleth out many times, that the superfluous flesh is so hard and compact, that it contemneth all cathereticall medicament, and cannot be abated by them. In this course we are to have recourse to those medicaments which are called σήπτικα, or *Putrefacientia*, or rotting the part; and to those which are named ἐσχαρωτικὰ, or *Crustam inducentia*, which leave an eschar or crust after they are applied. How hard and stubborne proud flesh is to be abated.

As for the Escharoticall medicaments, which are called *Exedentia*, or eating medicines, seeing they corrupt the naturall heat, they must be hot above the third degree, and have a thick, viscous, and terrestriall substance; wherefore by reason of their heat in the fourth degree, they burne the part, and by reason of their thick and terrestriall substance, the heat is kept durable and permanent. And we see that Pepper, Onyons, and such like, although they be hot above the third degree, yet they are not caustick; and the reason is, because although they inflame, yet because their heat is placed in a thin and subtill substance, it is more easily dissolved, and at last overcome by the naturall heat of our bodies. ἐσχαρωτικὰ.

So when a Caustick is applied, notable paine is caused: First, by reason of their extraordinary and exceeding great heat. Why caustick medicaments are painfull.

Secondly, because by reason of their terrestriall substance, they are long in piercing thorow the part.

Of these medicaments two are most used: the *Lapis infernalis*, and the white Caustick. I meane not to trouble you with the setting downe of their preparations, because they are sufficiently knowne unto all who have profited any thing in the study and practice of Chirurgerie. *Lapis infernalis.*

Of these two, the *Lapis infernalis* is most effectuall, & worketh most speedily; wherefore it is most fit for making of fontanels, where it may be conveniently applyed to the upper part of the member, and be hindered from spreading: but if a caustick medicament be to be applied to a depending The white Caustick.

ding part, and where there is feare of running, then the white Caustick is most convenient. Besides these, two other escharoticall medicaments I will commend unto you.

Mercurie sublimate. The first is Mercurie sublimate, mingled with Roman Vitrioll calcined, untill it become red, and the true *Terra sigillata*.

Turbith minerall unwashed. The second, the Turbith minerall mingled with these same; but whilst it is white and not washed. These doe work more gently, if they be mingled with any narcoticall or anodine unguent, than when they are applyed to any sore without mixture. But the Turbith minerall far exceedeth the Mercurie sublimate, because it is more familiar to nature, & doth not cause such paine; besides, it is not so volatil and piercing as the sublimate is, which in tender bodies assaulting the heart it selfe, doth cause sharp diaries, although they be but symptomaticall.

Of the nature of Septicall medicaments. For the suppressing of rebellious excressing flesh in ulcers, the second meanes I appointed those to bee which are called Σηπτικα, or *putrifacentia*, corrupting medicaments. These are not so hot as those medicaments which procure an eschar, or crust, they have a more thin substance, and subtill, and have not so much terrestreitie, or astriction. These doe more easily pierce, and so cause not so great paine: the paine which these medicaments cause is pungitive, as if needles did prick being made red hot, and it quickly ceaseth. And as caustick medicaments leave the part corrupted in manner of a crust, so these leave that which they corrupt soft, moyst, and of a blackish colour. If you will require medicaments moyst, endued with such a facultie, have recourse to the oyle of Vitriol, the oyle of Sulphur, *Aqua fortis*, and *Aqua regis*. But if you will have solid and hard medicaments, then call to aid all sorts of Arsenick, as the white, yellow, and red, passing under the names of Ratsbane, Orpiment, and Roses-ager.

Septick Medicaments.

Septick Vegetables. As for the Septick Vegetables, because they rather mortifie the inward parts, if they bee ignorantly or maliciously ministred,

miniſtred, then abate proud fleſh in ulcers, as Dryopteris, the Ferne of the Oake, and Aconitum, or Leopards-bane, and ſuch like, I will leave them to the conſideration of the Italian and Spaniſh poyſoners.

Whether ſuperfluous fleſh may not be taken away by inſtruments.

But being appointed to read a Chirurgicall Lecture, and having onely made mention of abating of ſuperfluous fleſh in ulcers, by the application of topicall medicaments, you may demand of mee whether this may not bee effected by Chirurgicall inſtruments, as actuall cauteries, and inciſion-knives and razors. Truly hitherto I have deferred the mention of this kinde of curing, becauſe God of his bountie in theſe later times hath in all faculties revealed many things which were kept from our fore-fathers. If a patient reſolute offer himſelfe to a skilfull Chirurgeon to be cured, let the Chirurgeon, in Gods name, in extremities uſe iron and ſteele: yet let me adviſe him not to bee too forward in three caſes. I. If the partie be of a tender conſtitution, and unwilling: for if a Chirurgeon do altogether urge theſe extremities, he may loſe his patient, who is prompt to hearken to the Syrenian ſpeeches of deluding Knaves and Queanes. II. If you cannot handſomely come to the part, as if the ulcer be ſinuous. III. If the ſuperfluous fleſh require not onely abating, but drying alſo, it being marvellous moyſt, then the medicament is better than the inſtrument, becauſe it drieth more powerfully.

When inſtruments are not to be uſed.

Now to end this Lecture, I will deliver unto you a medicament of famous *Fallopius*, which is effectuall both in correcting of ſtubborne ſuperfluous fleſh, and in curing of Cancers: the deſcription of it is this: ℞ *Arſen. criſtallin. & Citrin. aa.* ʒß. *Aciſtol. rot. Ærugin. an.* ʒj. *Opii,* ℈ j. *Axung. porcin.* ʒjß. *Miſc. ut fiat unguentum.* One thing I had almoſt let paſſe, to wit, the deſcription of catheretical lint; uſe this of *Fallopius* his deſcription: ℞ *Aq. Plantag. Roſ. Solani an.* ʒiiij. *Opii,* ℈j. *Medullæ panis,* ʒij. *Mercur. ſublimat.* ℈iiij. *ſuper porphyritidem triti. Omnia hæc commixta bulliant ad conſumptionem medietatis: deinde colentur per*

De ulcerib. c. 18.

Ibid.

pannum

pannum crassiusculum. Fila excerpta bulliant aliquandiu in hoc liquore, postea eximantur, exprimantur, siccentur ac serventur ad usum. So much then concerning abating of superfluous flesh in ulcers.

LECT. XX.

Of the scaling of corrupt bones.

HAving in my last Lecture set downe the fountaines from whence all the accidents of ulcers doe spring, and having discourſed of the manner of curing of an ulcer, wherein there is excrescense of superfluous flesh, which was set downe to be the prime accident flowing from things according to nature, I must be carried to the second accident, proceeding from things according to nature, which is the cariositie of the bone.

Now seeing the bones are the stayes and props of the body, appointed not onely for locall motion; but for the parts also which further this action, as muscules, veines, nerves, arteries, I am with the greater care to set downe the curation of an ulcer, with the cariositie of a bone, seeing so many things of importance doe depend upon the curation of such an ulcer. In running over the whole course of Chirurgerie, I have resolved upon this first triall, to set downe onely the generall practices, which they who are judicious may apply to all persons and parts in speciall. In handling of this accident, I will set downe these foure points. I. The causes which procure the cariositie of the bones. II. The signes of a corrupt bone. III. The prognosticks of an ulcer, wherein there is a cariositie of the bone: And IIII. Of the meanes which are to be used for removing of this accident.

The causes of the corruption of the bones.

Now the causes which procure the corruption of the bones, are either externall, or internall.

The

The externall causes are two, to wit, too great cold, and too great heat: for as too great cold doth quench the naturall heat of the bone; so immoderate heat, by discussing the naturall humiditie, drieth and corrupteth the bones. 1. Externall. 2. The internall.

The internall causes which most frequently produce this accident, are in number three. The first is a glutinous and superfluous humiditie, first softning, and then corrupting of the bone, which oftentimes doth cause a distortion of the member, and a protuberance of the bone, which I have sundrie times seene, and have noted not to have proceeded from any venereall cause. Such an humor seized upon one, whose name was *Iames Wilkinson*, who dwelt neere to me when I practised in the citie of Chester, and caused a bending outward of both the shin-bones, or *Ossa tibiæ*: this happened to him when he was above sixtie yeares old: neither did this accident either cause nocturnall or diurnall paine, or hinder his going. Before this did befall him, hee had a great evacuation of bloud (by reason of the rupture of a vessell in his left kidney) together with his urine, of the which I cured him by the decoction of some of the Myrobalans.

The second inward cause of the cariositie of bones, is a sharp and maligne matter, which by touching doth corrupt the bone: this happeneth most commonly in old and inveterate ulcers: the Periostium being once eroded by the acrimony of the Sanies, it presently corrupteth the bone. It is no marvell that a sharp humor is able to corrupt bones in other parts of the body, when wee see the teeth to bee hollowed by a sharp rheume, which a file of tempered steele doth with some difficultie rase. II.

The third inward cause is an hidden and strange qualitie of the humor, adverse to the bones, seizing not onely upon some particular bones, but upon some parts also of these bones: for if it did with any manifest qualitie corrupt the bones, it would first have eroded the flesh: this being most subject to the impression of any fretting humor. But the III.

bones

bones verie often are found to be carious, when the parts covering the bones, as the *Cuticula cutis*, and *Membrana carnosa* are found whole. So when Nodes invade the Citizens of Naples, they appeare most commonly in the *Os frontis*, or in the *Vlna*, or *Tibia*, and that betweene the joynts: Who is able to give a demonstrative reason of this invasion? Hee undoubtedly who is able to shew why the Loadstone draweth Iron, and the Amber and Jet Chaffe.

The signes of the corruption of the bones.

The signes discovering the cariositie of a bone, are either sensuall, or intellectuall.

The sensuall are in number five.

1. Sensuall.

I. Is if the bone appeare black and fretted: Blackness is caused by the corruption of the naturall temperature, by the which it is kept alwayes white with a ruddy glimps, or of an horse-flesh colour almost. Cariositie is caused by the acrimony of humor fretting the substance of the bone.

II. Is, when the bone being felt with a probe, doth not appeare smooth, but rugged.

III. Is, if the probe slip not being guided into the bone; for then the Periostium must bee gone, and so the bone either more or lesse corrupted, partly by reason of the aire, partly by reason of the quittor settling upon the bone.

IV. Is, if the flesh ulcerate above the bone appeare soft and spungeous, or of a livid colour, it is to be doubted that the bone is corrupted: for when the bone is carious, the flesh is made soft and corrupt, so that any one may thrust a probe thorow it, without any great annoyance to the partie.

V. Is this: if a tent or pledget reaching to the bone stink the next day when it is taken out, there is just occasion offered to suspect that the bone is carious.

2. Intellectuall.

The intellectuall signes are in number foure.

I.

I. Is, if more quittor doth flow from the ulcer, than the bignesse of it seemeth to afford.

II.

II. Is, if thin and stinking sanies doth flow from the the sore, it is probable that the bone is foule.

III. If

III. If an ulcer admit skinning, and often breake up againe, it may not without cause bee doubted that the bone is foule: for an humor still flowing from the corrupt bone, doth cause a new inflammation, whereby the skin of a new is broken. III.

IV. Is this. If an ulcer hath continued a long time, and is rebellious to proper medicaments, it may be thought that the bone is carious being much moystened, and so made soft by the quittor: and therefore must be scaled. IV.

As for the Prognosticks: Of such ulcers as are accompanied with cariositie of the bone, receive these. *Aphor. 45. sect. 6. Prognoses.*

I. No ulcer accompanied with the cariositie of the bone is of easie curation: for it hath a malignitie annexed to the solution of unitie. 1.

II. If there happen a cariositie passing the first table in either of the bones above the eye-browes, it will bee an hard matter to cicatrize it: If this be a true Aphorisme in wounds dividing these parts, how much more true in ulcers: those onely causing a solution of unitie by an externall cause; but these eroding the parts by an internall humour: which for the most part is still supplyed by some notable distemperature of some noble part. II.

III. Shall be this: If any of the Vertebra's of the Spina prove foule, shun the cure: for first the substance of the Vertebræ being hollow, they will hardly scale: Secondly, it is an hard matter to come to apply a medicament unto them, by reason of the muscules placed above them. Thirdly, because it is an hard matter to shun the paires of sinewes, which spring from the transverse processes of them. III.

Let this be the fourth: If in ulcers of the brest, the Sternum or ribs be foule, bee not too forward to meddle with them; for the acrimony of the quittor may easily corrode and pierce thorow the intercostall muscules, and the Pleara, and so lay open to the aire the vitall parts, which ere it be long, must cause an extinction of the naturall heat, and so death it selfe. IV.

The fifth shall be this. Vlcers in the great joynts, as the elbowes, knees, or ankles, wherein there is a carioſitie of the bones, with loſſe of the cartilages, are for the moſt part uncurable, becauſe the paine in the joynts is great, depriving the diſeaſed perſons of their naturall reſt and ſleepe, and ſo of good digeſtion and concoction of their food: beſides this, they ſeldome fall out alone, but bring with them a Marasmus, or extenuation of the body.

How the cariositie of a bone in an ulcer is to be cured.

Having ſet downe the cauſes, ſignes, and preſages of the carioſitie of a bone, I am to ſhew the way how the carioſitie is to be removed. To performe this taske, two things are to be done: Firſt of all, the bone is to be laid bare, and no leſſe of it than is to be ſcaled: Secondly, the ſcaling of it is to be procured by convenient meanes.

How the bone is to be laid bare.

The diſcovering of the bone is to bee procured three manner of wayes; to wit, by Inciſion, Exeſion, or Dilatation.

1. By inciſion.

As for Inciſion: we are not to uſe it where the bones lye deepe, and have muſcules, tendons, veines and arteries above them, as in the thighs & armes chiefly in the inner parts. Secondly, although the bones lye not deepe, if they have many tendons above them, we cannot uſe Inciſion ſafely: ſuch are the bones of the Metacarpium, or the upper diſtance betweene the wriſt and fingers, and the bones of the Metapedium or Metatarſus, which are articulate with the toes.

2. By exeſion.

Exeſion is performed by potentiall cauteries; as *Lapis infernalis*, the white Cauſtick, the powders ſet downe by me, when I diſcourſed of Fiſtula's and cancerous ulcers.

Where potentiall cauteries are not to be uſed.

Theſe are not to be uſed where many tendons or nerves are, leſt they deprive ſome parts of their motion, and cauſe convulſions, by reaſon of the great paine which they procure, as alſo ſymptomaticall fevers. Potentiall cauteries are moſt convenient, when there is carioſitie in the Cranium, the Ulna, or Tibia.

3. Dilatation.

Dilatation, or enlarging of a narrow ſore, by ſtretching out the circumference of it, is performed by ſuch things

as

as swell, when they have imbibed any moysture, as the roots of Gentian, the pith of the Eldar, and spunges brought close together, either by threed, or the Melilot Emplaster.

These are fit to be used in ulcers which possesse the back of the hand, or the instep of the foot. The bone being by some of these meanes laid bare, I am to shew you how the bone is to be scaled. When this is convenient.

This is to bee performed three manner of wayes, to wit, by medicaments, instruments, or actuall cauterie. How the bone is to be scaled.

The medicaments which procure the scaling of a bone ought to be verie drying, and of a subtill and thin substance: for the sound bone, being assisted and strengthened by such drying medicaments, sendeth forth of it selfe flesh, which being increased, separateth the corrupt bone from the sound. 1. Desquamatorie medicaments.

These Desquamatorie medicaments are of three degrees. Degrees of desquamatorie medicaments.

For some are mild, as the root of *Peucedanum*, or Sowfennill, *Aristolochia rotunda*, the root of Iris, and Myrrh: these will serve if the cariositie of the bone bee but superficiall, and the constitution of the partie soft and tractable. I.

Some againe are yet more drying and strong, as that medicament of *Avicenna*, which is composed of equall parts of *Aristolochia rotunda*, Iris, Myrrh, Aloe, the rind of the plant Opopanax, whereout the gumme issueth, the Pumick stone calcined, the refuse of brasse melted, and the barke of the Pine-tree. All these being beat to powder may bee applyed alone, or mingled with honey. Of this nature also are *Aqua vitæ*, and the root of Dracontium or Dragons. *Fallopius* hath two medicaments to this purpose: the first is this, ℞ *Rad. Peucedani, Iridis, an.* ℥j. *Euphorb.* ℈j. *fiat ex omnibus pulvis: qui excipiatur pasta panis molli, atque ossi corrupto applicetur.* The second is this: ℞ *Rad. Peucedan. Aristol. rotund. Opopanac. Euphorb. an.* ʒß. *Terebinthinæ* ℥j. *Ceræ* ℥ß. *Aceti* ʒj. *fiat cerat. exp. a.* These and such medicaments are to bee used, when the cariositie is somewhat II. *De ulcerib. c. 22.*

deepe, and the partie of reasonable firme constitution of body.

III. Lastly, some are strongest of all, as Euphorbium beat to powder, *Aqua vitæ* having the tincture of Euphorbium, the oyle of Cloves, or Petroleum wherein some Camphir is dissolved, *Aqua fortis*, *Aqua regis*, the oyle of Sulphur, and the oyle of Vitriol, and Roman Vitriol calcined. These are to be used when the carioſitie is deepe, and the constitution of the diseased partie stubborne and strong. When these medicaments are applyed, the fleshie parts adjacent must be verie well defended, otherwayes paine and inflammation will be caused. If the sores be well dressed, and these medicaments judiciously applyed, the bones will scale within the space of fortie dayes.

II. The scaling of the bones by instruments.

Sometimes the carioſitie of the bone is verie deepe, so that a long time would bee required for the scaling of it: wherefore in this case we must have recourse to instruments: the chiefest of these instruments are the Mallet, and Cheesels, and Raspatories: First then, the corrupt part of the bone is to be knocked off with the Mallet and Cheesell untill you come to the sound bone; which you shall know if the bone bleed, and appeare white and firme, according to *Celsus*. Secondly, the bone is to bee made even with the Raspatories and smoothed. In this case a leaden Mallet is best; for it is weightie, and causeth a lesser noyse: this being done, some of the aforenamed medicaments must bee applyed according to the constitution of the partie; for by it you must be led.

The signe of the carrositie removed.

Lib. 8. c. 2.

What mallet best.

How ulcers of the head, wherin both the tables are carious, ought to be handled.

In ulcers of the head it often falleth out, that both the tables of the scul are foule, so that you shall be enforced to remove a great peece of the Cranium: here you must use the Trepan & head-saw, the use wherof shall be delivered, when I shall set downe the curation of the wounds of the head.

III. How bones corrupt are to be scaled by the actuall cauterie.

The third way to scale bones, I named to bee the actuall cauterie: Of it I will set downe three documents: The first shall be, when it is to be applyed: The second shall direct,

rect where it shall be applyed: The third shall teach, how the sore is to be dressed after the application.

As for the first: It is to be applyed when superfluous humiditie floweth to the bone; this you may conjecture; First, by the moyst and cold constitution of the body of the person affected: the signes of such a constitution I delivered unto you, when I discoursed of a wateriſh tumor: whither I remit you. When it is to be applyed. I.

Secondly, if after the application of your desquamatorie medicaments, the bone still appeareth moyst and soft, not changing its colour. II.

The second document shall be, where it is to be applyed: you may apply it safely to the Ulna and Tibia laid bare. Where it is to be applyed. I.

Secondly, you may use the actuall cauterie in those places, where dilatation onely is permitted, and not incision, or potentiall cauterie, as in the back of the hand, and instep of the foot: but this operation you must doe thorow a pipe of white iron, to save the circumjacent parts from burning. II.

Thirdly, you may apply the actuall cauterie to the joynts, if the cartilages bee foule, and way be made. This practice *Ambrose Parrey* used when hee had dismembred one in the joynt of the elbow: the dismembred partie found great ease and comfort by the application of it: See the Historie, *Lib. xj. cap. xxv.* What formes of cauteries you are to use, the figure of the ulcer will shew you. When the actuall cauterie is applyed, you are to bee acquainted with the manner of dressing of the bone, which was the third document. III.

How this is to be done, *Guido a Cauliaco* shall teach you in his owne words: I (quoth hee) after the application of the cauterie, apply for the space of three dayes oyle of Roses tempered with the white of an egge, & for three other, it mingled with the yolk of an egge; and afterward Butter with *Mel rosatum*, and ever above these applications some mundificative untill the bone scale. Afterwards, I in- 3. How the bone is to be dressed after cauterization.

carnate and consolidate the part with *Avicens* medicament, which I delivered unto you amongst the medicaments exfoliative of the second degree. *Fallopius* counselleth after cauterization to use pledgets moystned in Rosewater and the white of an Egge, to hinder inflammation for some few dressings: then to apply to the bone the medicaments exfoliative.

Where the actuall cauterie is not to bee used.

Beware of the use of the actuall cauterie, if the Scull, or any of the Vertebræ of the back be foule, by reason of the braine contained in the first, and the *Spinalis medulla* contained in the second; which being inflamed by the heat of the actuall cauterie, will bring alienation of minde, and convulsions.

Lect. XXI.

Of a discoloured and varicous Vlcer.

THe two last differences of ulcers taken from things according to nature, were said to bee an ulcer, wherein the naturall colour is altered, and an ulcer varicous. First then I will discourse of the ulcer, wherein the colour is altered, and then of an ulcer varicous.

1. An ulcer having the colour of the part altered.

As for an ulcer having the skin adjacent, and the substance of the part altered. The unnaturall colours which possesse the part altered are most commonly foure; the red, yellow, livid, and black colours.

1. The red colour.

The red colour proceedeth alwayes from heat, causing an inflammation.

The efficient causes of it.

The externall efficient causes of it are superfluous hot garments, too thick boulsters, rowlers made of wooll, or of hard and stubborne linnen-cloth, the hot season of the yeare, too strait ligature, the use of hot meats and drinks, surfetting, venerie, troubling the masse of bloud, extraordinarie motion of the part, perspiration hindred by reason

of

of the suffocation of the part, or incuneation of the humor, and solemne evacuations suppressed, as of the flowing of bloud from the hemorrhoidicall veines in men, or the menstruous bloud from the veines of the matrix in women, by the error of the Chirurgeon, applying things actually and potentially cold.

The materiall cause of this colour is bloud offending: Now the bloud may offend two manner of wayes, to wit, in qualitie, if it be too hot or fervid; or in quantitie, if the body be plethorick. In removing then this red colour, one of the symptomes of inflammation, our first care must bee to remove the externall efficient causes.

The materiall cause. How bloud may offend. The curation.

The diet must be moystning and cooling, untill this accident be removed: wherefore broths made of Chickens or Veale, wherein Sorrell, the sowre three-leaved Grasse, or Allelujah, Endive, Succorie, Purselaine, Lettuce, and such like have beene boyled, are verie convenient. If the diseased partie delight in roasted meat, let him use for his sauce, sippets with the juyces of the common and wood Sorrell, with a little vinegar and Sugar.

The diet.

If the season of the yeare be extreme hot, let the roome wherein he remaineth be hung with sheets, which must bee still moystned with spring-water: In this case it is good to garnish the windowes with the Meddow-sweet, called in Latine *Regina prati*, and Gaule called *Myrtus Brabantica*.

The season of the yeare.

Let his cloaths bee neither heavie, nor heating: Let the rowlers be of soft linnen-cloth, and moystned in Rose, or Eldar Vinegar, and faire Spring-water, taking two parts of the water, and one of the Vinegar: Let the rowling be somewhat slack, onely to keepe the locall medicaments to the ulcer; for strait ligure doth cause paine, paine attraction of humors, and the attraction of hot humors inflammation. The partie must abstaine from sacrificing to the Cyprian Dame: yea, hee must abandon everie violent motion. If this symptome be caused by reason of the suppression of any solemne evacuations, as the staying of the

Of the garments. Rowlers. Rowling. Venerie. Violent motion. Suppression of solemne evacuations.

menstruall courses in women, or the suppressing of the Hemorrhodes in men, the accustomed flowing of these are to be procured againe.

How the menstruall courses are to be procured.

The menstruall courses are to bee brought downe; first, by opening of the Saphena in what foot it is most conspicuous; and secondly, by exhibiting the powder of steele, either in forme of Lozenges, or of an Electuarie, or in infusion in white wine.

How the Hemorrhodes are to be opened.

The Hemorrhodes must be opened by application of the Leeches, and ministration of Aloeticall medicaments. That medicament, which by *Paracelsus* is called *Elixir proprietatis*, and by others *Pilulæ pestilentiales Arabum*, composed of Aloe, Myrrh, and Saffron, are excellent. These may be taken sundrie mornings together. But seeing these things are at large set downe by those who have written of the practice of Physicke, I have onely pointed at the best indications, which serve for the curing of these griefes, and the rather becaus the speculation of them doth belong to another Facultie and Art, to wit, Physick.

How the materiall cause is to be dealt withall.

If the materiall cause of this symptome, which is bloud, offend in qualitie, being too hot, then it is to be cooled by a refrigerating diet, which I at large set downe, when I discourſed of a phlegmon, to the which place I remit you. If in quantitie it offend, first Phlebotomie, or opening of a veine is to be used, and bloud drawne, as the age, constitution of the partie, and nature of the griefe shall require. Secondly, the part it selfe is to be scarified, and other Ventoses or Leeches to be applyed, that the bloud may issue out plentifully to discharge the part.

Of the livid colour. Its causes.

A livid, or leady colour in an ulcer followeth. Two causes produce a livid colour in ulcers: the first is black bloud impacted in the part: The second is externall cold, or defect of the naturall heat.

How lividitie from black bloud is to be cured.

This livid colour doth happen most frequently by reason of black and corrupt bloud setled in the part; for as a bright red colour under white, causeth a lively blue, or azure colour,

colour, as we may see in the veines of sound and healthfull persons; so black under white causeth a livid, or a leady colour. This accident is to be removed by scarification, and application of the Cupping-glasses, Hornes, or Leeches. Afterward the scarifications are to be fomented with Oxymel dissolved in *Cardum Benedictus* water.

If the lividitie proceed from cold, you shall perceive it by the cold constitution and temperature of the part. In this case you are to apply such locall medicaments as are able to reduce the naturall heat and complexion. *Fallopius* in his Treatise *de tumoribus, c. 26. de Gangræna*, affordeth a notable one, and parible, which is this: Take an ordinarie Turnep, and a Rettish-root of reasonable bignesse, grate or scrape these two, and adde to them of the powder of Mustard-seed one ounce, of the powder of Cloves three drams, of the oyle of Lin-seed, and Wall-nuts verie old, so much as is sufficient, and make a pultice, which apply warme; he calleth this cataplasme, *Medicamentum optimum & divinum*, A most excellent and divine medicament; with the which he affirmeth himselfe to have cured many: so that you need not to doubt of the efficacie and certaintie of it: and the ingredients seeme no lesse. How lividitie from cold is to be cured.

The last unnaturall colour is a black colour: this may proceed either from heat or cold. If it hath proceeded from heat, then an inflammation went before; if from cold, then lividitie did precede. The first betokeneth adustion; but imperfect: so we see wood, before it be perfectly burned, and incinerate, or turned to ashes, to become black. And in a Carbuncle, the lower part is of a dark red, the middlemost black, and in the top there is a white pustule, the heat beginning the adustion in the lowermost, increasing it in the middlemost, and perfecting the adustion in the top: for it is the propertie of fire or heat to mount up, and to be most effectuall aloft. If before blackness lividitie did appeare, it is to be feared, that the part beginneth to be mortified at the least, if any feeling or heat remaine: If these Of a black colour.

cannot

cannot be perceived, then you may boldly say, that a Spacelus or Mortification hath possessed the part.

How this accident is to be removed.

In both these cases, first, the parts are profoundly to bee scarified: Secondly, they are to bee fomented with the decoction of Worme-wood, the lesser Centorie, Scordium, Carduus Benedictus, the flowers of Camomil, Melilot, and tops of Dill boyled in a gentle Lixivium. Thirdly, fill the incisions of the scarifications with some of the medicament following using a feather: ℞ *Oxymell. simpl.* ℥ij. *Unguent. Ægypt.* ℥iij. *Spirit. vini*, ℥ij. *Misceantur.* Fourthly, this cataplasme is to be applyed warme: ℞ *Farin. fab. hord. & orobi, an.* ℥iiij. *Lixivii mitioris*, ℔. iiij. *coq. hæc ad cataplasmat. consistentiam: tunc adde Oxymell. simpl.* ℥ij. *Unguent. Ægyptiaci*, ℥j. *Omnia probe misceantur.* Continue the use of this medicament, untill the parts bee brought to their naturall temperature and colour: then proceed as hath beene set downe, when I spake of the curing of a compound ulcer.

Of Varices.

Having set downe the methodicall curations of the three first accidents taken from things according to nature; to wit, of abating superfluous flesh, removing of the cariositie of the bone, and reducing the naturall colour to the parts, I am to shew how the fourth accident Varices, or the tumefaction of the veines, by reason of superfluous grosse bloud are to be cured.

Its names.

This accident is called in Latine *Varix*, from the similitude and likenesse which it hath with the protuberances which are seene in trees above the bark, called *Varices*: according to *Avenzoar, lib. 2. tract. 7. c. 25. Albucasis Chirurg. part. 2. c. 93.* calleth this affection *Vitis*, or the Vine, because these passe alongst the parts by windings, as the vine doth: In Greeke it is called κιρσὸς, or as it is found in *Pollux* κειξὸς. It is called by *Hippocrates* ἰξία, and by *Aristot. 3. de histor. animal. 11.* and in sundrie other places.

The description.

This affection may thus be described: A *varix* is a dilatation of a veine causing a tumefaction of it, with windings

dings and tortuositie arising in one or more parts of the bodie. It is called the dilatation of a veine, because the dilatation of the arterie is called ἀνεύρυσμα. This particle (causing a tumifaction) is added, to exclude veines, which are naturally big. *Galen de Method. medend. lib.* 14. *c.* 13. numereth this affection amongst the diseases which proceed from the quantitie encreased. It may bee accounted a disease, because the actions of the parts which it possesseth are hindred; for if it possesse the legs, they become extenuate, and by reason of the heavinesse of the humor, they become slow in motion. If this affection invade the stones, the partie becommeth barren.

Its causes.

The causes of it are either internall or externall. Accor- The materiall.
ding to *Aristotle*, the materiall cause is bloud, being impregnate with spirit, hee doth affirme it to proceed from bloud, *Lib.* 3. *de histor. animal. c.* 19. where he noteth that *Aristotles* opinion.
women are not troubled with varices; because they turne out their superfluous bloud by their naturall fluxes, and that they are lesse troubled with the hemorrhods in like manner. And although this doth prove true in most women, yet there may bee sundrie women found, who both have varices, and are subject to the hemorrhods. Hee thinketh that the bloud in the varices is full of spirits; and therefore pronounceth, *Sect.* 6. *problem.* 3. *&* *Sect.* 4. *problem.* 21. that they who have their testicles varicous are barren, because the spirits of generation passe to the varices, and so leave the seed unfruitfull, being deprived of spirits. But *Hippo-* *Galen* and *Hipcrat.* 3. *de articul. text.* 4. *&* 6. *aphor.* 21. *&* *Galen.* 4. *de* *posrates* his opinion.
compos. medicament. 2^m *gnrã*; thinke that the materiall cause of varices, to bee grosse and flatuous melancholy bloud: yea, both *Galen* and *Avicen* are of the opinion, that the varices may sometimes be caused of laudable bloud, onely offending in quantitie, and dilating the coats of the veines.

The antecedent causes are in number foure. The antecedent causes.

I. Is a melancholy and pituitous temperature: so they who have a bad spleene, are most subject to this disease.

II. An

II. An hairie and an hard habit of the body.

III. The masculine sex: for women are not so frequently troubled with this affection, because monethly they discharge all superfluous bloud, if they bee healthfull: as hath beene said out of *Aristot. 3. de histor. animal. c. 11. & sect. 10 probl. 29.*

IV. Either ripe or old age: for according to *Hippoc. in Coac. prænot.* they happen not before the fourteenth yeare of the age, in the legs; although even children may have varices in the testicles. Why Eunuchs are not troubled with the varices, *Arist. sect. 10. probl. 29.* yeeldeth a reason; because they are deprived of seed and spirits. *Avicen* doth adde to these sharp diseases going before: for in these the thinnest part of the humors being spent by sweat, insensible perspiration, and discussion procured by Art, the thicker part being turned to some particular places, may procure the varices.

The primitive causes.

The primitive causes are these.

I. A thick and impure aire; because it doth weaken the legs, and maketh them the more apt to receive superfluous humors. And for this cause *Hippocrates* affirmeth, that men who dwell in the Westerne parts, are frequently troubled with this affection, and ulcers in the legs.

II. Immoderate exercise: so we may see Foot-men and Porters often to have varices.

III. Long standing: according to *Averr. 6. collect. 2.* From hence *Iuvenal* saith; *Fiet varicosus aruspex:* He shall become a varicous Sooth-sayer: for they who tooke upon them to finde out future contingents by the flying of birds, were enforced often to stand a long time.

IV. Thick wine and grosse food: such are old flesh salted, or smoaked, pease and beanes.

The presages.

As for the presages, let this be the first:

I. If varices appeare in those who are mad, by reason of the melancholy humor, the griefe ceaseth.

II. The varices mitigate gibbosities, or bunchings in any

any part of the body: for the humor which causeth them, is by these meanes averted from maintaining of them.

III. The varices appearing either in the right or left testicle, help a squeeking voyce; the humor being turned from the brest to the testicles, according to *Hippocrates*, in the 5. Sect. of his Epidemicks. This may happen for two causes. I. By reason of the consent which is betweene the spirituall and genitall members. II. Because baldnesse, stutting, lisping, and a squeeking voyce, according to *Hippocrates* in the same booke, are melancholy affections.

IV. They who never become bald, have not large varices. And againe, if in those persons who are bald, large varices appeare, haire will grow againe, *Hippoc. 6. aphor. 34. & Arist. 3. de histor. animal. 11.* But you must understand this of the varices of the testicles, called *Hernia varicosa*. The cause of this is the consent of the braine, and of the genitall members, which is so great according to *Avenzoar, lib. 2. tract. 3. c. 1.* that castration doth impaire both wit and courage. Then humours melancholike being gathered in the testicles, vapors ascend to the head, which afford sufficient matter for producing of the haire. And in women their courses being stopped, vapors ascend to the chin, from whence a beard doth bud out. As *Hippoc. 6. Epidem. sect. 8.* doth report of *Phaetusa* the wife of *Pythens*, who got a beard by reason of her husbands absence from her.

V. Varices caused by reason of some griefe of the spleen, are not to bee cured, lest the diseased partie fall into some melancholy disease, according to *Avicen* 22. 3. *tract. 2. c. 18.* for seeing the matter is lodged in the spleene, and the varices of the legs are stopped by curation, the humor must bee turned to some other parts.

VI. The varices are hardly cured by medicaments, according to *Avenzoar, lib. 2. tract. 2. c. 22.* Although they may bee cured by Chirurgerie without danger of life, according to *Celsus, lib. 7. c. 22.* This is true, if the varices bee caused of too copious laudable bloud, otherwayes not for the

The curation. the reason before assigned. The curation, which is the last point, is performed by two indications, to wit, by discharging the body of the thick and melancholick humors, and taking away the tumified veines.

The first is performed by appointing a convenient order of diet, and the administration of fit medicaments.

The second is performed by Chirurgerie.

The diet. As for the diet, grosse, tough, and flatuous meats are to be shunned; as Beefe, Goats-flesh, Venison, Oysters, Fishes fed in muddie waters, old Cheese, Beanes and Pease, Lettice, Coll-wort, Cabbage, and all those things which *Galen* doth forbid in melancholy diseases, 3. *de loc. affect. c. 7.*

Phlebotomie. As for Phlebotomie, the liver or median is to be opened in the arme directly opposite to that leg wherein the hæmorrhods are, or Leeches are to be applied to the hæmorrhodicall veines, chiefly if bloud was wont to issue from them.

Purgation. As for purging, Lenitives mixed with those which purge grosse humors are often to be ministred: Take this for a patterne, ℞ *electuar. lenitiv.* ℥ vj. *pulv. sanctis* ʒ j. *syrup. de cichor. cum rhab.* ʒ j. *misc. ut fiat potio.*

The chirurgicall curation. The Chirurgicall curation of the varices is performed by two meanes, ustion, and exsection; ustion is to be used when the varix is straight, and not much tumified.

Vstion. The manner of ustion is this: Incise the skin untill you come to the veine, and separate it from the parts adjacent, then shunning the brims of the wound, cauterize the coat of the veine: foure inches from this ustion doe the like, and so still untill you come to the end of the varix. This being done, dresse these ustions as you use to dresse parts burned.

Excision. Excision is to be used when the varix is crooked, and hath windings, according to *Celsus*: but in my judgement a straight varix is better cured by excision than that which hath windings and creeks, because it is more easily separate, and will admit a more beautifull cicatrix: whereas in cutting the other there must be horrible paine, and an ugly cicatrix must be left.

The

The manner of excision is this: you are to begin at what end of the varix you will, and to separate the veine from the adjacent parts, untill you come to the other end, then binde the veine hard at each end, and cut off what remaineth betweene the two ligatures: this being done, the brims of the wound are to be brought together, and to be healed with glutinative medicaments. *Plutarch* in the life of *Marius* writeth, that he having this griefe in both his legs, submitted himselfe to this manner of cure; and when he had put forth one, did constantly endure the excision of the varix in it, that no man should have doubted of his valour: but when the Chirurgeon would have done the like in the other leg, *Marius* answered flatly, that he meaned not to buy beauty with such paine: it is not to be thought that any in this our tender age will admit either of these two operations. Excision.

If a varicous ulcer be offered unto you, which contemneth ordinary meanes, my counsell is, that you take up the varix above and below, as you doe the veines of the temples in inflammation of the eyes, and open it betweene the deligations, that the bloud may be discharged out of it. This operation any one will admit, if he be not too tender. The Authors way of curing.

Lect. XXII.

Of a verminous and lowsie ulcer.

IN my last Lecture having delivered unto you the two last differences taken from things according unto nature, yet changed from the naturall constitution, to wit, of a discoloured and varicous ulcer; now I am to set downe the differences of ulcers taken from things aliene to nature, and strangers. These are two; wormes, and lice; from the first, an ulcer is called verminous; from the second, lowsie. The wormes which breed in ulcers may more fitly be called Maggots, How the wormes are called.

Maggots, in Latine *Termetes* and *Galbæ*, as those of the guts are called ἕλμινθες in Greek, or *Lumbrici* in Latine; as we finde set downe in a learned Epistle of *Alexander Trallianus* intituled περὶ ἑλμίνθων, *de lumbricis*, of wormes in the belly, translated by that famous and learned Physician *Hieronymus Mercurialis*, which hee annexed to his Treatise written of the diseases of children.

Their generation. They are ingendred of putrid humors, in uncleane and sordid ulcers negligently dressed, but most frequently in hollow, deepe, and sinewous ulcers: for in such the quittor is longest lodged, and the putridinall heat is greater. And for this cause they are seene often in ulcers of the eares, for the quittor is there long detained by reason of the windings and labyrinths of the eare.

The materiall cause. The matericall cause of these maggots for the most part is a pituitous excrement, as *Paul. Æginet.* witnesseth, *lib.4.cap.17.*

The efficient. The efficient cause is heat, and that of two sorts: The one is extraneous, and putrifactive, causing corruption of the humors.

The other is naturall: Seeing, according to the Philosopher, *lib. 3. de generat.animal. cap.2.* nothing can be produced of putrefaction onely, unlesse concoction put to its helping hand. Then in a verminous ulcer which is preternaturall, there is putrefaction, heat, and the ulcer it selfe, besides the wormes the effects of the first two.

The signes. As for the signes, they are three: The first is the sense of
I. sight, for oftentimes they are seene if either the cavity of the ulcer be ample, or that they are voided with the quittor.

II. The second is the motion of them felt by the Patient: their motion is called *Motus undosus*, like unto the waves of the sea, contracting and extending it selfe.

III. The third is a pinching paine now and then: for living they must be fed, and their feeding must of necessity cause more or lesse paine.

IV. The fourth signe is horrible stink, by reason of the great putrefaction.

When

When you goe about to cure such an ulcer, attempt not the taking out of the maggots with any instrument, for your labour will be fruitlesse, and the paine of the Patient great; and grant that you take many away with your instrument, yet you must leave the putredinall heat, and the corrupt humor, for the breeding of more. Against the use of instruments.

I wonder that even great Authors make mention of the application of the actuall cautery in this case: they might bee borne withall, if these ulcers were plaine, and shallow; for so the superfluous humidity might be dryed, and putrefaction removed: but they with an unanimous consent confesse, that these maggots are most commonly bred in sinewous and hollow ulcers, (as hath beene said) and most frequently in the Summer time, and Southerly winds blowing; and so a great heat would be induced, and the Patient put to great paine, if they could reach to the cavity of the ulcer, which cannot be. Against the use of the actuall cautery.

These wormes then must first be killed, and then they will issue out of the ulcer without any difficulty. The curation.

Those things which kill these wormes, doe it either of a manifest, or hidden quality. The medicaments.

They which kill them by their manifest quality must be bitter, such are Worme-wood, Southerne-wood, Calamint, Aloe, the Ferne, Buls-gall, the Meale of Lupines, the Leaves of the Peach tree, Capers, the Roots or distilled Water of the Roots of the Couch-grasse, called *Gramen canarium*, Horehound, Scordium, Mugwort, Centorie the lesser, Mints. Of these you may make decoctions, whereof you may finde sundry descriptions in the monuments of those who have written of this subject. *Ambrose Parrey, lib. 12. cap.* 8. setteth downe this medicament: ℞ *absynth. centaur. minor. & marrhub. an. m. 1. decoq. in lib. 1. aq. font. ad lib. ß. decoct. coletur: In quo dissolve aloes ʒ ß. unguent. Ægyptiac.* ʒ iij. he putteth in the decoction ʒ ij. of *Aloe*, and ʒ j. of *Ægyptiacum*: but who may not perceive the quantity of these to be too great? This of *Riolan* the father, in his From a manifest quality.

Chirurgerie, *de ulcerib. cap.* 8. is excellent: ℞ *Ellebor. alb. rad. cappar. gentian. dictamni, alb. an.* ʒ ij. *centaur. minor. scord. absynth. marrhub. calaminth. an. man.* ß. *decoq. in sufficiente quantitate aquæ font. ac coletur decoctum. In lib.* 1. *colaturæ dissolve mellis* ʒ ij. *Ægyptiaci* ʒ j. Above the ulcer he adviseth to lay *Unguentum Apostolorum.* If a tent may reach to the bottome, use this commended by *Fallopius* in his Treatise *de ulceribus cap.* 21. ascribed to *Archigenes*, as also *Ambrose Parrey*, in the place afore named: ℞ *cerussæ pollis montan. an.* ʒ ß. *picis liquid. q. s. ut fiat linimentum:* This cannot chuse but be effectuall, for the faculty of Tarre is knowne even to hunts-men and shepherds.

Pellamountain.

Medicaments killing wormes from a hidden quality.

As for those medicaments which kill wormes from a hidden quality in ulcers; they are taken either from Minerals, or Vegetables.

1. Minerals.

Amongst the minerals, all waters indued with the qualities of Mercurie or Antimonie are effectuall: wherefore you may use *Aqua aluminis magistralis* of *Fallopius*, set downe by him in his Treatise of the French-pox thus; ℞ *aq. plantag. & ros. an. lib.* 1. *alum. & Mercur. sublimat. an.* ʒ ij. *pulverizat.* These are to be mingled together, and being put into a separating glasse, the halfe of the water is to be breathed away: *Fallopius* counselleth the glasse to be set upon a gridiron, and coales to be put under: but the safest way is to have this done in a pan, with some sand set upon a little furnace. After that the halfe is breathed away, the separating glasse is to stand five dayes, and then the cleare water is to be powred off, and kept for use.

Cap. 93.

Aqua aluminis magistralis.

The use of it.

It is not to be used alone, but mingled sometimes with a double, sometimes triple, sometimes quadruple quantity of Rose, Plantane, or Night-shade-water. The ablutions of *Crocus metallorum* precipitate, and the Turbith minerall, are effectuall: Vitriols of all sorts, dissolved in faire Spring-water, and having some Camphire added, are very good: for they not onely kill the wormes, but powerfully correct the putrefaction in ulcers.

Amongst

Amongst the vegetables which kill wormes, by a hidden and unknowne quality, the Tabacco doth carrie away the beil, and not onely the juyce of the greene, but the decoctions of the dry also, doe effect this, being applied to the ulcers by injection, or moistening the tents or pledgets with the same. Seeing you may finde this medicament, whose faculty and operation are certaine, I will not trouble you by setting downe a rabblement of uncertaine toyes: *unguentum de Paeo*, having some Mercurie precipitate mingled with it, is excellent in such ulcers. Vegetables.

Seeing wormes in the belly, by erosion, cause ulcers in the guts; in so much that wormes have often come out at the navell and groynes, whereof you may reade memorable histories set downe by *Schenkius* in his third booke *Pag.* 407. *titul. de lumbricis*, it will not be a thing impertinent to discourse briefly of them, seeing they often trouble children, and procure sometimes death. Of wormes in the belly.

These wormes are called in Greek ἕλμινθες, and θηλα, *ferae*, because they cruelly torment the body; in Latine *Lumbrici*. Their names.

The efficient cause is the temperate heat of the guts, for the intemperate heat rather doth burne the humors, than produce any thing of them. Their efficient cause.

The materiall cause, is the inconcocted part of the *Chylus*, sent away to the small guts from the stomack, and left undrawne by the mesaraicall veines to the liver, there to receive the forme of bloud. This part of the *Chylus* being crude, and left in the intestines, mixed with the pituitous humor, is elaborate by the temperate heat of the guts, and the forme which lay hid in this matter before, is brought forth afterward by this heat: and according to the diversity of the latent formes, sundry sorts of wormes are bred. In the aforenamed title of *Schenkius*, you may reade of the stupendious figures of wormes, set downe by learned and famous men, in their monuments, who have seene them. The materiall cause.

The differences of wormes.

As for the differences of them: they are either ordinary, or extraordinary.

1, Ordinary.

Of the ordinary there are three sorts: The first is *Terētes*, the round ones, not unlike to the earth wormes in figure, but in colour different: for they are whitish.

The second are called *Ascarides*: these are like unto the wormes which grow in cheeses, and maggots in flesh: they are for the most part bred in the *Intestinum rectum*.

Tænia.

The third kinde is called *Lumbricus latus*, the broad worme; and *Tænia*, which in Greek is called a swadling band, by reason of its figure, for it is broad and long, and it hath sundry joynts. This worme will be of a strange length. *Plin. lib.* 11. *nat. histor. cap.* 33. affirmeth that some have beene thirty foot in length. *Conciliator. diff.* 101. saith, one avoided such a one fifteene foot in length. *Alexand. Benedictus, in proœm. lib.* 21. *practica*, saith he saw the like. If you desire greater variety of such histories, peruse *Schenkius* his observations, *Lib.* 3. *pag.* 411. I my selfe when I was in the Newrie, a towne in the North part of Ireland, being desired to visit a young man who had a Fistula in *Perinæo*, and whose body was exceedingly extenuate; when I had ministred a dose of 2. gr. of *Mercur. vita* to him, he avoided such a worme, tucked like a crabtree cudgell, about the thickness of a childes finger, and fifteen foot in length, he kept it in a little pewter basin for my comming: when he was in voiding of it he was in great feare, thinking that his guts came out.

The signes. Of round wormes.

As for the signes of wormes: You shall know any one to be troubled with round wormes by these signes: The party findeth gnawing, and pinching paine in the belly, hath gnashing of the teeth, chiefly in the sleep; is troubled with a dry and continuall cough, the nosthrils itch; wherefore children having them, are still picking their nose; the face is evill coloured, the cheeks are sometimes of a red, sometimes of a livid colour; the eyes are hollow, the mouth is wateriſh, the breath is strong, there is a desire to vomit,

the

the hicket oftentimes, hunger, paine, and heavineſſe of the head, drowſineſſe, convulſions, ſtarting in the ſleepe, ſtretching of the belly; but an extenuation of the reſt of the body; horrible dreames, looſeneſſe of the belly, ugly and ſtinking excrements doe fall out. This is holden for an experiment, if water be powred upon the ſtomack in the morning, the party being faſting, he or ſhe ſhall finde a drawing on of the belly, by reaſon of the ſhrinking of the wormes, ſhunning cold. All theſe ſignes are not found in every perſon, but ſome in ſundry.

If *Aſcarides*, or ſmall wormes, be bred in the *Inteſtinum rectum*, a horrible itch troubleth the party, and they are often ſeene in the excrements. Of *Aſcarides*.

If *Tænia*, or the long broad worme be in the guts, the party hath an inſatiable appetite, the body conſumeth, and ſome ſubſtance doth come from it like to the ſeeds of a cucumber. The falling ſickneſſe oftentimes proceedeth from the round wormes, but ſeldome from the broad, and the *Aſcarides*. Of *Tænia*.

Let us now come to the preſages which the diverſity of wormes afford. The predictions.

I. The *Aſcarides*, if they be ſmall, they are of all ſorts leſſe dangerous, for they are fartheſt from the noble parts, and are moſt eaſily killed, by clyſters, or injections of bitter things. It is otherwiſe if they be big, for then they are ingendred of a worſe matter.

II. The *Tænia* is of all others the worſt, becauſe it is biggeſt, and hardeſt to be killed.

III. The bigger are worſe than the leſſer, and many more dangerous than few, and the red are worſe than the white.

IV. If in the beginning of ſharpe diſeaſes round wormes come out alive, they betoken peſtilent diſeaſes.

V. It is good if round wormes come out, either when the *criſis* is at hand, or in the declination of the diſeaſe.

VI. If in perſons not ſick, wormes come out either at the

the mouth or nose, it betokeneth no harme, because this they doe for lack of food.

VII. If this happen in sick persons, it is an ill signe, for it argueth the malignity of the matter, which the wormes labour to shun.

VIII. If wormes expelled seeme to be besprinkled with blond, it is an ill signe, for it sheweth the guts to be ill affected.

The curation. As for the curation, it is performed by two indications; the first is by killing of them; the second by expelling of them killed.

Medicaments that kill wormes. They are killed either by internall medicaments, or externall applications.

The internall medicaments are either simple or compound; the simple are either Vegetables, or Minerals, or Animals.

The most powerfull amongst the simple vegetables are these: *Corallina*, the dose of it is ʒ j. The seeds of Tansie, and the common worme-seed, the dose of them is ʒ j. the juyce of Vervine; give a spoonefull, the juyce of *Scordium*, Wormewood, the lesser Centorie, *Carduus benedictus*, or Beere or Ale brewed with these, Garlike, the roots of grasse.

As for compound medicaments, let this be the first: ℞ *corallin. lumbric. terrest. nasura cornu cervi, semin. santonici, & tanaceti an.* ʒ j. *rad. dictamni albi, rhabarb. agaric. trochiscat. an.* ℈ ij. *fiat ex omnibus pulvis: dos.* ʒ j. The second shall be that medicament, which Quacksalvers in Germanie, call *Panis vitæ*, the composition is this: ℞ *mustacei* ʒ iiij. *semin. santonici* ʒ v. *mellis puri q. s. ut fiat pasta: dos.* ʒ ß. *ad* ʒ j.

The medicaments taken from minerals: *Mercur. crudus, dos.* ℈ ij. *Mercur. dulcis, dos. a. gr.* iiij. *ad* 20. *secund. rationem, ætatis & virium, Mercur. vitæ, cujus dos. a. gr.* ß. *ad gr.* ij. *vitrum antimonii, crocus metallorum, in pulvere vel infusione.*

As

As for externall applications receive these as patternes:

I. ℞ *aloes hepat.* ℥ij. *fellis taurini* ℥iiij. *absynthii contus.* ℥ii ß. *fiat cataplasma applicandum umbilico.*

II. ℞ *farin. lupin.* ℥ j. *myrrh. aloes an.* ℥ j. *pulp. colocynth.* ℈ iiij. *croci* ℈ j. *fell. boum* ℥ iß. *aceti acerrimi* ℥ ß. *misc. Applicetur cuminum pultum cum felle tauri, quod commendat. Sebastian. Austrius lib. de morb. infant. morb.* 42.

The death of *Herod* by wormes is extraordinary, which is set downe by Saint *Luke*, undoubtedly to shew what subjects may offer to honour their Princes, and what Princes ought to assume unto themselves of right. *Herod* having begun to persecute the Church, caused Saint *Iames* to be killed, and Saint *Peter* to be laid up in prison. After he had done this, the third yeere of his raigne (as witnesseth *Iosephus antiquit. lib.* 19. *cap.* 7.) he went to Cæsarea to keep some playes in honour of *Cæsar*. The second day of his playes, when he had given an answer to the Tyrians and Sidonians, who sued after his favour, he being offended with them: the people cryed out, The voyce of God, and not of man. O *Herod*, why diddest thou accept of this grosse flattery? Had it not beene sufficient to thee to have assumed subordinate Majestie, and truth in thy declamation, which was (I make no doubt) in some points of it failing? Loe, whom prosperity could not bring to the consideration of his carriage, Gods visitation did. Wormes, not presented to view of men, begun inwardly to torment him, and eat up his intrailes; which caused him to burst out into these lamentable speeches: *En ego ille &c.* Behold, I whom you called God, am by fatall necessity commanded to leave life, it proving you to be liars, and I, whom you saluted as immortall, am violently drawne to death. Being horribly tormented, he died the fifth day, although the people put on sackcloth, and made supplication for him. So much *Iosephus*. O that Christian Princes would not so much labour to delight the eares of the people by eloquent speeches, as to administer justice. And although they think themselves

Act. 12.

Iosephus antiq. lib. 18. *cap.* 13.

secure enough from such a judgement in this life as befell this tyrant: yet let them not doubt, but that there must be an accompt made after death, where every debt must be paid with interest. I have delivered unto you what I thought fit concerning a verminous ulcer, now I will in few words deliver the doctrine of a lowsie ulcer.

A lowsie ulcer.

The efficient cause.

The efficient cause of lice, is the naturall temperate heat, mixed and concurring with the heat putrefactive.

The materiall cause, is the excrements of the third concoction, or assimilation, which are hot; but not sharpe, or maligne. This is the opinion of *Galen lib. 1, de compos. medicam. secund. loca cap. 7.* and *Avicen. lib. 4. fen. 7. tractat. 5. cap. 16.* That you may the better understand this opinion, you must understand, that when bloud is turned to the nourishment of the parts, divers excrements are produced: of the which, some are discharged by insensible perspiration, some by sweat, some cleave without to the skin, as the morphew, and the filth which cleaveth to the soles of the feet, called *Strigmenta*; and scales in the head and other parts: some stay within the *Cuticula*; and these are either sharpe, and of a maligne quality; and these cause shedding of the haire, or they are destitute of both these qualities, and they produce lice.

The differences of the lice.

The differences of these lice are two: For some are most commonly without the *Cuticula*, and some within the *Cuticula*; of those that are without, some are familiar, as the common sort; some are called ἄγριοι, *feri*, wilde and cruell ones.

The ordinary.

As for the ordinary and familiar, most commonly in boyes and girles, they swarme in ulcers in the neck below the sutura Lambdoides: but sometimes, and in some persons, they possesse the distance between the *Cuticula* and the *Cutis*, dwelling and separating the one from the other. If one will know what store of these moveables may issue out of the *Cuticula* of one person, let him reade *Amatus Lusitanus cent. 3. curat. 58. & schol. ad curationem eandem*, where he reporteth

reporteth, that one of good note in Lisbon called *Tabora*, was so troubled with them, that two Negroes had enough to doe to discharge him of them, and to carry them to the sea; and that at the last they procured his death.

The ἄγρια, or *feri*, the crab-lice, are most commonly engendred in the arme-pits, and in the forrests of *Venus* in nastie men and women. Crab-lice.

Those which are alwayes found under the *Cuticula*, are called *Syrones*, unknowne to the Grecian Physicians: they draw a trench, as Moles doe in the earth, under the *Cuticula*, leaving watery pustules behinde them, as they march: their seat (when they rest) is easily discerned at the end of the trench, where when the *Cuticula* is opened, they may with the point of a sharp pin or needle be taken out; they resemble nits in cheese, and if you place them upon the cover of a booke of blacke leather, in the Sunne, they will passe alongst the cover with a marvellous agility; as often I have made triall my selfe. *Syrones.*

As for the Prognosticks. I. They who are troubled with any kinde of lice are nastie persons. The Prognosticks.

II. In a Hectick fever, they shew that one is entred into the third degree of it, and so is uncurable.

III. In persons not diseased if they abound, you may advise them to keepe their hands from their mouth, and to labour to be cleanly.

When the lice swarme over the whole body, the disease is called φθειριασις ἀπὸ τῆς φθειρων, *à pediculis*, from lice.

Three intentions are required for the curation of them: Phlebotomie, Purgation, and locall applications. The curation.

As for Phlebotomie, the sex, age, constitution of the party, and strength, with the rest of the indications are to be observed. Phlebotomie.

When you purge, use rather minerals than vegetables, because they more strongly evacuate, and are of a more subtill, durable, and penetrating faculty. These same will serve to hinder the increase of these, which I set downe as powerfull to kill wormes. Purgation.

As

Locall medicaments.

As for locall applications, *Amatus Lusitanus* in the place afore-named, affordeth two: The one is a medicate vinegar; the other a liniment: The description of the vinegar is this: ℞ *Lupin. amar. pug.* iij. *Staphisagriæ pug.* ij. Let these be boyled in a sufficient quantitie of vinegar, with it moysten the whole body: The liniment is thus made: ℞ *Staphisagr. part. 2. Sandarach. Grac. part. 1. Salis petræ partem dimidiam, postquam ista fuere infusa in Oleo Raphanino, part. 2. & Aceti acerrimi, part. 3. fiat linimentum, quod illinatur toti corpori.* *Lib. 3. c. 3.* *Paulus Ægineta* affirmeth, that hee found good successe in the application of oyle and vinegar.

As for the Crab-lice, the waiting-maids of *Venus* rest contented with the application of an unguent made of sweet Sope and Quick-silver. If any one bee desirous to know more of the mysterie of these movables, I will advise him to repaire to the Pilgrims of the tribe of *Gad*, in the Summer time to be found by Coleman hedge, and thorow-out the whole yeare in Barne-Elmes barne. If any be desirous to read a learned and philosophicall discourse of this subject, let them have a recourse to *Minadous, lib. 2. c. 9. de turpitudinibus.*

Lect. XXIII.

Of Vlcers of the Hairie Scalp.

SEeing I have set downe the generall doctrine of ulcers, sufficient to instruct any one how everie ulcer in particular parts is to be cured; yet seeing some ulcers in these parts require some speciall considerations, I will run thorow them to shut up the Lectures of this yeare: Nevertheless, I meane not to omit any thing which shall seeme materiall. I will begin at the ulcers of the head, partly because some are uncurable of them, & that it is necessarie that you know which be such; partly because it were a foule shame, that

women

women should goe beyond a Chirurgeon in this businesse, who confidently take upon them the curation of these ulcers.

The ulcers of the head are of two sorts: for some are moyst, and some are dry. Differences of ulcers of the head.

The moyst are two, Achor and Favus. These dispositions of the head are called by the Arabians *Sahafati*, by *Avisen. 7. 4. tract. 3. c. 1. Serap. lib. 1. tract. 1. c. 2. Avenzoar, lib. 1. tract. 1. c. 7.* and they are nothing else but small ulcerate tumors of the whole skin of the head, caused of sharp excrementitious humors. All small tumors, in Latine *Tubercula*, by the Arabians are called *Bothor*. So then as the *Cuticula*, or the scarfe skin, is the seat of Pthiriasis or the lowsie maladie, so the place of these griefes is the whole skin, both the *Cuticula*, and the *Cutis*. The nature of these griefes and names.

The materiall cause is a sharp excrementitious humor. The materiall causes.

Now sharp humors are of two sorts: for some are sharp of their owne nature, as choler: and some by accident. By accident, humors may become sharp two manner of wayes. First, by exustion and putrefaction, as *Bilis atra*, and melancholy not naturall excrementitious. Secondly, by admistion of a sharp humor. These ulcerous tumors of the head may bee caused, not onely of simple sharp humors of their owne nature, but also of humors made sharp by accident. The divers kindes of sharp humors.

The Chymists will have the salt of Vitriol to be the materiall cause of these ulcers. See *Ioan. Faber Chirurgiæ Spagyricæ, c. xv. Achor* so called according to *Alex. Trallianus, lib. 1. c. 8* because from it a sanious quitter called ἰχὼρ doth flow. *Galen* in his booke of tumors thus discourseth of it: *Achor* also is a small ulcer in the skin of the head, you may thinke that it is caused of salt and nitrous phlegme, out of it floweth a sanious matter, which is not altogether wateriſh, nor so viscous and thick as honey, which appeareth in those ulcers which are called *Favi*; for in these there is a certaine tumor, and sundry holes, out of which floweth a matter The Chymists opinion concerning the material cause.

Achor, what it is.

matter like unto honey. He also in his *Lib. 1. de compos. Pharmacorum secund. loc.* affirmeth the holes in this tumor to bee lesse than are those which are called Favi, and that out of them floweth a thin humor with some clammines se. *Oribas. lib. 4. ad Eunap. c. 4.* thus speaketh: Achor is seated in the skin of the head, and hath but small holes, out of which a thin and reasonable viscous Sanies doth flow. That affection which is called Favus is like to this; but it hath greater holes, which containe a matter like to honey. *Trallianus lib. 1. c. 9.* subscribeth to these in these words: Wee must know also that Cerion, (which is Favus in Latine) is a griefe like to Achor, yet differing in bigneſſe; for the holes out of the which the humor issueth, represent the honey-comb: wherefore by Ancients it was called κηρίον. The like hath *Paulus Ægineta, lib. 3. c. 3.*

The differences betweene Achor and Favus.

So that Achor differeth in three points from Favus: for first, in it the tumor is lesser: secondly, in it the holes are lesser: and thirdly, the holes in Favus are conspicuous; but in Achor not. *Ætius lib. 6. c. 68.* hath these words: Achor is seated in the skin of the head, and hath but small holes, out of which a thin and viscous Sanies doth flow. The griefe called κηρίον, or Favus, is like to this, wherein there are large holes, out of which issueth a matter thick, like unto that which is contained in honey-combs: wherefore it is called κηρίον. As for Favus, or κηρίον in Greeke, *Actuar. lib. 2. de dignosc. morb. c. 5.* thus describeth it: Small ulcers arise in the head thick, and red like little dugs, of the which, that which is called ἀχώρ hath but small holes, which sendeth out a clammie Sanies; but κηρίον or Favus hath greater holes, which containe an humor like to honey.

Favus, what it is.

Out of these passages, which have beene alleaged out of these ancient and learned Authors, these descriptions of these two ulcers may be gathered: Achor is an ulcerous tumor of the skin of the head, red and dug-like, having small holes, out of which issueth a thin and viscous Sanies. Favus is the like ulcer, yet wherein the holes are larger, containing

Achor.

Favus.

an

an humor in thickneſſe reſembling honey, from whence it hath its name.

The primitive cauſes are in number two: corrupt nouriſhment, and contagion: of the firſt I have diſcourſed heretofore, of the ſecond there is no doubt to bee made: for it may be daily ſeene, that theſe griefes are communicate by contract and frequent converſation. The primitive cauſes.

The materiall cauſe is a ſharp and fretting humor, viſcous in both theſe ulcers, yet thinner in Achor, than it is in that which is called *Favus*. *Galen* and *Ægineta* in the places afore-cited, affirme it to be a ſalt and nitrous flegme. The Chymiſts affirme them to proceed from the ſalt of the vitriol of the leſſer world, or man. The materiall cauſe.

The cauſe conjunct is the ſame humor impacted in the skin of the head. The conjunct cauſe.

The ſignes of theſe two are theſe: Firſt, in both theſe tumors there is an itching, and a tumor. Secondly, holes appeare in both, but in Achor leſſer, in Favus greater. And although Lice are often ſeene in both, yet it is proper for Favus to have ſcales. Signes.

As for the Prognoſticks, receive theſe. The preſages.

I. Young perſons are moſt ſubject to theſe griefes, and amongſt theſe children moſt frequently: The cauſes of this may be two. Firſt, becauſe they may have received many impurities in the mothers womb, which when they are come to the light, the naturall heat increaſing, they labour to expell; or it may happen by reaſon of the corrupt milke of the Nurſe, who uſeth an ill diet.

II. Theſe ulcers, if they have continued long, and have much altered and corroded the skin, when they are cured, they leave behinde them baldneſſe of the parts affected.

III. Theſe griefes free children from the falling-ſickneſſe, according to *Hippocrates*, *Lib. de ſacro morbo*, and *Avicen*, *1. 3. c. de Epilepſia*. For the humor which might cauſe this diſeaſe, is ſent from the inner to the outer parts.

IV. If theſe griefes be hereditarie, they hardly can bee cured:

cured: seeing this is true in all other maladies, how much more certaine, when to the humor a malignitie is joyned, as in these, as all must confesse.

The Indications of curing.

The meanes which are appoynted for the curation of these griefes, are of two sorts, Physicall and Chirurgicall.

1. Physicall.

The Physicall are three; A convenient order of Diet, Phlebotomie, and Purgation.

Dieteticall.

As for the Diet, that is most fit, which was set downe in the Lecture delivered concerning the curation of Leprositie: for by some this is accompted a particular Leprosie. All surfetting, strong and sweet wines, sharp, and salt, and fried meats are to be shunned; and such as afford a grosse and impure juyce, as hard Egges, Fishes living in muddie waters: Purselane, according to *Avenzoar*, exceedingly furthereth these griefes.

Phlebotomie.

As for Phlebotomie, two indications may induce you to use this: First, a Plethora of the whole body: Secondly, much corrupt bloud settled in the vessels of the head. If there be a fulnes in the whole body, then it is fit to open the Medians of both the armes: it skilleth not much at which you begin: Let some daies passe between the opening of the one and the other: Let the strength, age, time of the yeare, and the like circumstances shew you, what quantitie of bloud is to be drawne. If much impure bloud bee congested in the head, open the Cephalica, the veines under the tongue, the *Venæ frontis*, yea and the arteries of the temples; for they powerfully derive corrupt bloud and foule spirits from the head.

Purgation. Generall.

As for Purgation: If this must be generall, then no medicament is better than *Confectio Hamech*, or *Hiera Diacolocynthidos*, with the syrup of Rose solutive with Agarick in Betonie, Eye-bright, Strawberrie, Cowslip, or water of the black Cherries. Receive this description as a patterne: ℞ *Confect. Hamech, aut Hier. Diacolocynth.* ʒiiij. *Pulv. sancti* ℈ij. *Pulv. Holland.* ℈j. *Syrup. ros. solut. cum Agarico* ʒj. *Aq. prædict.* ʒiij. *Misc. ut fiat potio.* If the partie affect

fect pils, these or such like you shall finde verie effectuall: ℞ *Pilul. aurear. & aggregat. an.* ℈j. *Trochiscor. alhand. pulcorum gr.* vij. *spirit. Vitriol. gutt.* 5. *Formentur pilul.* ʒj. *quæ deaureatur.* These purgative medicaments are to bee ministred once everie weeke, untill the partie be cured.

If you goe about particularly to purge the head, use Sternutatories made of white Hellebore, and the best and strongest Tobacco, with a little of the powder of the seeds of sweet Marjerome and Lavender; or use Gargarismes: This water drawne by a quill into the nostrils, which I will set downe, is verie effectuall: ℞ *Pulv. Lap. magnet. & calamin. an.* ʒij. *Virid. æris & Euphorb. an. gr.* vj. *Lap. hæmatit.* ʒj. *Succini albi* ʒß. *Aq. major.* ℥j. *Misceantur.* Let this medicament be kept in a glasse, and drawne into the nostrils everie morning, or everie other morning, as the patient is able to endure. Particular.

The Chirurgicall meanes are the artificiall dressings of the ulcers with locall medicaments. To attaine to this, two things are to be noted: The first is, what medicaments are to be applyed: The second is, how they are to be applyed. As for the qualities of the medicaments, they ought to bee astringent and repelling: when I discourssed of tumors, I set downe an ample catalogue of them, whither I send you, because I hate idle repetitions. Chirurgicall meanes.

But seeing some magistrall compositions are required in the curation of these grieses, which often prove verie obstinate and stubborne, I will not leave you unfurnished, but will deliver unto you some which are verie effectuall. The first is this of mine owne: ℞ *Butyri recent.* ℔. ß. *Axung. porc.* ℥iiij. *ol. Scorpion.* ʒij. *Sulphur. vivi, Helleb. alb. & nigri, Rad. Enul. pulveriz. an.* ℥ß. *Calcis vivæ* ʒiij. *Mercur. crudi* ℥jß. *Misc. ut fiat linimentum.* The second is that of *Gordonius*, described by *Rinodæus, Dispensator. medic. lib.* 5. *sect.* 1. thus: ℞ *Elleb. alb. & nigr. Sulphur. viv. Auripig. Litharg. Calc. viv. Alum. Gallar. Fulig. Cinar. Clavellat. an.* ℥ß. *Mercur. & virid. ær. an.* ʒij. *pulveriz.* and *pulv.* How persons of ripe age are to be dressed. Compound unguents.

coq.

coq. in Succ. Borrag. Scabios. Fumar. Oxylap. & Aceti, an. ℥iij. *ad Succorum consumpt. deind. addantur Ol. veter.* ℔. j. *Picis liquid.* ℥ß. *Cer. liquat. q. s. ut fiat linimentum.* I have made triall of it, and have found it effectuall. If you but consider the ingredients, you cannot but allow of it. The Author commendeth it in a scald head, all manner of scabs, and in *Malum mortuum* it selfe.

The artificiall dressing. The pulling out of the haire.

When you are to apply these unguents, which was the second point of the Chirurgicall meanes: First, you are to marke whether the roots of the haires be corrupt or no; for if the roots be corrupt, they must be pulled out: you shall know this by pulling out of a few, and observing the roots: for if the roots be thicker than ordinarie, & moyst, you may in be assured that they are corrupt: they are to be pulled out children, that you may the better apply your Topicks: In aged persons not onely to this end; but to open the skin also, and to make it more perspirable, that the corrupt humors may be the more easily corrected and spent.

Pulling out of the haires.

The haires are readily pulled out, by application of an Emplaster of red wax newly made, drawne upon lether, and lying to the ulcers twelve houres. Secondly, above the unguents you are to apply Sparadrops made onely of wax, to save the unguents, and keepe them to the sores without much waste. Thirdly, you are to foment the sores with red wine, or Tanners woose, wherein Pomegranate flowers and rindes, Myrtill-berries, and Sumach, with red Rose-leaves dried, have beene infused in a pot set by the fire side, before you use the unguents.

How children are to be handled.

If children be offered to you to be cured, you must have a care that you use gentle medicaments to them, and that their caps bee so tied to their heads, that they cannot pull them off. For children receive these Topicks: the first shall be that of *Minadous*, in his Treatise *De turpitudinibus, li. 2. c.* 10. which he learned of a woman, who professed the curation of these griefes: ℞ *Sulphur. vivi, Litharg. Argent. pulverizat. an.* ℥j. *cum aceto ros. terantur at levigentur, tum*

Of the Mastick tree.

adde

adde Terræ lemniæ pulv. ℥ß. *Succi Plantag. & Limon. an.* ℥j. *Ol. Lentiscin. & Myrtini. an.* ℥j. *Misc. ut fiat linimentum.* If the ulcers in children prove obstinate, use this of mine: ℞ *Pomati, unguent. Popul. & Vng. albi caphurat. an.* ℥j. *Ol. de vitell. ovorum* ℥ß. *Ol. Scorpion.* ℥ij. *Mercur. crudi* ℥ß. *Misc. in unguentum.* You may adde ℥jß. of Alome calcined and beat to powder, if you will have it stronger. These ulcers are to be dressed once in 24. houres, and towards the night: for then the medicaments will prove most effectuall. If these ulcers be verie moyst, and apt to bee enflamed, by the application of an unguent, then you are to use a medicament made of the absterstive powders, which the Ancients called *Smegmata* contempered with *Oxymel simplex*: such are the Ellebores, Sulphur vivum, Staphesager, the Pumick-stone, Cuttle-bones, the roots of Iris, and *Aristolochia rotunda*, and Barley-meale: these being beat to powder, and by the admixtion of *Oxymel simplex* brought to the consistence of a liquid Electuarie, must bee applyed to these ulcers, and above the medicament a cap of Ivie-leaves sowed together be set.

Having spoken sufficiently of the two kindes of moyst ulcers, which are found in the head, Achor and Favus, it is time that wee reason of the dry ulcer of the head, which properly is called *Tinea*.

Of *Tinea*.

This is a crustie ulcer, fretting the skin like a Moth (from whence it hath its denomination) without any great store of moysture, corrupting the roots of the haire, and sending out of the skin a dry filth which stinketh: *Videatur Hieron. Mercurial. c.* 14. *de morb. cutan.* But *Petrus Ioan. Faber*, in his *Chirurgia Spagyrica*, thus describeth it, *c.* 15. *de Tinea*: It is a peculiar phagedænicall and cancerous ulcer of the head, caused of the salt of the Vitrioll of the body of man, which fretteth the skin, and produceth scales, sometimes white, and sometimes yellow. The materiall cause, and the manner of the generation of it, hee thus prosecuteth. The Vitrioll in the great world, while it is

calcined in the fire, it is coagulate into a masse; either white, if the calcination be but moderate; or yellow, if the fire bee increased. So in the little world (hee meaneth the body of man) the Vitrioll, when it is seperated from the Balsome of the body, it marcheth towards the skin of the head, which it corrodeth, and above it produceth a crustie and scaly substance. Thus he: and I protest verie probably.

The materiall cause.

And if it bee true which *Galen* and *Ægineta* affirme of the materiall cause of Achor and Favus, that it is a sharp nitrous flegme, as hath beene said, it may verie probably bee affirmed, that the materiall cause of *Tinea* is *Phlegma vitriolatum*, Flegme endued with Vitrioll, yet grosser than that which is the cause of Achor and Favus. *Avicen*, *Mercurialis*, and the rigid Galenists affirme the melancholy humor to be the materiall cause, accompanied with some sharp humiditie, which pricking the expulsive facultie, moveth it to drive out the humor to the skin of the head, and so to cause this ulcer: but this opinion carrieth no shew of truth: for first, this griefe most commonly seizeth upon phlegmatick persons: secondly, it cannot be apprehended, how melancholy, either by the admixtion of any humor, or by any degree of heat in the body of man, being of it selfe black, can produce such a coloured ulcer, to wit, white or yellowish.

Cap. de Tinea.

Primitive causes.

The primitive causes are foure; Errors committed in the things not naturall, Hereditie, the corrupt Milk wherewith children are fed, and Contagion or Infection.

The signes are dry crustie scales, most commonly white, sometimes yellowish, or of an ash-colour, or greenish, never black altogether.

As for the presages: let this be the first.

I. This ulcer is hard to bee cured, because it is maligne and venomous.

II. Inveterate ulcers of this kinde are more maligne, and harder to be cured, than those which have but lately invaded any person.

III. When

III. When they are cured, they often leave behinde them Alopecia, or Ophiasis.

IV. Sometimes they end into the Leprositie, and pedicular or lowsie disease.

V. If in a *Tinea* the skin be hard, or of a shelly substance, and send out many scales, and the haire fall by reason of the corruption of the roots of them, it is of all others most hard to be cured.

VI. If this ulcer being once cured, returne, pronounce it to be of hard curation: for there must be some seed of this maligne malady firmely impressed in the braine.

The curation.

In the curation of this griefe, two indications offer themselves: The first is the removing of the causes; but seeing the causes are either primitive or conjunct: The primitive causes are removed, by rightly ordring those things which are called *Res non naturales:* The cause conjunct is taken by purgation and phlebotomie. As for phlebotomie and purgation, although that may suffice which I have delivered in setting downe the healing of *Tinea* and *Favus*, yet let me insinuate this unto you, that it is expedient that once a quarter you open the Cephalica, two dayes before the full of the Moone, and that for purgation you call Mercuriall medicaments to aid, when Vegetables will not serve. *Parrey* is of the opinion, that the meanes which are used in curing of the French Pox, are effectuall in curing this griefe: Use these then, *Mercurius sublimatus dulcis*, Turbith minerall, Mercurie precipitate dulcified, Mercurie coagulate, and fixed by gold and silver.

Lib. 16. c. 2. de Tinea.

The application of the Topicks.

The second Indication is the curation of the ulcer it selfe by locall meanes.

Things to be noted before the application of locall medicaments.

But before you goe about to apply any locall medicaments, observe these passages: First, that you meddle not with tender children, if they have a maligne *Tinea*, untill they bee able to abide sharp medicaments; for you shall vex both them and their parents, and so shall procure a dimission to your selves. The meane time you may use a li-

niment made of the oyle of Egges, *Crocus Martis*, and calcined Harts-horne to the part, laying above it either a cap of Ivie-leaves, or Colwoort-leaves. Secondly, that you apply no repercussives to the malady: for the humor causing it, is so thick that it cannot be repelled. The third is, that unto new *Tinea's* and milde, you apply milder; but to those which are old and maligne, sharper and fiercer medicaments.

Indications to be noted in the application of the Topicks.

In the application of the Topicks, three things are to be done: First, you are to procure the seperation of the scale: Secondly, you are to pul out the haires by the roots: Thirdly, you are to heale the ulcer. You shall procure the fall of the scales, by embrocating them with a medicament made of the oyle of Trotters, and the Mucilages of the root of Althæa, Lin-seed and Fenugreeke, adding some of the oyle of Arsenick, or Mercurie: How the haire is to bee plucked up by the root, I have shewed before. To cure the sore, anoynt it with *Vnguentum Enulatum cum Mercurio duplicato*, and above it lay *Emplastrum de ranis Vigonis cum Mercurio itidem duplicato.* Or use this of learned *Mercurialis*: ℞ *Succi fumar. Scabios. Borrag. Oxylapathi, aceti an.* ℥iij. *Ol. antiq.* ℔ j. *coq. omnia ad succorum consumptionem: postea inspergantur hi pulveres.* ℞ *utriusque Helleber. Sulphur. vivi. Cadcanthi, Auripigmenti, Calc. vivæ, Alum. Gallar. an.* ʒß. *vitrid. æris* ʒij. *Picis liquid.* ℥iß. *Ceræ q. s. ut fiat Ceratum.* Apply this to the part affected: while you are thus busied, purge the partie everie eighth day.

Cap. de Tinea.

Other affections of the head.

Galen & the Greek Physicians, who wrote after, have made mention of other affections of the scalp. And although they be not of that moment, of which the other are, yet I thought good to acquaint you with them, to the end you may take notice of them when they are named by Physicians: These are foure: Ἐξανθήματα, Ψυδράκια, Σύκωσις, Ἑλκύδρια: Ψυδράκια according to *Trallianus, lib. 1. c. 5.* are small knobs like unto pushes, which are above the *Cuticula*; but Ἐξανθήματα are superficiall exulcerations of the skin, somewhat red and rough,

rough, *ibid.* Ἐλκώδια, according to *Ætius*, are certaine small ulcers, thick and reddish, like unto teats out of which floweth an ichorous substance. Σύκωσις, *seu Ficatio*, is a small ulcer, round, somewhat red, sometimes painfull, like unto a fig, from whence it is so called, wherein flesh buddeth: See *Ægin. lib. 3. c. 3. Galen. lib. 11. de simpl. med. facultatib. Celsus lib. 6. c. 3.* maketh two sorts of it: The one hard and round, out of which a little glutinous matter issueth, which is seene in the beard: The other moyst and unequall, out of which more commeth, and hath an ill smell. This appeareth in the haire of the head.

The materiall cause of these is pituitous bloud, but the flegme is saltish: when you goe about to cure these, you must first make them levell with the skin, by rubbing of them with the caustick, or some cathæreticall powder. Afterward they are easily cured with *Vnguentum Ennlatum cum Mercurio simplice*, and *Emplastrum de ranis* of this same kinde. Their materiall cause.

Lect. XXIV.

Of the Vlcers of the Eares and Ophthalmia.

IN my last Lecture I set downe the divers kindes of the ulcers of the hairie scalp, and the curation of them, Empyricall, as well as methodicall. Now the course of proceeding requireth, that I set downe the ulcers of the face. And seeing in it are placed the instruments of foure speciall senses, to wit, of Hearing, Seeing, Smelling, and Tasting; I will according to these, measure the diversities of the ulcers of it: I will begin first with ulcers of the eare, because in it are seated the instruments of hearing. And although the sight be more necessarie, if we respect of the pleasure which doth redound by the beholding of the multiplicitie of the objects, or the commoditie which it affordeth, in

The excellencie of hearing.

espying things which might hurt the body, that we may prevent and shun them: yet the hearing excelleth it, for it is *Disciplina sensus*, the Sense of learning, according to *Aristotle*, and the entertainer of faith: for faith is bred by hearing, according to the Apostle. And as the sight furthereth invention, so by the hearing, things invented are communicated to others. Besides, by hearing, the perturbations of the minde, as anger, envie, wondering and such like, are most stirred up.

The causes.

The causes of the vlcers of the eares, are either antecedent, or conjunct.

The antecedent is either externall, or internall.

Externall.

The externall causes are two; to wit, a blow, or a fall: for by reason of either of both these the parts may be contused, and from hence quittor bred, which being stayed long within the cavities of the eare, and having the eare-wax, and other sharp excrements of the braine, mingled with it, may erode the parts.

Internall.

The internall cause is a sharp humor sent from the braine to the cavity of the eare, which first of all causeth apostemation.

Presages.

As for the Prognosticks, let this be the first: These vlcers are not to be neglected; for if the curation be prolonged, deafenesse may ensue.

II. If greater plenty of matter issue out of the eare than the part of its owne selfe is likely to afford, then you may pronounce that the greatest part of it is sent from the braine ill affected.

III. If before matter issue out of the eare, the party feele pulsation, and great paine, you may pronounce that a Phlegmon hath invaded the part.

The differences.

These vlcers are either without any excrescence of flesh, or they have excrescence.

The curation.

In the curation of vlcers of the eares, it is requisite that ever before the application of any locall medicaments the

Purgation,

head be purged by cephalicall pils. Receive a description of

those

those which are very effectuall. ℞ *pilul. aggregatar. & aurear. an.* ℈ j. *trochiscor. Alhandal. & diacrid. an.* ℈ ß. *spirit. vitriol. q. s. ut formetur massula. Ex hac massa efformentur pilul.* iiij. *deglutiat. duas hor.* 5. *matut. sequente die sumat totidem. Exactis* 4. *horis à sumptione pilularum capiat jusculum sine pane, prandeat autem hora consueta.*

In the application of locall medicaments, these five points are to be observed, according to *Petrus à Largelata Medicus Bononiensis.* Application of locall meanes. *Li. 5. tract. 9. c. 9*

I. Let no sharp medicament be put into the eare before the body be well purged, lest we procure a fever, and cause an attraction of humors.

II. Let all medicaments which are powred into the eares be neither too hot, nor too cold; for they being (for the greatest part) framed of spermatick parts, they can hardly endure any excesse in heat or cold.

III. Let all the medicaments which are to be powred into the eare be of a liquid substance, that they may enter the deeper.

IV. After the party is dressed, let him or her lie upon the sound eare, the ill affected eare being stopped with cotton or wooll for a good space of time.

V. Let not fattie medicaments be either powred, or injected into the eare, for it is composed of spermatick parts, and such things will cause a sordid ulcer.

The locall medicaments which are fit to be applied to ulcers of the eares, wherein there is no superfluous flesh, are these: *Trochisci Andronii in aceto sambucino dissoluti: Hae autem est eorum descriptio:* ℞ *balaust. vitriol. aristol. gallar. an.* ʒ ij. *alum. mirrh. salis Ammon. an* ʒ j. *Excipiantur omnia melicrato & fiant trochisci.* If you boile *Crocus Martis* in strong wine vineger, untill both come to the consistence of a liniment, it is a good medicine. The Sanative syrup made of the vulnerarie plants, as, Selfe-heale, our Ladies-Mantle, Avens sanicle, Salamons-seale, Plantane, Horse-taile, Yarrow, Knotgrasse is very effectuall, not onely in ulcers of

the eares, but in all hollow ulcers in like manner, if Balaustia, Pomegranate-pils, Sumach, Mirtle-berries, and red Rose-leaves be added. These medicaments are sure, and such as you may trust unto. In the winter time, if you boyle a sufficient quantity of dry Tabacco in strong Ale, and boyle the decoction strained, you shall have an effectuall medicine, chiefly if the ulcer be foule, and have wormes, which you may conjecture by intolerable itching, which they will cause by their motion. If these ulcers afford great store of quittor, they must be dressed every foure and twentieth houre; but if they yeeld but little matter, it will be sufficient to dresse them once in two dayes.

The curation of the ulcer of the eare with excrescence of flesh.

It falleth out sometimes, that if ulcers in the eares continue long, that superfluous flesh doth so increase in them, that it filleth up all the cavities of the eare, and causeth deafenesse. This happened to a gentlewoman of the race of the *Fittons* in Chester, when I practised Phisick and Chirugerie there.

An experiment of the Authors.

I thus cured her: First, I ministred unto her Cephalick-pils.

This being done, I consumed the spungeous flesh by often application of the Fistula-powder, so that it did not not touch any part in the circumference. This powder I set downe in that Lecture, wherein was set downe the methodicall cure of a Fistula.

Thirdly, I made injection into the eare, made of two ounces of white Wine, one dramme of *Ægyptiacum*, and halfe an ounce of *Mel rosatum*.

Last of all, I healed, and cicatrized it with my vulnerarie syrup dissolved in Plantane-water.

If such an accident come to your hands, proceed thus methodically, and you shall undoubtedly bring to passe that which you shall goe about. So much I thought good to deliver unto you concerning the dignotion, and curation of ulcers of the eares, which often prove troublesome to the Patient and Chirurgeon, and loathsome to others, who approach

proach to the party grieved, by reason of the evill smell, which the ulcer sometimes sendeth forth.

Now I will come to the ulcers of the eyes, which ought exquisitely to be handled, seeing the sense of sight, the instrument whereof is the eye, is so pleasing and necessary to all persons. Of all the ulcers of the eye, *Fistula lachrymalis*, or *Ægylops*, first doth offer it selfe, but seeing I amply discoursed of it, when I delivered the doctrine of Fistula's, I will remit you to that Lecture. Of ulcers of the eyes.

In this my discourse of the other ulcers of the eyes, I will first set downe the generall doctrine of them, and then descend to the particular handling of each one of them. Three points of the generall doctrine.

In the generall doctrine, I will deliver three things: to wit, their causes; secondly, their prognosticks; and thirdly, the indications of curing of them.

The causes, are either externall, or primitive, or internall.

The externall causes are two; to wit, a blow, or a contusion by reason of a fall.

The internall causes are sharp and eroding humors.

As for the Prognosticks, let this be the first: Ulcers of the eyes in persons of an ill habit of body, seldome end without leaving some scar, or infirmity. I.

II. For this cause be wary what you promise, for bountifull promises can hardly be called back, and the Patients, being for the most part carefull of the comelinesse of their parts, will undoubtedly expect the performance of them. II.

III. If children, or disordered persons, be presented to you to be cured of ulcers in the eyes, ever pronounce that the cure will prove difficult and hard. III.

The methodicall generall intentions of curing these griefes, are in number foure; Good order of diet, Phlebotomie, Purgation, and the application of the Seton or Fontanell for revulsion and derivation.

Having dispatched the three points which the generall doctrine of ulcers doth containe, I am come to set downe how The manner of curing these three ulcers in particular.

how each one of these ulcers in particular is to be cured.

As for the differences of them, they are either milde, or maligne. The milde are either of the *Adnata*, or *Conjunctiva*, or *Cornea*, or *uvea*. The ulcers of *Conjunctiva* most commonly proceed from *Ophthalmia*.

Of it then I will speak, beause it most frequently seizeth upon the eye: ὀφθαλμία in Greek, but *Lippitudo* in Latine, according to *Galen* 4. *de medicam. local. cap.* 4. is an inflammation of that tunicle of the eye which is called *Adnata*.

Ophthalmia what it is.

The differences of it.

There be two kindes of it: One properly so called, proceeding from inward causes.

The other proceeding from externall causes, which properly is called πάθεξις, or *Perturbatio*.

Againe, *Ophthalmia vera* is either more milde, when only the *Conjunctiva* is inflamed or vehement, when as the eyelid besides is red, turned up, and somewhat ulcerate.

How it is bred.

This griefe is thus bred, according to *Cassius Medicus* 66. *probl. medic.* When humors are impacted in the eye, they stop the passages, and keepe in the heat: the heat kept in, burneth when it cannot breathe thorow, and inflameth the humors; and these inflamed, cause *Ophthalmia*, and hinder the sight: for the *Conjunctiva* being inflamed, great pain and heat are felt in the eye. These draw humors into the eye: the humors attracted being dispersed thorow the eye, trouble the humors and spirits; and these being troubled, of a necessity hinder the sight. The eyes are subject to these affections, according to *Arist. probl.* 7. *sect. ultim.* & *Alex.* 1. *probl.* 35. because they are moist, and εὐπαθεῖς, very passable.

The causes of *Ophthalmia vera* conjunct.

All sorts of humors may cause a true *Ophthalmia*, but sundry wayes; for hot humors, as bloud and choler, of themselves cause great inflammations; but small inflammations may be caused of cold humors mixed with hot.

Primitive.

The primitive causes are the heat of the Sunne, paine of the head, a burning fever, dust, smoake, great cold binding the part, blowes upon the head, blustering winds, ebriety, venery, and according to *Paulus*, oyle. It bringeth an *Ophthalmia*,

thalmia, because it cleaveth fast to the tunicles, and so stoppeth the pores, and so the heat is kept in, and inflameth the eye.

Why in hot regions the inhabitāts are more frequently troubled with these inflammations.

Hippocrat. lib. de aer, aquis & locis, writeth, that they which inhabit the South, and hot regions, are easily assaulted by such diseases, and easily cured: and by the contrary, that they who dwell in the Northerne parts are not so easily tainted with this griefe, but are more hardly cured: *Avicen* yeeldeth the reasons for this, saying, that they who dwell under a hot climate, have their heads full of vapours and humors, which being resolved by the hot aire, fall to the eyes, and being there stayed, cause an inflammation, which afterward is easily cured. First, because their bodies are more perspirable. Secondly, because they have still a loose belly. But in cold regions, although they have plenty of humors in their heads, yet they are congealed, and doe not so promptly flow to the eyes; but if they come to the eyes, and be there impacted, they cannot so readily be discussed, by reason of the thickneſse of the skin, and constriction of the pores. So inflammations of the eyes happen more frequently in the Summer to those who have their heads stuffed with vapors and humors, the heat colliquating them, and turning them to the eyes. In like manner in those diseases wherein there is an ebullition of the bloud, *Ophthalmiæ* are forerunners, as in the small pox, measles, and sometimes the plague, hot and sharp vapours being carried up to the head.

The generall signes of a true *Ophthalmia*.

As for the signes of an *Ophthalmia*; they are generall, or particular.

The generall are these: according to *Galen. 4. de medic. loc. 4. & lib. de totius morbi temporib. & Rhazes lib. 9. ad Almans.* a swelling of the eie, a redneſse of it, paine sometimes pricking, sometimes corrosive, sometimes tensive, flowing of teares.

The particular.

The particular signes of a true *Ophthalmia* are these: a great tumor and paine, horrible heat, turning up of the eyelids, shew a great inflammation. These

These accidents, in a more remisse degree, shew a milder *Ophthalmia*: if the humor proceed from the stomack, then the party will desire to vomit: if from the head, the head-ach, vexeth: and seeing the humor may be sent both from the vessels within, and without the *Cranium*, if the veines of the forehead, and the rest of the face be full, if the arteries of the temples beat, and if the eye-lids be heavy, then the humor commeth from the vessels without the *Cranium*; but if none of these symptomes appeare, and yet the party often neezeth, and findeth itching in the nose, the humor or vapour is sent by vessels within the *Cranium*.

Signes of the parts sending.

Signes of the humors sent are these: If bloud be it, the eyes and face will be red, the veines will be full, the paine will be gravative, the matter that floweth will not be very sharp. If it be a vapour or flatuosity, there will be a singing in the eares, and a tensive paine. If it be pituitous bloud, the tumor will not be very red, but whitish, lesse heat and meane, great heavinesse of the eye and eye-lids; the eye-lids in the night time will be glued together.

Signes of the humors sent.

This happeneth for three causes: First, because in the day time the eye is still in motion, and suffereth not the humor to cleave to the eye-lids.

Why in an *Ophthalmia* the eyes cleave together in the night time.

Secondly, because moisture is multiplied in the night time.

Thirdly, because the humor doth concoct in the night time, groweth thick, and so is more apt to cleave to the eye-lids, they then being immoveable. If choler be the cause, there will be but little redness mingled with yellowness, the humor which runneth from the eyes will be thin, the paine will be pinching. If flatuosity or a vapour, then none of these signes will appeare, yet the eye will be somewhat swelled, and a noise will be noted in the eares, and no humidity flow from it.

The predictions.

As for the predictions: I. An inflammation comming of externall causes, is more easily cured than that which commeth of an inward.

II. When

II. When a continuall paine of the head is joyned with *Ophthalmia*, and continueth long, blindnesse most commonly ensueth.

III. If in an inflammation of the eye, the humor which floweth from it be thick, it will not long continue: for it betokeneth the benignity of the humor, and strength of nature.

IV. If a milde fever, or a lask, seize upon one troubled with *Ophthalmia*, it ceaseth within a short time, the humor being discussed by the first, and revelled by the second. *6. Aph. 17.*

V. If the tumor of the eye be great, the paine vehement, and the matter which floweth from the eye be copious and thin, the *Ophthalmia* is like to continue long; but short if signes contrary to these appeare. Thus much then concerning the causes, signes, and prognosticks of an *Ophthalmia vera* shall suffice.

Now it remaineth, that we speak a word or two of *Ophthalmia spuria*, a bastard *Ophthalmia*: This is caused onely by externall meanes, whereof we have spoken sufficiently before, when we set downe the primitive causes of *Ophthalmia vera*. And if the accidents, as inflammation, rednesse, and the like, be but moderate, it will easily cease, and without great difficulty, by removing the extrinsecall causes, and applying cooling waters, as Rose-water, or Plantane-water, with Camphire. *Ophthalmia spuria*, what it is.

In the curation of *Ophthalmia vera*, some precepts are to be observed before the application of locall medicaments. The curation of *Ophthalmia vera*. Precepts before the application of Topicks.

I. The party must eat and drink sparingly, abstaine from venerie, and keep the body soluble.

II. Let the party be kept in a dark roome, and let the sleep be moderate; because immoderate sleep draweth vapours to the head.

III. Let the objects, which the party beholdeth, be greene, blew, or black.

IV. Let anger, serious cogitations, and motion bee shunned.

V. If

V. If the haire be too long and heavie, let be polled.

VI. Let the drink be small Beere, or Barley-water, wherein have beene boiled Fennell-seeds, Coriander-seeds, and eye-bright.

VII. Let meats salt, vaporours, sharp, and hard of digestion be shunned.

VIII. If the party be strong, open first the Median, then the *Cephalica*, then the *Vena frontis*, and those behinde the eares, and in the temples, if the inflammation be great: if circumstances will not admit Phlebotomie, apply Ventoses to the shoulders, and thighes; and Fructions and Ligatures to the armes and legs.

IX. Purge according to the humor offending, as choler with *Pilulæ cochiæ*, or *electuar. de succo ros.* flegme with *Diaturbith cum agarico*, or *Diaphœnicum*, or *Diacarthamum*.

Fomentation. X. If you use fomentations, these five things are to be observed:

1. That the body be cleane, otherwise the matter (being scattered by fomentation) will run to the eyes.

2. The matter must be discharged into the eye, and not in motion.

3. That it be used when the matter is thick, for it attenuateth it.

4. That it be used in the declination of the griefe.

5. No astringent fomentations are to be used; for they wedge in the humor, and exasperate the griefe.

XI. To stay the fluxion, you are to apply a strong defensive to the forehead and temples.

Opiaticall medicaments. XII. Opiaticall medicaments not well corrected, are not to be used; for if they be but weak, they may procure a little ease for the time, but the fluxion and pain will returne more fiercely: if they be strong, they may cause inevitable blindnesse, by hindering of the influence of the visive spirit.

The locall medicaments. The locall medicaments must have three qualities: for they must be somewhat astringent, cooling, and anodine; such

such are the water of the white of an egge, the mucilage of Fenugreek, and Quince-seeds drawne with Rose and Plantane-water, with a little Saffron; *Trochisci albi Rhasis sine opio* (unlesse the paine be very great) dissolved in Violet, or Succorie, or Eye-bright-water. What I have spoken, I would have you to understand it of an ordinary *Ophthalmia*.

If you perceive it to be venereall, or a symptome of the great Pox; then you must cure the griefe, and then the accident will cease: If after the using of these meanes, the *Ophthalmia* prove rebellious, you must blister the neck. The venereall *Ophthalmia*.

If this will not serve, you must apply the Seton, or make a Fontanell in the neck or arme; but the Seton is most effectuall: for first, by reason of the great paine which it bringeth, it maketh a stronger revulsion: Secondly, it dischargeth the humor more plentifully, it having two orifices, but the Fontanell onely one. The use of the Seton.

Lect. XXV.

Of the rest of the ulcers of the eyes.

NOw order requireth, that I should set downe the doctrine touching the ulcers of *Cornea*.

These are either superficiall, or deep, corroding the substance of the *Cornea*. Superficiarie ulcers of *Cornea*.

The superficiall are foure, whereof the first is called ἀχλὺς, ἀπὸ τῆς ἀχλύος, which signifieth a troubling of the aire: and it is a very thin, and superficiary exulceration, of a bluish colour, resembling a dark aire, and possessing the greatest part of the black of the eye: the Latines call it *Caligo*, a mist in English. I.

The second is called νεφέλιον, in Laine *Nubecula*: this is deeper than *Achlis* or *Caligo*, yet narrower, and whiter. II.

The third is called ἄργεμον; it is an ulcer which groweth III.

about

about the circle *Iris*, possessing part of the white, and part of the black of the eye: without the *Iris* it appeareth red, but within the *Iris* white.

IV. The fourth superficiary ulcer is called by *Ætius* ὀπίωμα: this is a superficiary ulcer also, which maketh the *Cornea* rugged by erosion, and to be of an ash-colour, resembling a lock of wooll, for the which cause it is called of *Avicen*, the woolly ulcer.

The three kindes of deeper ulcers of *Cornea*.

Of the deeper ulcers of *Cornea* there are three sorts:

1. The first is called βόθριον; and it is an ulcer of the *Cornea*, hollow, narrow, without filth, like to a round puncture: in Latine it is called *Fossula*; for βόθρος in Greek doth signifie *Fovea*, a pit.

2. The second is called in Greek κοιλώμα, and it differeth from βόθριον, in that it is wider, although not so deep.

3. The third, of the deeper ulcers of the *Cornea*, is called ἔσχωμα by *Ætius*; by *Scribonius*, *Largus ustio*; and by others *inustio*; and it is an impure, and crustie ulcer of *Cornea*, thorow which sometimes the humors of the eye come out, when it is made cleane, by cleansing medicaments applied.

Prognosticks. These ulcers of the *Cornea* of the eye, whether they be superficiarie or deepe, are not to be slighted, but carefully to be dressed: but those especially which have deeply seized upon the substance of the membrane, lest they corrode thorow the whole membrane, and so the humors issuing out, the eye sink, and both deformity, and inevitable blindnesse ensue.

The materiall cause of these ulcers. For the materiall cause of these ulcers is a salt and nitrous humor, as *Paulus Ægineta* speaketh, *Lib.* 3. *c.* 22.

The falling downe of *uvea*. If the *Cornea* be quite thorow corroded, then the *uvea* falleth downe: this disease of *uvea* is called πρόπτωσις ὑμενοειδοῦς χιτῶνος, *uveæ procidentia*.

Foure kindes of it, Of this disease there are foure kindes:

I. If it fall out but very little, it is called μυιοκέφαλος, *caput muscæ*, the head of a flie, and of *Avicen*, *Formiculis*, like the head of a pismire.

If

If it fall downe yet more, and equall a grape in bigneſſe, it is called σταφύλωμα, *uvea*, or *uvatio*. II.

If it fall downe yet further, and hang out like a little apple, it is called μῆλον, *malum*, the apple-like rupture. III.

But if the *uvea* fall downe and grow hard, brawnie, and flat, it is called ἧλος, *clavus*, the naile-like rupture. All theſe foure kinds of the rupture of *uvea* for the moſt part are uncurable: only the apple-like, and grape-like rupture, if the roots be ſmall, and the party be of a good conſtitution, may be by binding cured, to take away and mitigate the deformity of the eye. For if the ſight be taken away before by theſe breaches of *uvea*, the deligations will not reſtore the ſight, which muſt be intimate to the party before you goe about theſe operations, that he think not himſelfe deluded, having hoped for the recovery of his ſight, as the reward of his patience, in enduring the manuall operations. IV. Predictions.

Seeing all ulcers of the eyes argue a cacochymicall body, for they are cauſed of ſharp and corroding humors, the conſtitution of the body muſt be altered, not ſuddenly, by laboring to remove the whole cauſe at once; but κατ' ὀλίγον, and that is according to *Galen. li. 9. meth. medend.* when by little and little that is diſcharged which is faulty, that that which is good may ſucceed in its place. Wherefore you are to ſhun all ſtrong catharticall meanes, leſt they procure vomiting, which is very prejudiciall to weak eyes, ſuch as are thoſe which are ulcerate. The body having beene gently purged, nature very often doth correct the reſidue of the humor, by turning that part which is benigne into nouriſhment, and expelling that which is ſuperfluous, by ſtoole, urine, and ſweat. Thoſe twelve obſervations which I ſet downe in the deliverie of the curation of *Ophthalmia vera*, I commend unto you in the curing of the ulcers of the eyes alſo, which need not any repetition. The alteration of the body.

To ſet downe all the locall medicaments, which are delivered by the Ancients in curing ulcers of the eyes, were a fruitleſſe labour. Locall medicaments.

Neverthelesse, I will furnish you with a few approved medicaments. Then in superficiall ulcers of *Cornea*, use these: I. ℞ *succi rut. fanicul. chelidon. euphragiæ an.* ℥ ij. *vini albi potentis* ℥ iiij. *sacchar. candi* ʒ iij. *aloes, sarcocoll. an.* ʒ ß. *fellis capon.* ʒ ij. Distill these, and use the water.

For superficiall ulcers of Cornea.

II. ℞ *aq. chelidon. & rutæ an.* ℥ ß. *aq. ros.* ℥ j. *croci metall.* ʒ j. *fiat infusio.*

III. ℞ *succi fænicul. rutæ an.* ℥ iij. *mell. optimi* ℥ ij. *exponantur soli inclusa vitro stricti orificii probe obturato per mensem tempore æstivo. Vtendum hoc medicamento abjectis fæcibus.*

IV. ℞ *axung. porci aq. ros. ablutæ* ʒ ij. *caphuræ* ℈ ß. *tutiæ præparat. gr.* x. *aloes pulv.* ℈ j. *sacchari candi gr.* xvj. *fiat collyrium.*

For deepe ulcers.

In deepe ulcers of *Cornea tunica* use this of *Heurnius*, which he bought at a deare rate, and which he hath set downe *method. ad praxin, lib.* 1. *pag.* 106. ℞ *calaminar. ter. usti ac bis in vini aceto extincti* ℈ j. *myrrhæ, plumbi usti ac loti an* ℈ ß. *croci gr.* v. *opii gr.* ij. *æris usti* ℈ iiij. *decocti fænugraci* ℥ j. *terantur omnia super lapidem pictorum ac fiat collyrium.* Having first made clean the eyes with a spunge dipped in the mucilage of Fenugreek and Linseed, dresse the ulcerate eyes twice in the forenoone, and so often in the afternoone.

Collyrium de plumbo described by *Rinodæus*, set downe by him in *Dispensatorio medicolib.* 5. *cap.* 11. *de collyriis*, is an effectuall medicament. ℞ *plumbi usti, antimon. tutiæ lotæ, æris usti, gummi Arabici, tragacanthi an.* ℥ j. *opii* ʒ ß. *fiat ex omnibus pulvis ex quo cum aqua rosacea formentur trochisci:* dissolve one of them in Plantane and Purselane water, and dresse with this medicament the eye. When you are a dressing the ulcers of the eyes, minister once a week a purging medicament. If you use Pils, minister (according to the advice of the Arabians) *Pilulæ alephangina*, or *Pilulæ Indis majores & minores*, or *de agarico*, minister a dram made up into foure Pils, which are to be covered with silver foile:

Purging of the body.

foile: or use this pill; ℞ *Specier. hier.* ℥ß. *Diacridii* ʒij. *Trochiscor. Alhandal.* ʒv. *Cum Syrupo Augustano fiat massa.* One pill of this composition weighing twenty graines, will purge sufficiently. If the partie cannot swallow pils, minister to him this potion: ℞ *Caricostin. & Electuar. lenitiv. an.* ʒiij. *Pulv. sancti* ℈ij. *Pulv. Holland.* ℈j. *Syrup. ros. solutiv. cum Agarico* ʒvj. *aq. Beton. Fenicul. aut Euphrag.* ʒiij. *Misc. ut fiat potio.*

The ordination of the things not naturall.

To these medicaments both inward and outward, the right use of those things which are called *Non naturales* must be joyned, or else the curation will be protracted and prolonged.

The Aire.

The Aire then must bee temperate in its first qualities, as being neither too hot, nor too cold, too moyst, or too dry. It is not good to abide in the heat of the Sun, nor the beames of the Moone, or any open aire: the partie is to shun Southerne and Northerne winds: for the Southerne wind, according to *Hippocrates*, troubleth the sight, causeth hardnesse of hearing, an heavie head, dull senses, a lazie body, because it begetteth grosse spirits. And the Northerne wind is verie sharp, and therefore it stingeth and pricketh the eyes: neither must the aire be too lightsome; for it scattereth the spirits. *Aphor. sect 3.*

Bread.

The bread must be made of cleane wheat, well-leavened, and somewhat salted, wherein may bee put Fennill, Anise, and Coriander seeds: for unleavened bread is accompted hurtfull to the eyes.

Flesh.

As for flesh-meats these are good: Chicken, Capon, Hen, Partridge, Phesant, Pigeons, Larks, the Pie, the Swallow, and the Goose-flesh are accompted good for the sight.

Fish.

As for fish, Trouts, Rochets, Pearches, and Pickerels, of fresh-water fish may for varietie of diet bee admitted: of salt-water fishes, Whiting-mops, and the Smelts are accompted the best. Baked and fried meats, strong spices, as Pepper, Ginger, Mustard, and the roots of the Horse-rettish are not to be used. To meats minister this compofition in

stead of salt: ℞ *Euphragiæ, Semin. Fœnicul. an.* ʒj. *Cinamomi & Macis, an.* ℈j. *Salis communis* ʒj. *fiat ex omnibus pulvis.* All bulbous roots, as Onions and Garlick; and Pulses, as Pease and Beanes, are to bee rejected; as also moyst and raw fruits: Stewed Prunes, and Peares, or Quinces preserved, are permitted after meat, to stay the ascending of vapors to the head, and the Marmalade of Quinces, with some Anise-seeds, Fennill-seeds, and Coriander-seeds Comfits.

Drinke. As for drink, no liquor is more convenient than six shillings Beere, neither too new, nor too stale, having had a bag of boulting-cloth hung in it, filled with Eye-bright, Fennill-seeds, Betony, Rosemarie, sweet Marjerome and Sage.

Wine. If the partie hath beene accustomed to wine, let him use some small wine, not sharp or vaporous, wherewith some good spring-water must be mingled, and Borrage-flowers, and Burnet-leaves are to be put into the cup: and this will serve for two purposes: for the colour will comfort the eyes, and the herbs by their propertie will represse the vaporousnesse of the wine. The lesse one doth drink, the better will the Patient be, and the sooner cured. A small kinde of Meath made after this manner will not be amisse: ℞ *Aq. font.* ℔. xv. *Mellis optimi* ℔. j. *Fœnicul. Euphrag. an. man.* j. *Macis* ʒj. *Coq. ad tertiæ partis consumptionem semper spumam auferendo, ac tandem colando.* Immoderate sleepe filleth the head full of vapors, and immoderate watching doth spend the spirits, coole the braine, and hinder the sight. It is good to goe to bed three or foure houres after supper, and to rise early, and to walk softly up and downe the chamber, to comb the head, pick the eares, and to emptie the excrements. Much reading is not good, especially after meales, and weeping is verie hurtfull.

Sleeping and watching.

Exercises.

Solublenesse. The body must still be kept soluble with lenitive clysters of Diacathol. the syrup of Althæa, and the oyle of Lilies dissolved in the ordinarie decoction appointed for clysters. Take this for a patterne: ℞ *Diacathol.* ʒjs. *Syrupi de Althæa* ʒij. *ol. Lil. albor.* ʒij. *Decoct. communis pro clysteribus* ʒviij.

℥viij. *Misc. ut fiat clyster.* If the partie will not admit a clyster, then minister halfe an ounce of *Electuar. lenitivum*, in seven spoonfuls of broth made of a Chicken. After meales use this or the like digestive powder: ℞ *Semin. Fanicul. & Coriand. Saccharo semel incrustatorum, an.* ℥j. *Cort. Citri, & Myrobalan. Kebul. condit. an.* ℥iij. *Euphrag. siccat.* ℥ij. *Macis* ℥j. *Sacchari rosat. Tabellat.* ℥jß. *fiat ex omnibus pulvis. Dos. cochl.* 1. *à singulis pastibus.*

Hitherto I have delivered unto you the differences of milde ulcers; now I will speake of the divers kindes of maligne ulcers of the eyes. These are either not contagious, or contagious. The not contagious are two; *Noma*, and *Vlcera cancrosa.* The contagious are three; *Carbunculosa, Venerea, Morbillosa.* Of these in order I will discourse briefly. Of maligne ulcers of the eyes.

Noma, or *Vlcera depascentia* are maligne ulcers, which sometimes begin at the corners of the eyes, sometimes at the white, and sometimes seize upon the hornie membrane. In corrupt bodies they fret exceedingly, and goe forward in such sort, that oftentimes they consume the parts adjacent, as the muscules and lids of the eye: from them floweth a stinking slimie matter: the paine is grievous, and the diseased partie hath an accidentall fever. *Noma.* Signes.

This ulcer is dangerous, and seldome cured without deformitie and losse of the sight: wherefore my counsell is, that you fore-tell the danger, if such ulcers bee offered to you to be cured. Prognosticks.

Onely I will acquaint you with some locall meanes, having spoken sufficiently of the generall intentions. Apply then to the ulcer the juyce of Plantane, Horse-taile, Knotgrasse, Night-shade, and Yarrow clarified with Honey, and the whites of Egges: Dresse these ulcers morning and evening, dropping a few drops into the affected eye, covering the eye with a cataplasme made of *Unguentum rosatum*, the pulp of a Quince boyled, and some oyle of Poppies. If these ulcers prove verie maligne and corroding, you may The locall medicaments.

correct them by instilling some oyle of Vitriol, or Sulphur, mingled with Plantane-water, taking onely the fourth part of it. To asswage the paine use this cataplasme: ℞ *Mala Cydonia numero 2. Sedi major. et Solani hortens. ana man. ij. coq. in s. q. Lact. mulier. vacc. capr. aut asin. addatis Croci ℈j. ac fiat cataplasma.*

A cancerous ulcer.

Vlcus cancrosum, a cancerous ulcer followeth, which the Chymists pronounce to be caused of an Arsenicall salt, and it is like to be so: for in this ulcer, besides corrosion, there is a septick or putrefactive qualitie. It beginneth in the black of the eye.

The signes.

In it the black and white of the eye are reddish, lines seeme to be sent from the black to the temples: the Patient refuseth food, by reason of the exceeding great paine, a thin darkish and sharp humor floweth from it, and it is exasperate, by reason of the application of sharp medicaments.

Prediction.

You can onely promise a palliative cure of this maligne ulcer, by the application of anodine meanes, after you have used the generall indications before specified. *Paulus Ægin. lib. 3. c. 22.* affirmeth it to bee an uncurable evill. Hee counselleth to feed the Patient with milk, panado's, and other meats of a good juyce, and of an easie concoction.

Locall meanes.

Milde eye-salves are also to be applyed, as this: ℞ *Mucilag. Semin. Cydon. et Psilotr. Aq. ros. extract. ʒj. Trochisc. albor. Rhas. cum opio ʒj. fiat collyrium quod tepidum applicetur. Renovetur mane et vesperi. Desuper applicetur hoc cataplasma.* ℞ *Poma cocta num. 3. Cassiæ recent. extract. ʒß. Croci ℈j. Lactis mulieb. ʒj. Albumen ovi unius: fiat cataplasma.* So much then concerning the handling of maligne ulcers of the eyes, wherein there is no contagion.

Maligne ulcers proceeding of contagious diseases.

Ulcers which are caused of contagious diseases follow, as the Small Pox, the French Pox, and the Plague: If you feare that the Small Pox are like to cause ulcers in the eyes, which you shall conjecture if there was an inflammation in the eyes, before any did appeare in the body; if the par-

I.
Of ulcers caused of the Small Pox.

tie

tie feele paine in the eyes, and cannot open the eye-lids, then are you to apply gentle fomentations to the eyes, as the breſt-milk of a ſound woman, having a little Saffron mingled with it; or the Mucilage of Fenugreeke, Lin-ſeed, and Quince-ſeeds, drawne with Roſe-water, having ſome Saffron added to it. You ſhall not need to looke for any other medicaments in theſe ulcers. Topicks.

If the ulcers be venereall, cauſed of the great Pox: then with all expedition are you to goe about the curation of the maine griefe, leſt blindneſſe quickly enſue, and then to labour to cure the ulcers of the eyes, which are but onely ſymptomes of the diſeaſe. *Rinod. in diſpenſat. med. lib. 5. c. 11.* ſetteth downe an excellent eye-ſalve for this purpoſe, aſcribed to *Lanfranck* by the Neotericks, which hee could not finde in the works of *Lanfranck* (as hee confeſſeth) ſo that by all likelyhood it is a magiſtrall receit. The deſcription of it is this: ℞ *Vini albi* ℔. j. *aq. Plantag. & roſarum an.* ℥iij. *Auripigment.* ℥ij. *Virid. ær.* ℥j. *Aloes, Myrrh. an.* ℈j. *Terrantur iſta ſubtiliſſimè, & fiat collyrium.* Venereall ulcers.

I will adde a little of the ulcer of the eye, cauſed of a peſtilentiall Carbo, or Anthrax, and ſo end. In this caſe, firſt there ariſeth a ſmall tumor in the eye, hot, hard, painfull, and contagious, cauſed of a thick, burned, and venomous humor: It is hot, the unnaturall heat cauſing an ebullition of the humor: It is hard, becauſe the heat burneth the humor: It is contagious, by reaſon of the venomous humor which cauſeth it: when it yeeldeth matter it ſtinketh, by reaſon of the putrefaction of it. Of the ulcer cauſed of a peſtilentiall Carbo.

It is accompanied with watching, drought, internall heat, raving, and the urine is ſometimes of a fitie colour, ſometimes thick and troubled. The ſymptomes.

If theſe ſymptomes appeare, then are you firſt of all to miniſter ſuch Antidotes as are fit for a peſtilentiall fever, as *Theriaca Andromachi, Antidotus de ſanguinibus, Electuarium de ovo,* and ſuch like, to tame the venenoſitie of the matter, and then to proceed to the curing of it. If you per- The curing of it.

ceive a pustule in the top of it, open it with a lancet: then to extinguish the immoderate heat, foment it with *Aqua spermatis ranarum*, wherein Camphir is dissolved, and lay a cloth moystned in the same, to the eye: above this cloth apply a cataplasme made of Goats, or Cowes milk, bread made of bran, and the juyce of Plantane: when the crust is falne, mundifie and fill up the ulcer, by applying *Mel rosatum* dissolved in Plantane-water.

How to skin ulcers of the eye, and make the scars faire.

Last of all, skin the ulcer with this medicament: ℞ *Vin. albi* ℔. j. *tut. prap. aloes, an.* ʒß. *Sacchar. cand.* ʒij. *Hac inclusa vitro stricti orificii probe obturato, exponantur soli omnibus diebus canicularibus. Guilmeau* in the 5. *sect. c.* 11. of his Treatise of the diseases of the Eye, confesseth this salve to have beene given and communicate to him, as an undoubted experiment, in skinning the ulcers of the eyes, and procuring a comely scar in the Cornea.

Of the cleaving of the eye-lids to the membranes of the eye.

If it fall out at any time, as it often doth, by the negligence and unskilfulnesse of the Chirurgeon, that the eye-lids grow to the externall membranes of the eye, to wit, the Conjunctiva and Cornea: when he hath not a care in the time of curing, to keepe them asunder, then the naturall motion of the parts of the eye is hindred, a deformitie ensueth, and the sight is much diminished.

The names of this disease.

It is called ἀγκύλη, and ἀγκύλη, in *Galen. lib. de definit. medicis*, and ἀγκυλόσις, according to *Æginet. lib.* 4. *cap.* 55. and ἀγκυλοβλέφαρον. In Latine *Coalitus*, or *Inviscatio palpebrarum*, in English the cleaving or growing together of the eye-lids.

What it is.

Galen then in *Isag. seu medico, c.* 15. thus speaketh of it. The eye-lids grow to the white of the eye, (he meaneth the Conjunctiva, or the black, which hee nameth Cornea elsewhere.) If they cleave to the black, the sight as altogether is hindred; but if they cleave to the white only, the sight is lesse impaired. *Celsus lib.* 7. *c.* 7. thus discourseth of this disease: Sometimes one of the eye-lids doth grow to the other, so that the eye cannot be opened: unto which griefe this inconvenience is often annexed, that

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the eye-lids cleave to the white, as when a sore in each, or both, hath beene negligently cured: for he hath joyned together in curing, which ought to have beene kept asunder: both these griefes the Greeks call ἀγκυλοβλέφαρον.

Out of these words of *Galen* and *Celsus*, we may gather that there are two kinds of this griefe: The one is, when the eye-lids cleave one to another: The other is, when the eye-lids grow to the Conjunctiva and Cornea. *Guilmeau* noteth that the first happeneth from the nativitie, as the matrix is often shut up. This I will leave to that part of Chirurgerie, called by me αἰδηνικὴ, which teacheth to disjoyne and seperate those parts which are unnaturally united. As for the second, seeing it is an accident which hath happened to an ulcer of the eye negligently cured, I am not to let this passe. The kindes of it. *Lib. de morb. ocul. sect. 4. c. 10.*

I marvell that *Guilmeau*, in the booke and chapter aforenamed, pronounceth out of *Celsus* and *Mesues*, not noting the places of the Authors, this griefe to be uncurable: Seeing not onely *Celsus* and *Ægineta*, but he himselfe doth set downe the manner of curing of it, which he might well have spared, if he thought his labour lost. Yea, *Fabric. ab aq. pend. operat. chirurg. part. 1. c. 8.* who in all Chirurgicall operations is verie warie, doth inject no such scruple; but boldly proceedeth in the curation: you are not to bee daunted then by his discouraging. If the eye-lid cleave to the Cornea, against the apple of the eye, the sight never will be perfect; because the scarre will hinder the passing of the *Species visibiles* to the chrystalline humor. The progno-sticks.

As for the manner of curation, it is performed by manuall operation onely: in this operation goe on thus: Having placed the Patient in that posture as you shall thinke most convenient for your hand, lift up the eye-lid which cleaveth to the membranes, and put betweene the eye-lids and the membranes, in that part which is free (for never doth the eye-lid wholly cleave to the tunicles, as *Aq. pendent.* well observeth) an instrument like to that which you The manner of curation. *Loco citato.*

call

call the capitall instrument, the gibbous or arched part being blunt, and having a back; but the belly being as sharp as a razor: when you have compassed all the part united, having turned the back of the instrument towards the eye-lid, cunningly seperate the parts united, neither offending the eye-lid, nor any tunicle of the eye. But if either of these must bee touched, it is best that the eye-lid suffer, than any tunicle: for it may more securely suffer the injurie. When this operation is performed, if you be not vigilant in keeping the parts seperate asunder, they will easily unite againe. as *Celsus* noteth.

Specillum. In setting downe the operation, *Celsus* calleth the instrument Specillum: As for that instrument which goeth commonly amongst the Ancients, under the name of Specillum: It did absolutely represent your ordinarie Spathula's, being on the one end narrow and round, to serve for a probe, ending in a round small button, to hinder it from offending, when you are to trie the depth of an ulcer, or wound, and on the other broad and flat, to spread your unguents: of the broadest end *Galen* speaketh, *Method.* 13. *c.* 5. where hee adviseth to besprinkle an ulcer with the powders, using *lato Specilli mucrone*, the broad end of the Specillum, or Spathula.

A note. One thing is to be noted, that if (you feare that in putting in of the instrument into the eye, to comprehend the parts united) you feare to hurt any part with the point, then it is requisite to arme it with a little wax, that it may bee like the end of a probe.

The locall medicaments. To the parts thus seperated, apply a Collyrium made of Plantane-water, and *Tochisci albi Rhasis sine opio*: dissolving in an ounce of the water, a dram of the Trochisces. Keepe the parts asunder with small dosils of lint put betweene the parts disjoyned, laying upon the eye a couple of boulsters crosse-wayes, moystened with the afore-named medicament, and then rouling it up: Dresse the eye morning and evening, to hinder unition, and hasten the cure,

cure, untill the inciſed parts be cicatrized, and no feare left of cleaving together againe of thoſe parts, which by manuall operation were ſevered.

Lect. XXVI.

Of Ozæna.

HAving ſet downe the ulcers which ordinarily poſſeſſe the eares and eyes, I muſt not let thoſe paſſe which ſometimes trouble the inſtruments of the other two ſenſes, to wit, ſmelling and taſting, which are the noſe and the mouth. Of all the ulcers of the noſe, I will onely ſpeake of Ozæna, omitting the reſt; becauſe they require no ſingular conſideration: for the generall indications of curing of ulcers, will ſerve to lead any man to the curation of theſe.

Ozæna hath its denomination from ἡ ὄζη, ης, which according to *Celſus, lib. 3. c. 11.* is *Fœtor oris*, the ſtinking of the breath. The Etymon.

Of it *Galen, de comp. medicam. ſec. loc. lib. 3. c. 3.* ſo diſcourſeth: Polypodes are bred in the noſtrils, which are tumors unnaturall: but Ozænæ are a kinde of ulcers, &c. Firſt of all, I will ſpeake of the Ozænæ, which are produced of the influxion of ſharp, and putrid, or rotten humors. Theſe humors, if they be onely ſharp, they produce ulcers hard to bee cured; but not of a grievous ſmell: Out of *Galen* then you may gather, that Polypodes are onely tumors in the noſe, but Ozænæ are ulcers. Secondly, that there are two ſorts of Ozænæ; the one is of theſe which erode, being cauſed of the influxion only of ſharp humors, but ſtink not. The other is of theſe which ſmell grievouſly, and are cauſed not onely of ſharp humors, as the former, but ſuch alſo as have putrefaction annexed to the eroſion. *Actuar. lib. 2. περὶ διαγν. παθ. c. 10.* ſo ſpeaketh of this kinde of ulcer. Ozæna doth manifeſt it ſelfe by its verie name, which it What it is. The differences of Ozænæ

it hath taken from the stinking smell which it sendeth out. It is caused when rotten and corrupt humors gather about the *Meatus colatorii*, of the holes of the Ethmoides, and communicate their malignitie to the adjacent parts, and infect others which flow thither with their ill smell. And although at all times the breath of the Patient stinke; yet it is chiefly observed in strong expiration. *Celsus, lib. 6. c. 6.* thus writeth: But if ulcers bee about the nostrils, which have crusts, and an evill smell (which the Grecians call Ozæna) you are to understand that this griefe can hardly bee cured: so that you see that to erosion and putrefaction *Celsus* addeth crusts in an Ozæna. *Gorræus definitionum med. lib.* 13. affirmeth that this griefe is more frequent in our times, than it was when the ancient Authors lived and practised: by reason of the *Lues venerea*, or great Pox, which have gotten sure footing in all Nations, and may be accompted the badge and character of wandring lusts, and Gods judgement inflicted upon some for this hainous offence.

The Ozæna of the Ancients.

The Ozæna of the Ancients was onely a malign ulcer: but ulcers of the nose which are seene in the great Pox, are symptomes of that griefe which is contagious, and by contract may infect others. *Æginet a lib. 3. c. 24.* affirmeth Ozæna to bee a carious and rotten ulcer, bred of sharp humors flowing to the nostrils, and eroding them.

The description of an Ozæna.

Out of these discourses of the Ancients, this description of an Ozæna may be framed: Ozæna is a malign ulcer in the nostrils, about the holes of the Ethmoides, caused of sharp humors eroding the parts, if no evill smell bee adjoyned, or having a putrefactive qualitie, if a noysome smell accompany the ulcer; sometimes without, sometimes having crusts.

The antecedent causes.

The causes antecedent are corrupt and sharp humors flowing from the braine; but sent thither by the veines and arteries, wherein such humors are contained.

The causes conjunct.

The causes conjunct are these same humors impacted, and settled in the part.

The

The Ozæna is two-fold: for it is either not contagious, such as the Ancients knew, or it is contagious, a symptome of the French disease. The differences.

As for the Prognosticks, receive these: The prognosticks.

I. All sorts of Ozæna are of a maligne nature, because such is the humor which produceth each one of them. I.

II. All such ulcers are of hard curation: First, because the braine doth still afford plentie of these corrupt humors. Secondly, because the part affected is of a moyst temperature. Thirdly, because the facultie of internall medicaments, which are prescribed for correcting of the malignitie of the humors, is much abated before it come to the head. II.

III. An Ozæna, a symptome of the Pox is more easily cured, than that which is a disease it selfe: First, because the last commeth neerer to a cancerous qualitie than the first: Secondly, because wee have more sure medicaments against the first than wee have against the second: if this kinde of ulcer continue long, it taketh away the sense of smelling. III.

IV. That which is apparent is of easier curation than that which is hid or latent: seeing then the ancient Authors, with an unanimous consent, pronounce the curation of an Ozæna to be difficult, in setting downe the method of curing this griefe, my part is to shew unto you what meanes moderne practisers by their industrie have found out to remove this doubt of hardnesse of curing. IV.

The meanes then which are appointed for the curation of this maligne ulcer are either Physicall or Chirurgicall. The meanes of curing.

The Physicall are in number three: to wit, observation of a good Diet, Phlebotomie, and Purgation. Physicall.

As for the Diet, that is most convenient which I set downe in the two former Lectures, wherein I discourssed at large of the curing of ulcers of the eyes. If any one offer himselfe to bee cured of such an ulcer, let him bee tied to these observations: First of all, that hee shun all sorts of meats, which are either of an hard concoction, or afford a corrupt The diet.

corrupt and evill juyce. Secondly, that he use great moderation in the use of wholsome and convenient food.

How fasting is profitable. Fasting often in this case is verie requisite: First, because it drieth the habit of the body: Secondly, because it furthereth concoction: Thirdly, because by fasting those vapors are digested, which otherwayes would mount up to the head. And although in the beginning, while the body is fraughted with sharp humors, the sore may bee exasperated by fasting: yet after that the body is cleane, and discharged of such humors, by frequent evacuations, you shall finde the commoditie of fasting: howsoever, the dinner must not be riotous, and the supper verie spare.

Phlebotomie. The second Physicall meane is Phlebotomie: If the body bee plethorick: First, open the Cephalica of the right arme in the Spring and Summer; but of the left, in the Harvest and Winter: Then three or foure dayes afterward, open the veines under the tongue, which will serve for derivation of the humor, as the former did for revulsion of the same.

The commodities of it. This must much further the curation: For first, Phlebotomie impaireth the quantitie of the humors contained in the masse of the bloud: Secondly, it maketh way for the receiving of better bloud into the vessels, which of a necessitie must ensue after the appointing of a convenient diet, and exquisite purging of the body, which immediately after Phlebotomie is to be performed.

Purgation. The third Physicall meane appointed for the curation of an Ozæna, was said to be purging of the body by cathartical medicaments: for vomitive medicaments are not so convenient as the cathartical, in the diseases of the head, unlesse the stomack bee foule, and pestered with raw and corrupt humors, which require a long time for concoction: Vomitions (as is confessed by all Practisers) send up vapors to the head.

Their kindes. These purging medicaments are of two sorts: for they are either vegetable, or minerall.

As

As for the vegetable medicaments, they must bee of the strongest, which are appointed for disburdening of the head of ill humors: such are Agarick, Turpetum, Coloquint, Scammonie, the black Ellebore. But seeing the purgative simples are seldome ministred alone, I will shew unto you what compounded medicaments are fittest to bee used in this case. The compounded purgative medicaments are either Pils or Potions. The vegetable purgatives.

As for the Pils: If the humors be mixed, then use *Extractum Panthimagogicum* of *Paracelsus*, or the *Pilulæ extractæ Rhudii*; of them minister halfe a dram for a dose: Let the Patient use this medicament twice a weeke. If choler and flegme corrupted be the materiall cause of the ulcer, then minister the pils called *Sine quibus esse nolo*. If thick and grosse humors be the cause, minister *Pilulæ aureæ, & coccie*. If corrupt flegme be the cause, minister *Pilulæ de Agarico*. Of these pils minister one dram for a dose: let the number of the pils bee according to the swallowing of the Patient. Pils.

If the Patients bee hard to be moved to the stoole, you may acuate, and make the pils more effectuall, by adding to everie dose of the pils foure graines of the Trochisces of Alhandal, and three graines of Dacrydium.

If the partie cannot swallow pils, then you are to minister potions. The Electuaries most fit for this purpose, are *Diacatholicum, Caricostinum, Diaphœnicum, Electuarium de succo rosarum, Confectio Hamech, Diacarthamum*. Of these Electuaries, and convenient syrups, and distilled waters, or decoctions, you may make potions fitting the constitutions of the parties grieved. Potions.

For one of a cholerick constitution minister such a potion: ℞ *Caricostin. & Electuar. de succo ros. an.* ʒiij. *Syrup. de Cichor. cum Rhab.* ʒj. *aq. Endivie* ʒiij. *Misc. ut fiat potio.*

If the partie be of a phlegmatike constitution, minister this potion: ℞ *Diaphen. & Diacarthami, an.* ʒiij. *Syrupi ros.*

ros. solut. cum Agarico ℥j. *aq. Beton.* ℥iij. *Misc. ut fiat potio.*

If the diseased person be of a melancholy temperature, then minister this potion: ℞ *Confect. Hamech* ℥iiij. *Diacarthamum* ℥iij. *Syrupi Augustani* ℥j. *aquæ Fumariæ* ℥iij. *Misc. ut fiat potio.*

Thus you may purge the body with vegetable medicaments, if the body of the diseased partie be weake, or if you feare the use of minerals. But let me insinuate so much unto you, that the minerall medicaments, if they be well prepared, are most effectuall, and if they be ministred by a skilfull Practiser, howsoever they are sleighted and despised by those, who glorie of the denomination of Galenists, amongst whom some may bee found, whose skill is inferior to the envie of an understanding man.

Minerall medicaments.

The minerall medicaments are more subtill and piercing than the vegetables, and sooner alter the complexion of the partie unto whom they are ministred. These medicaments are most commonly taken from Antimonie and Mercurie.

Antimonie.

The Antimonie which purgeth most by stoole is excellent. The Sulphur of Antimony drawne by Art from the recrements of the Regulus is good; as also the Regulus it selfe calcined and fixed with Sal-peter, and brought to a white powder. The glasse of it, and *Crocus metallorum*, are not so convenient and secure, because they procure strong vomitions.

Mercurie,

There bee divers preparations of Mercurie which are verie effectuall; as Mercurie precipitate, with *Aqua fortis*, the oyle of Vitrioll, or Sulphur, with Gold or Silver, or precipitate alone, without the addition of any thing. There is none of any note amongst you, who is not able by one preparation or another of Mercurie, to procure salivation.

These Mercuriall medicaments are effectuall, as well in an Ozæna which is a primarie disease, or of it selfe, as in

that

that which is a symptome of the French Pox. You have heard what diet is most convenient, and what internall medicaments are most effectuall in curing of an Ozæna: The last point which I propounded unto my selfe to attaine to the curation of this ulcer, was the right use of the externall medicaments.

The externall medicaments.

These are in number two; to wit, the locall medicaments, and the actuall cauterie.

How the crustie substance is to be removed.

As for the locall medicaments, they are either waters, or decoctions, or unguents: But before you apply any medicaments to mundifie, incarnate, or cicatrize, you must labour to remove the crustie substance, which doth fix it selfe in the fore-part of the Ethmoides, or Os Cribriforme: and that for two causes: First, because the braine is hindred from discharging of the residue of the maligne humor, which causeth the ulcer, and so the curation is protracted: Secondly, because the medicaments cannot touch the affected parts, and so no alteration can be procured.

For the removing of the crustie substance, I commend unto you two medicaments:

The first is this: ℞ *Ol. Amygdalarum dulcium* ℥j. *Sperm. Ceti* ʒij. *exquisitè misceantur:*

The second is this: ℞ *Axung. Vrsi* ℥j. *Pinguedin. Taxi* ʒß. *ol. Semin. lin.* ʒiij. *Misc.*

The manner of the applying of these medicaments.

You must thus dresse the Patient: Turne his face upward, and let his head be bent backwards, then morning and evening with three feathers tied together, drop still some of these medicaments warmed in a Sawcer, into the nose, and let the partie grieved stil draw in his breath, untill hee feele the taste of them in his mouth.

When you have perceived that the crust is soft, morning and evening let him snuffe up into his nostrils some of this sternutatorie powder: ℞ *Ellebor. albi, Nigilla, Tabacc. an.* ℥j. *Rorismar. Salv. an.* ℥ij. *Moschi gr.* ij. *fiat pulvis subtilis.* Let him snuffe a little up into his nose everie morning, after you have moystened the crust with some of the

medicaments set downe before. When part of the crustie substance is falne out, dresse it still after this same manner, untill all the crust is spent: then proceed to the application of the medicaments named by name.

The medicaments to be applyed.

Use these waters.

I. Waters.

First, the preheminence shall bee given to *Aqua aluminis magistralis* of *Fallopius* allayed with Plantane, or white Rose-water.

The second shall bee this: ℞ *Aq. Plantag. Card. Benedict. Cerasor. nigror. & fragor. an.* ℥iii. *Spirit. Vitriol.* ℈i. *Misce.*

The third shall be this: ℞ *Aq. aurifabror. & gemmar. quercus an.* ℥iij. *Alum.* ʒij. *Exquisitè misceantur & depurentur.*

The fourth shall be this: ℞ *Aq. Alum. & Plantagin. an.* ℥iiii. *Mercur. dulcis* ʒii. *Digerantur in cinerib. calidis per hor.* 2.

II. Decoctions.

As for Decoctions, I commend unto you these:

I. ℞ *Flor. ros. rub. pug.* ii. *Balaustior.* ʒß. *rad. Tormentill.* ʒi. *fol. Plantag. Polygon. & Vincæ pervinc. an. pug.* 1. Boile these in six ounces of spring-water, untill the halfe be consumed; straine then the three ounces remaining, and dissolve in them one ounce of *Mel rosatum.*

II. ℞ *Rhois Coriar.* ℔. ß. *Alumin.* ʒii. *coq. ista ac clarificentur albumine ovi unius, ac colentur. Colaturæ adde mellis rosat. Syrup. Myrtill. & de ros. rub. sicc. an.* ʒi. I will not trouble you with great varietie, as I might out of the monuments of the Ancients; seeing these will suffice, or else none.

The manner of using of waters and decoctions.

The waters and decoctions you must inject by a syringe warm, to make your topicks answerable to the ayre, which is drawn by the nostrils in the first qualities, to wit, moyst and hot: moyst, I say, *actu*, but *potentia*, drying; seeing ulcers require such medicaments: seeing both waters and decoctions being applyed, do quickly evaporate, and leave the part affected dry, and thirsting for other topicks.

The unguents.

The unguents shall offer themselves; I will not supererogate

erogate in this point, but will only deliver unto you such as shall bee effectuall; and what is deficient in number, shall be supplyed by efficacy. Receive this as the first, out of *Daniel Sennert. med. pract. lib. 1. part. 3. sect. 4. c. 1.* ℞ *plumb. usti, lithargyr. an.* ℈ *i. cerus. bol. Armen. balaust. an.* ℈ *ß. ol. ros. myrtin. an.* ʒ *ß. ceræ alb.* ℈ *i. Ducantur ista in mortario plumbeo, donec acquirant unguenti consistentiam.* The second shall be this: ℞ *unguent. de tutia, & unguent. albi caphurati, an.* ʒ *i. ol. myrtill. et cydon. an.* ʒ *ii. Mercur. dulcis* ʒ *i. ß. pulverizati. Misceantur.* These ulcers are to be dressed twice a day, morning and evening.

Cancerous ulcers also seaze upon this part. This griefe hastened the end of that famous Mathematician, Mr. *Harriot*, with whom I was acquainted but a short time before his death; whom at one time, together with Mr. *Hughes*, who wrote of the Globes, Mr. *Warner*, and Mr. *Turperley*, the Noble Earle of *Northumberland*, the favourer of all good learning, and Mecænas of learned men, maintained while he was in the Tower, for their worth and various literature. But seeing those documents which I delivered for the curation of cancers already, may suffice, I will only set down the description of an effectuall water in this griefe, which is this: ℞ *spermat. ranar. et limacum, an.* ℔ *ß. gemmar. quercus, et hederæ terrest. an.* ʒ *iiii. Extilletur aqua è stillatorio communi, unde prolici solet aquarosacea in recipiens, cui immissæ sint caphuræ calcinatæ* ʒ *ii.* Inject this water into the nose, and lay to the sores either double clouts, or lint moystned in this water, as you shall think most fit, morning and evening.

Cancerous ulcers.

A water for a cancer in the nose.

It resteth only now that I speak a little of the application of the actuall cautery, which was sayd to bee the second externall meane in the curing of an Ozæna: this meane is only used when the sore is rebellious to powerfull ordinary meanes; which happeth either by reason of malignity, or too much, or superfluous humidity: for according to *Hippocrates*

The application of the actuall cauterie.

When it is to be applyed.

pocrates aphor. lib. 1. aphor. 6. Against extreme griefes, extreme remedies are best.

The uses of it. The actuall cautery is applyed for two purposes:

First, to cause an eschar by impressing of it upon the iulcer.

Secondly, it is used only to dry the ulcer, by often applying of it, still desisting before the party feele any paine, by reason of extreme heat.

The pipes. If you meane to procure an eschar, both the ends of the pipe by the which the cautery is carried, must be open; but if you intend desiccation, the end which you apply to the ulcer, must be shut.

If you have procured an eschar, the fall of it is to be procured as I did shew in removing of the crust: this being done, proceed in curing of the ulcer as hath been taught.

If only you have caused desiccation by iteration of the application of the actuall cautery, the manner of curing is not to be altered.

LECT. XXVII.

Of the ulcers of the mouth.

NOw am I to discourse of such ulcers as befall the instrument of taste, which is the mouth.

The limits of the mouth. It beginneth at the lips, and reacheth to the beginning of the wind-pipe, and the *Gula*, or mouth of the stomack.

The uses of it. It hath foure uses: I. It serveth for breathing, it sending fresh aire unto the lungs, and discharging fuliginous vapors sent from the heart by the *Arteria venosa*.

II. It receiveth the food, and having prepared it by the chewing of the teeth, and the mandible, it sendeth it to the stomack there to be chylified.

III. It

III. It serveth for speaking: the externall and internall parts of it serving for the framing of the voyce.

IV. It serveth for the discharging of the excrements of the braine, by spitting out of the excrements of the lungs by expectoration, and of the excrements of the stomack by vomiting.

Seeing then the uses of it are so manifold and necessary, it behoveth me to discover such diseases (belonging to our purpose) as deprive us of one or more of these commodities which it affordeth to us. But seeing some of the parts of it are externall, as the lips; and some internall, as the teeth, gums, roofe, the tongue, the almonds, the *uvula*: I will onely meddle with the ulcers of the lips, roofe, tongue, almonds, *uvula*, and the ulcers of it beyond the *uvula*, as onely being proper to my intention.

Of the ulcers of the lips.

I will begin first with the ulcers of the lips: how hurtfull the ulcers of the lips are, you may gather from the commodities, which they (being sound) afford to man.

The commodities of the lips.

The lips afford a sixfold commodity to the life of man:

I. They serve for the conveniencie of eating and drinking, for they keepe in the meat untill it be chewed.

II. They beautifie the face if they be well fashioned.

III. They keep in the spittle of the mouth.

IV. They keep the teeth and gums from externall injuries.

V. They serve for the framing of the speech.

VI. They serve for kissing, the earnest penny of lust.

And although the benefits which doe redound unto us by the lips, being well affected, may be hindered by sundry meanes; yet I will touch onely but two sorts of solution of unity befalling to the lips, as proper to the subject which I have in hand, which are the chaps of the lips, and the ulcers of the same.

The chaps of the lips.

Fissura labiorum, or the chaps of the lips, proceed from a salt, sharp, & drying humor, which causeth these narrow, but

Their cause materiall.

long small ulcers, which are hot and painfull, chiefly when the party speaketh, eateth, or laugheth.

Predictions.

These chaps, although they may without any great difficulty be cured in persons of a laudable constitution, yet in cacochymicall bodies they will give you somewhat to doe: in so much that the Patient will wonder and fret, that such toyes and trifles cannot more speedily be cured; for so they terme such griefes, considering not the quality, but quantity of the griefe.

The curation of these.

For the curation of these, I will commend unto you two medicaments of my owne, which I familiarly use: The first is this: ℞ *cer. flav.* ℥ij. *ol. ros. mell. & axung. porc. in aq. ros. lot. an.* ʒ iiij. *litharg. argenti, myrrhæ, zinzib. pulv. an.* ʒj. *fiat linimentum s. a.* First, moisten the part with the parties owne spittle, and then anoint the part affected with the liniment: it is effectuall, not onely in chaps of the lips, but in other chinks of *Fissuræ* in what part of the body soever they be; and it cureth speedily.

The second is a *Pomatum*, the description wherof is this: ℞ *Pomæ numero* 3. *quibus infige cariophyll.* ℥ß. *styrac. calamit.* ʒ iij. *benzoini* ʒ ij. *labdan.* ʒi ß. *calam. aromat. cinamom. an.* ʒ j. *axung. porc. lib.* ij. *aq. lavendul. & ros. an.* ℥ iiij. *Moschi, civetæ an. gr.* i ß. *Indantur ista vasi terreo satis amplo, ac calore B. N. evaporentur aquæ, & colatur pomatum, quod in vase puro servetur.* You may conjecture the efficacie of this medicament by the ingredients.

Vlcers of the lips.

As for the ulcers of the lips, they are either milde, or maligne.

For the milde.

As for the milde ulcers, this ointment described by *Rinodæus, Antidot. lib.* 5. *sect.* 1. *cap.* 11. which he calleth *Vnguentum de minio*, or *Vnguentum rubrum caphuratum*, is very effectuall: *compos. hæc est*: ℞ *minii triti* ℥iij. *lithar. argent.* ℥ ij. *ceruſſæ* ℥i ß. *tut.* ʒ iij. *caphur.* ʒ ij. *ol. ros. lib.* j. *cer. albi,* ℥iij. *fiat ung. ut ars præscribit.* This unguent is effectuall against even old and inveterate ulcers, in what part soever of the body they be.

If

If you perceive an vlcer of the lip to be maligne or cancerous, which you may conjecture if the colour be livid, or blackish, if the brims be hard, if the heat and paine exceed the quantity of the vlcer, and if it yeeld a sanious and ill smelling quittor; then are you to looke about, and to espy which are the most powerfull medicaments. For the maligne.

When I discoursed of a Cancer, a Nome, and a Phagedænicall vlcer, I delivered vnto you choise of locall medicaments: for such vlcers, if they happen to invade the lips, at this time I will onely deliver vnto you a description of a distilled water, and of a magistrall vnguent.

The water is thus to be made: ℞ *fol. plantag. solani horten. veronic. sempervivi major. & minor. an. man.* iij. *albumina ovorum conquassata numero* xij. *alumin. contus. lib.* ß. *caphur.* ʒi ß. *Extuleatur aq. calore balnei: fomentetur cancrosum, aut malignum vlcus hac aqua, quæ & faciei ruborem tollit.* The description of the vnguent is this: ℞ *plumbi* ʒ iij. *fundatur in crucibulo, eique addatur Mercur.* ʒi ß. *postquam refrixit man. in pulverem vertatur massa, cui adde vnguenti de tutia* ʒvj. *ceræ* ʒij. *terebinthin.* ʒj. *ol. myrtil.* ʒi ß. *fiat vnguentum quod vlceri post fotū applicetur. Deligetur vlcus singulis diebus quoties opus est.* If you find the vlcer to be rebellious, and not to yeeld to these very convenient and effectuall meanes, then are you to apply such medicaments as I have set downe for the curation of Nome, Phagedæna, and Cancer, when I discoursed of them, whither I remit you, to shun tedious and fruitlesse repetition.

To the vlcers of the lips, the vlcers of the *Palatum*, the roofe of the mouth must be annexed: It is rawted, that the aire being repercussed, the voyce should be the sharper: it is wrinkled and rough where it covereth the bone, that it might the more firmely cleave to it, and the better stay the meat whilest it is in chewing. The vlcers of the *Palatum*. Its figure.

Now seeing all the internall parts of the month are indued with the sense of tasting, but chiefly the membrane The instrument of tasting.

The instrument of feeling.

which covereth the tongue, and have the exquisite sense of feeling, by reason of the nervous fibres, whereof they have great store, you are to have a care that your locall applications be not distastfull and loathsome, seeing the parts will abhorre them. If then the wrinkled skin, which covereth the *Os palati*, be ulcerate: first, touch it with *Aqua Fallopii*, allaied with Plantane-water, if it be foule; or with this: ℞ *aq. plantag. card. benedict. & spermat. ranar. an.* ℥ iij. *mellis ros.* ℥ ij. *ol. sulphur. aut vitriol.* ℈ j. *Misc.* Having touched the ulcer with either of these waters warmed sufficiently, apply this medicament: ℞ *syrup. è ros. rub. siccat. è baccis myrti, & de succo granatorum an.* ℥ j. *ol. vitriol.* ℈ ß. *Misc.* Seeing the part is moist, and will not admit any deligation, you are to dresse it the more often. If you perceive the *Os palati* to be bare, then mingle some of this powder following, mingled with these syrups: ℞ *far. hord. rad. irid symphyti, tormentill. an.* ℥ ß. *mastiches, boracis, sarcocoll. an.* ℥ ß. *fiat ex omnibus pulvis.* If the rough skin unite, as I have often seene, then have you obtained your desire.

What is to be done when *Os palati* falleth out.

If a small peece of the *Os palati* fall out, using these incarnative meanes, and keeping the brims of the ulcer raw, you may bring them together; but if a large peece of the bone come away, there is no hope of unition. In this case, you are to cause the party to weare a plate of silver to supply the defect of the bone, that his speech bewray not the losse of it.

Of the government of the tongue.

The third internall part of the mouth, which useth to be ulcerate, is the tongue. The tongues of Angels are not able to expresse what benefits doe redound unto man by the right ordering of the tongue, and what harmes and inconveniences againe, when we give it free reines to lash out. The frequent exhortations set downe in the holy Scripture to the first, and dehortations from the second, may make us wary in our discourses & conferences. It is that part of the body by the which God is chiefly glorified; by it we praise

and

and magnifie him, as godlesse persons blaspheme him; with it we confesse our sins, by the which we provoked him to anger; and againe, we powre out our prayers with the tongue to obtaine remission for them.

The tongue affordeth foure benefits to the body. I. It is the instrument of tasting, by the benefit of the membrane wherewith it is covered. The uses of it.

II. It uttereth the speech, by the which we communicate our wants to others, and implore aid in time of distresse.

III. It helpeth chewing, by gathering of the meat together, and tossing it to and fro, it turneth also the meat downe to the stomack.

IV. It serveth for licking. To omit that in our infancie we could not suck without it: so we see, that if the *frænum* of it come too neere to the tip of it, the sucking is hindred, and it must be cut. The children who have this infirmity, are said to be tongue tied. The flesh of it is spungeous, that it might receive the qualities of the sapors, and the more accurately judge of them. How mild sores of the tongue are cured.

If the sores of this part be but ordinary and milde, this medicament will serve if it be often washed with it: ℞ *hord. mundat.* ℥ iij. *rad. alth.* ℥ ij. *liquirit.* ℥ i ß. *Bulliant ista in lib.* vj. *aq. font. ad medias ac coletur decoctum, cui admisce syrup. viol. tussilag. & scabiosæ an* ℥ j ß. *ac serva in mundo vase ad usum.*

It falleth out sometimes, that sores in this member prove maligne and very fretting, causing one of those ulcers which are called, νόμαι and φαγεδαίναι, as it happened to the late Lord Mayor of London, *Ralph Freeman*. Hee lacked neither Physitians nor Physicke, yet old age, weakneſse, and the malignitie of the sore hindred the procuring of his health, which his Physitians and Chirurgeans aimed at and wished for. The ulcer was so corrosive, that it fretted asunder the veines and arteries of the tongue, on that side Of maligne ulcers of the tongue.

which

which it possessed, and caused a great flux of blood, which exceedingly weakned him, for that present causing a strong syncope, so that afterward nature could not recollect her selfe. When such griefes befall great personages, their case is worse than that of the poorest in the like infirmities, because Physitians and Chirurgians are not permitted to use the like libertie in the application of medicaments to the one, as to the other. If the like case fall out hereafter at any time, I advise you so to use medicaments borrowed of the vegetables, as that you contemne not the minerals: What hurt I pray you can come from the use of *Merc. dulcis*, and *Merc. precipitat* with gold: None I assure you: for these medicaments are familiar to nature, and are true balsams for maligne sores.

Quest. But you may aske what was the reason that these medicaments were not used?

Answer. I answer, because there was no mention made of these medicaments at the first, and it was too late to minister them at the last, nature being surprised; for this only would have made the medicaments odious, and the Physitian, (who should have advised this course) obnoxious to calumnie and reproach.

Of ulcers of the *Vvula*. Now time admonisheth mee to come to the ulcers of the Uvula, or gargarion.

Of mild ones. If they be milde and ordinarie, the former medicaments set downe for the curation of the tongue will suffice.

Of fretting ulcers. But if it be a fretting ulcer, first you are to admonish the patient of some accidents, which may ensue: and those are two in number.

Prognosticks. The first is, that if the Uvula bee wholly fretted away, the party shall hardly be able to speak clearely and distinctly. Howbeit both *Bauhinus* in his *Theatr. anatomicum*, and *Guillelmus Fabricius Hildanus cent. 2. observ. 21.* doe affirme that in some they observed it to have beene lost, not leaving any defect in their speech.

The

The second accident is, the danger of pthisis, or cough of the lungs, for this is to be feared, seeing the member which did hinder the roushing in of the cold ayre into the lungs, and put back from the breast humors distilling from the head, is wholly taken away. Having acquainted the patient with prognosticks, proceed to the curation.

This is performed either by the application of convenient medicaments, or else by cutting it away. The curation.

As for the medicaments, use first this gargarisme: ℞ *fol. plantag. veronic. et sigill. Salom. an. man.* 1. *scord. orig. centaur. minor. an. man.* ß. *Bulliant ista in lib.* 2. *aq. font. ad consumpt. lib.* 1. *& coletur decoctam, in quo dissolve oxymellis simplicis* ℥ iij. Then touch the sore morning and evening with this liniment: ℞ *ung. Ægypt.* ℥ ß. *alum. pulv.* ℥ ß. *mell. ros.* ℥ i ß. *Misc. applicetur mane & vesperi.* 1 By medicaments.

If it proceed from a veneriall cause, use this topick twice a day: ℞ *aq. card. benedict. & plantag. an.* ℥ vi. *aq. fort.* ℥ i. *Misc.* you may also use the blue water, which you may buy for three-pence a pinte after the silver is separate, after solution, and hath no other mettall in it, but a little of *Venus*. If these meanes will not prevaile, then you must wholly cut it away.

But according to *Valescus de Taranta*,* you must observe these five things before you goe about this operation. * *Lib.* 3. *cap.* 3.

1. You must purge the bodie well.

2. No humor must be in flowing to the part.

3. You must not attempt this operation as long as there is hope that other medicaments will prevaile.

4. Goe not about this operation, unlesse it bee small about the root, for if it be thick, and red, or blue, such a flux of blood may ensue, as will strangle the partie, and cause fainting.

5. Marke how much of a necessitie must be cut off, for a little remaining will both further the speech, and repell the cold ayre from the lungs. If after the cutting of it off, a flux

flux of blood ensue, either apply astringent powders to it, or else cauterize it with the Uvula spoone made hot.

Vlcers of the almonds.

If the Tonsillæ or almonds be ulcerate by reason of the influxion of sharp humors, which your eyes can discerne, the tongue being pressed downe by your spathula, carry in mind these prognosticks.

The Prognosticks.

I. If the ulcers be without a fever, they are the more safe.

II. If these ulcers happen in the summer, they sooner spred.

III. If these almonds become scirrhous they are hardly or never cured.

IV. These ulcers as all other ulcers of the mouth, require stronger desiccatives than the ulcers of the externall parts: First, to hinder them from spreading. Secondly, because they are still kept moist with the spittle.

For the curation of these ulcers, I will deliver unto you two locall medicaments: The first is the decoction of the root of the devils bit to be used in steed of a gargarisme. The second is a liniment to bee applyed after gargarization tryed by *Seanertus*, and set downe *medicin. pract. li. 2. c. 22. Rx centaur. minor. rad. irid. stercor. canini. an ℥ cum melle despumato fiat electuarium.* As for the facultie of a white dogs turd read *Galen. li. 10. de simpl. med. facult. c. de stercore canino.*

Vlcers of the throat.

If the throat beyond the Uvula be ulcerated, use this water in stead of a gargarisme as a certaine experiment. Rx *aq. plantag. li. 1. ros. rub. flor. arantior. an. ℥ j. pulv. Mer. subli. ʒij. digerantur in arena per horã quadrantem ac coletur aqua, quæ in vase vitreo servetur ad usam.* If by reason of these ulcers the partie cannot swallow any solid meat, minister to the patient *mercurius dulcis* for foure mornings together, and you shall perceive a wonderfull effect. Give it in new milke.

The curation.

LECT.

Lect. XXVIII.

Of the vlcers of the lungs.

SEeing the lungs very often become vlcerate, a solution of unitie in the substance of them, or an apertion of the vessels of them which are the branches of *vena arteriosa*, and *arteria venosa*, being caused by a wound: I must not let such vlcers to slip untouched.

The causes of vlcers of the lungs after a wound inflicted may be assigned two: to wit, a solution of unitie in the substance, and vessels of the lungs, and the effusion of blood into the hollownesse of the breast, you shall discerne the lungs to be wounded, The causes of the vlcers of the lungs after a wound.

I. First, if frothie blood issue out of the wound, and mouth by coughing, which shew some of the vessels to bee wounded, and opened. Signes of the lungs wounded.

II. Secondly, difficultie of breathing troubleth the party wounded.

III. Thirdly, the paine of the sides is grievous, which he felt not before.

IV. Fourthly, it is more easie for the patient to lie upon the wounded, than the whole side: So that often hee can speak readily so lying, but being turned upon his sound side he can but with paine and difficultie speake.

You shall perceive and gather blood to have beene poured out into the capacitie of the breast by these signes. Signes of blood poured out into the capacitie of the breast.

I. First, if a heavie weight seeme to presse downe the midriffe.

II. Secondly if the partie breath with great difficultie.

III. Thirdly, if the fever increase.

IV. Fourthly, if the wounded partie void blood at the mouth.

V. Fifthly,

V. Fifthly, if the breath of the partie stinke after a while, for that betokeneth the blood to bee turned into quittour.

VI. Sixtly, the wounded person can onely lie upon the back.

VII. Seventhly, the partie hath a desire to vomit, and striveth to rise, from whence ensueth fainting; for noysome vapours arising from the clotted blood turned into quittour assault the heart, and weaken it exceedingly, and dissolve the facultie of the stomack.

Whether after a wound of the lungs an ulcer will ensue.

After that the wound is inflicted, and that you have dressed it so long a time as you have required in former times for healing of a penetrating wound of the breast, (which will be shorter in the summer, than in the winter: for heat helpeth digestion) you may feare that a fistula at the least, or a putrid ulcer of the lungs will ensue: chiefly if a thinne sanies, and not a laudable quittour doe flow out, farre in quantitie exceeding the bignesse of the wound.

Why wounds of the lungs send out much quittour.

Why in wounds of the lungs, so much quittour every day is sent out these are the causes.

I. The vicinitie and neerenesse of the heart, which being the welspring of the vitall blood, doth send too much of it to the part affected: And when as it cannot make use of all of it by reason of weakenesse, it turning the remainder by its naturall heat into quittour, dischargeth it by the orifice of the wound.

I.

II. Because the sound parts send unto the diseased blood and spirits without meane or measure.

II.

III. Because the lungs draw more nourishment to themselves by their motion, heat, and paine, than they are able to digest.

III.

IV. Because the ulcer like a devouring wolfe by its malignitie and filth, presently corrupteth the blood sent for nourishment unto the lungs, turning the greatest part into quittour, and defrauding the part affected of maintenance: from whence ensueth the extenuation of the whole bodie.

IV.

Now

Now that you may the better foresee and foretell to the patients the events of such ulcers, I would have you to mark these prognosticks which I shall deliver unto you. The prognosticks.

1. All ulcers of the lungs are hardly, or with great difficultie cured, and that for foure causes.

1. Because the muscuIs of the breast, lungs and heart, are in perpetuall motion: now motion hindereth consolidation, as all by experience know.

2. Because the lungs are onely environed by the Pleura, the skin inwardly investing the ribs, which is endued but by small store of blood, and being a spermatick part, to wit, a membrane, is not easily united; and that onely by the second intention.

3. Because locall meanes cannot be kept to these ulcers, by rowling, bowlstering, and emplastering, as they may to the ulcers of the externall parts.

4. Because the orifice of the ulcer is not most commonly in a depending part; but either parallel, or higher than the ulcer. How hard a matter it is for quittour to ascend, I leave it to your consideration.

5. If the partie pine not away, if hee expectorate easily, if he sleepe reasonable well, if he digest his meat, if his stools be orderly, if the quittour bee indifferent good, you may conceive some hope of the cure.

6. But if the diseased parties breath smell ill, if he consume, if the quittour which floweth from the ulcer stink, if he hath a grievous cough, and difficultie of breathing, if a lingring putrid fever troubling him chiefly toward night, and hindering his sleep, follow him, if his appetite decay, and the concoction of the aliments be empaired; if a rotten peece of the liver, or of the branches of the wind be throwen out at the mouth, if he have a whistling voice as if he spake thorow a cane, his case is desperate.

7. If his haire fall, which happeneth by reason of the want, and corruption of the nourishment: if the nailes grow,

grow crooked, the flesh of the tops of the fingers being spent, if the cheekes grow to bee of a leady colour; but when after meat they seem ruddy, vapours mounting thither, if the feet begin to swell, the naturall heat being spent, if lice multiply by reason of the corruption of the humours, you may pronounce, that a *diarrhea* or humorall flux ensuing, the party shall depart.

VIII. Although some have lived many yeeres who have had an ulcer of the lungs, as *Avicen* reporteth, that he saw a woman who lived twenty three yeeres, or thereabout, with an ulcer of the lungs. And as *Matth. de Gradib. in 9. Rhas. c.* 54. affirmeth, that he saw a woman who still was busied about the fire, who lived twenty eight yeeres; yet bee not you too forward to take in hand such persons as have ulcerate lungs: for the curation is uncertaine, and that for foure causes.

Lib. 3. sen. 10. tract. 5. c. 18.

Why the curation of the ulcers of the lungs is uncertain.

I. By reason of the symptomes which ensue, as are a lingring fever, and consumption of the body.

II. Because the quittour which is contained in the spongious substance of the lungs, cannot be voyded by expectoration without coughing; which doth much trouble the lungs, and exasperate the griefe.

III. Because the medicaments which are ministred to cure these ulcers, cannot come to the lungs in their full force.

IV. Because the fever and consumption of the body require those things which are moystning, but the ulcer those things which mundifie, and dry.

If it chance that by Art and good luck you cure an ulcer of the lungs, charge the party that hee walk circumspectly in the course of the residue of his life; for many times when the ulcer hath seemed to have been cured, yet the cicatrix being removed by the ill carriage of the patient, the ulcer hath gotten footing, and been the cause of untimely death, as *Galen* witnesseth, 4. *de loc. affect. c.* 5.

When

When you go about to cure such ulcers, you are to propose three indications curative to your selves. The indications of curing.

The first is, the appointing of a convenient diet.

The second is, the ministring of fit pectorall decoctions.

The third is, the artificiall dressing of the ulcer.

As for the diet: the party having an ulcer of the lungs, must eat meat of an easie concoction, because nature is much weakned; of good juyce, lest putrifaction bee encreased; and lastly, of much nourishment, because the body in this griefe is most commonly much extenuate: only I will briefly touch some kindes of food which are endued with these qualities. The diet.

The first that offereth it selfe is Milk, for it nourisheth the body, it affordeth matter to blood, it correcteth the acrimony of corrupt humors; with the wheyiest part it mundifieth the ulcer, with the cruddy part it consolidateth, and with the buttery part it moystneth, and stayeth the desiccation of the body. Womans milk is most familiar: By the sucking of a womans breast I saw a Welch Gentlewoman called Mrs. *Price*, recovered of a Pthisis, who could not turne her selfe in her bed, by reason of weaknesse, and could not take any other food. Asses milk is thinner and more wheyish, and so more apt to mundifie. Goats and Cowes milk obtain a meane between these two. Milk.

But lest it corrupt in the stomack, you are to dissolve some sugar or hony in it.

You are to minister it only when the stomack is empty, and no other meat is to bee taken before it bee digested; otherwise it will crud, become sowre, and be corrupted.

So much of it is to be given, as the stomack of the party can well digest: wherefore first prescribe the lesser quantity, and ascend to a greater.

Abstaine from appointing of it, if the party be feverish, have the headach, and be troubled with flatuosity.

Snailes, Crabs. Snailes and Crabbes are much commended in this griefe; nevertheleſſe, ſeeing they are of a thick, terreſtriall, and ſlimy ſubſtance, and afford a corrupt and excrementitious juyce, it may be doubted whether they be good or nó: to omit that they are of hard digeſtion; the broth of them boyled in milk, and ſweetned with ſugar, and mingled with other brothes, may be good; for ſo the nouriſhment will be the more ſolid.

Pectorall decoctions. As for pectorall decoctions, I will not trouble you with any great variety of them; only I will ſet down a few; but the paucity ſhall be recompenced with the efficacy.

I. ℞ *rad. enul.* ℥ ij. *ſcob. guaiact* ℔ ß. *hyſſopi, marrhub. albi, an. man.* ij. *polypod. liquirit. an.* ℥ i ß. *ficuum inciſar. paſſul. major. exacinat. an.* ℥ iij. *Infundantur infundenda per noctem in aqu. font. fervent.* ℔ xviij. *deinde additis reliquis coq. ad conſumpt.* ℔ vi. *ac coletur decoctum, quod clarificetur additis ſacchari & mellis an.* ℥ ij. *croci* ℥ i. *atque iterum coletur: utatur æger hoc decocto loco conſueti potus.*

II. ℞ *rad. chin.* ℥ iiij. *ſymphiti, tormentill. irid. an.* ℥ i. *capill. vener. tuſſilag. ſcabioſ. marrhub. albi, hyſſopi, an. man.* i. *flor. viol. borag. bugloſ. an. pug.* i. *flor. herbæ paralyſ. pug.* ij. *flor. alth. pug.* i ß. *caricar. ping.* ℥ iij. *liquirit.* ℥ ij. *ſemin. coriand. aniſ. an.* ℥ vi. *Infundantur iſta ut ſuperiora in pari quantitate aquæ, ac decoq. ad conſumpt.* ℔ vi. *ac coletur decoctum, quo utendum loco conſueti potus.*

Every morning the patient is to take halfe a pinte of either of theſe decoctions warm, and to eat a lozenge of *ſaccharum roſatum tabellatum*, or two drammes of the conſerve of red roſes, being a twelve-moneth old.

The artificiall dreſſing. Now I am come to the artificiall dreſſing of ulcers of the breaſt.

The medicaments which are fitteſt for dreſſing, are Injections by a large ſyringe.

Injections. As for the ſimples whereof the injections are made, they muſt not bee of bitter things, as Wormwood, the leſſer Centory,

Centory, or *Carduus benedictus*; for as judicious and diligent *Ambros. Paræus* noteth, *Chirurg. lib. 9. c. 31.* these bitter things being injected, are first drawn in by the spongious substance of the lungs, and from thence are sent by the *trachea arteria*, to the throat; where such a bitternesse is felt, that it causeth a desire to vomit; so that they rather hurt than profit.

These injections are either absterstive or consolidative.

Absterstive injections.

Of absterstive injections I will set down a few, as a pattern, by the which you may make others.

I. ℞ *marrub. alb. hyssopi, scabios. an. man.* ß. *coqu. in* ℔ iij. *aqu. font. ad medietat. consumptionem, ac coletur decoctum; quod postea clarificetur addit. mell.* ℔ ß. *atque iterum coletur.*

II. ℞ *aqu. hord.* ℔. i. *mellis ros.* ℥ ij. *sacchari rubri* ℥ iij. *Misc. bulliant 3 aut 4 ebullitionibus ut injectio clarificetur; qua postea coletur.*

If you perceive that the ulcer is sordid, and affordeth much matter, you may adde either of *unguentum Ægyptiacum*, or the oyle of Sulphur, or Vitrioll, so much as you shall finde fit to cleanse the ulcer.

The consolidation.

When you perceive that the ulcer is sufficiently mundified; which you may gather, if laudable quittour flow, and in no great quantity; then hasten to consolidate the ulcer: I will in this case furnish you also with effectuall topicks, and but a few: the first shall be this:

Consolidative medicaments.

℞ *decoct. pectoral.* ℥ iiij. *syrupi è ros. rub. sicc.* ℥ i ß. *fiat injectio.*

II. ℞ *hed. terrest. flor. & fol. symphit. sanicul. plantag. polygon. millefol. vinc. pervinc. Equiseti, hyper. eupat. beton. valerian. an. man.* ij. *limaces numero* 40. *cancros fluviatil. numero* 10. *Addita aqu. pluviali: instituatur distillatio in alembico, ut extilletur aqua.* ℞ *aqu. hujus* ℔ ß. *syrup. myrtill. & è ros. rub. siccat. an.* ℥ i. ß. *syrupi granat.* ℥ i. *Misc. ut fiat injectio.*

The manner of dressing.

These injections must bee warmed when they are to bee used. Into the orifice which is in the breast somewhat must be put to keep it open: this then is to be performed either by a tent, or a pipe made either of gold or silver.

Tents.

The materials of the tents are three; lint, fine tow, and a sponge. Lint is altogether unapt, for it is apt to fall asunder after that it is made up into a tent: if therefore a peece of it part and rest upon the *diaphragma*, it must putrify there, and send noysome sents unto the heart, which cannot but bring faintings, and at the last shorten the life.

Good tow then is better than it, because it cleaveth fast together; but the spunge is best of all, because it doth not only cohere firmly, but draweth also strongly the quittour, and doth imbibe it.

It is good so to forme the tents, that the outer end being broader than the inner, it may bee stayed from slipping in: it is not amisse to halter them with thred for this same purpose.

The use of a pipe.

A pipe is best of all; it must be of thickness proportionate to the orifice, having two stayes to hinder the slipping in of it into the cavity of the breast; and sundry holes somewhat large about the end, to give way to the quittour. It must also be somewhat arched, lest the lungs butting against it, should suffer any hurt. The outer hollowness of it is to be stopped with a sponge dipped in *aqua vitæ* and wine mingled together, and warmed, and wrung. Above the tents and the pipe apply *emplastrum de minio*, or *diachalcithes*.

If the ulcer runne much, it must bee dressed twice a day; but if it runne little, once dressing will serve.

Quest. You may demand of me, when the tents and pipe are to be left?

Answ. I answer, when the ulcer yeeldeth but a small deale of quittour, and that good; and seemeth to bee almost dry: for *siccum est sano proximum*, that which is dry commeth

neere

neere to that which is whole.

If you keepe the orifice of the breast too long open, it will fistulate.

It falleth out many times, that in ulcers of the breast, the diseased person groweth leane. In this case you are to permit the party to drink some Almond milk made of chicken broth, wherein have been boyled Pompion, Cucumber, and Muskmelon seeds, with Mallow roots, Cowslip flowers, Succory flowers, and Marigold flowers, between meales, and in the night time after two a clock; or minister a dramme and a halfe of this powder which I will set down, every morning and evening, in fix ounces of one of the pectorall decoctions, which I described in the beginning of this Lecture. What course is to bee taken if the body grow leane.

The description of the powder is this: ℞ *semin. papav. albi* ʒi ß. *gummi tragacanth. far. orobi an.* ʒij ß. *semin. alth. portul. cucum. melon. pepon. plantag. hyoscyam. alb. an.* ʒiij. *coral. rub. praparat. perlar. praparat. succini albi praparat. an.* ʒi ß. *liquirit.* ʒiiij. *sacchari rosat. tabellat. ad pondus omnium: fiat pulvis.*

If these courses being used faithfully, do not prevaile, acquaint the diseased parties friends with the dangerous estate wherein he is; for no other medicaments are like to prevaile.

Lect. XXIX.

Of the vlcers of the backe, the abdomen, *and joynts.*

NOw I am, according to my promise, to deliver the last Lecture appointed for this yeere, and withall to shut up this Treatise of Vlcers; that when I shall ascend to this place againe, I may begin to handle a new subject, which will bee of wounds. And although one might rest contented with that which hath been already delivered concerning vlcers; yet that none may justly say, that any thing absolutely necessary, hath been omitted, and to further the practice of those which are not so well versed in the curing of all particular vlcers, I will briefly set down some notes concerning the vlcers of the back, the *abdomen*, or lower belly, and of the joynts.

Vlcers of the back.

Vlcera dorsi, or vlcers of the back, most commonly fall out after φλεγμονας οιδηματωδεις, or œdematous phlegmons, wherein *morbi acuti ex decidentia* end.

Now that you may the better understand what I meane, I must digresse a little, and briefly shew you what diseases are termed *morbi acuti*, and how many kindes of them there are.

Which are to be accompted sharp diseases. Three kindes.

Morbi acuti, or sharp diseases, are properly called such as with great expedition, force, and danger, go on to their *status* and extremity of the symptomes, as may be gathered out of *Galen* 2. *aphor.* 19. & 23.

Now there be three kindes of these *morbi acuti*, or sharp diseases; for they are either *peracuti*, very sharp, or *acuti simpliciter*, simply sharp, or *acuti ex decidentia*, or sharp diseases ending into other griefes.

Peracuti

Peracuti end at the furtheſt the ſeventh day, and they are of two ſorts, *exquiſitè peracuti* or *perperacuti*, or exquiſitely very ſharp, which end the fourth day, and *non exquiſitè peracuti*, which are not exquiſitely very ſharp, which continue till the ſeventh day.

Now the *ſimpliciter acuti* in like manner are of two kinds: for they are either exactly ſo, and end for the moſt part the fourteenth day, or not exactly ſo, which may continue till the twentieth day. You may, and (I make no doubt) doe ſee examples of theſe in burning and peſtilentiall fevers almoſt every week. Laſt of all are *acuti* ἐκ μεταπτώσεως, *ex decidentia*, which may bee prolonged to the fortieth day: Diſeaſes which continue longer than fortie dayes are called *morbi chronici*, or *diuturni*, long or lingring diſeaſes. Some of theſe chronicall diſeaſes may end in ſixtie, ſome in eightie, ſome in an hundred, ſome in two hundred dayes: ſome may continue a whole yeere, ſome ſeven yeeres, ſome twice ſeven yeeres.

I ſaw a Scottiſhman whoſe ſurname was *Iohnſon*, a ſadler by profeſſion, who followed the Court in Queene *Elizabeths* reigne, who was troubled twelve yeeres with a quartan ague without intermiſſion: neither can I affirme that it left him during his life time. Hiſtor. I.

I being in the Ile of Shepey in Minſter ſtreet curing one *Clover* an aged man, whom I diſmembred, there was a girle brought to mee, of ſeven yeares of age, which for the ſpace of ſix yeeres was grievouſly tormented with an exquiſite quartan. The lifes of theſe perſonages may be well termed living deaths. Some of theſe lingring diſeaſes againe continue in boyes untill the fourteenth yeere of their age, and in maids untill their courſes flow: as the falling ſickneſſe. II.

Now to come to apoſtemes of the back, which leave vlcers after they are brought to ſuppuration and opened; They are for the moſt part criticall tranſlations of humors, Apoſtemes and vlcers of the back.

sent in *morbis acutis ex decidentia*, sharp diseases which continue untill the fortieth day, or on chronicall diseases the continuance of which is uncertaine, sent from the inner either noble or ministeriall parts from within outward, the Physitians say this to be done, *per diadosin*: whereas if noxious humors be turned from without inward, as in pestilentiall and veneriall buboes, they affirme this to be done *per metastasin*.

Criticall ending of griefs.

Criticall ending of griefs, are either performed by excretion or translation of the griefe.

I. By excretion nature doth expell the peccant matter sundry wayes, as by vomit, siege, sweating, bleeding at the nose, the flowing of the menstruous course, and the apertion of the hemorrhoidicall veines, as you may observe everie day in termination and ending of sharp fevers.

II. In translation, the peccant matter is not altogether discharged out of the bodie; but is sent from the part affected unto another part by provident nature.

But seeing the humor may be sent from the outward parts to the inward, and from the inner parts to the outward, this last translation is most secure; for if this first be done in maligne and contagious diseases, as in the Pox and Plague, all understanding practisers pronounce either death, or protraction of the cure.

When therefore these apostemes appeare either in the back, or one of the great joynts, which afterward degenerate into ulcers, the motion of the matter by nature is laudable doing it by translation, seeing she cannot by excretion, partly by reason of the weakneſſe of the principall parts, or by the plenty, or hard concoction of the humor.

But this is the miserie, that the friends or kinsfolks of such a diseased person thinke him or her to bee altogether safe and secure, when they see them eased by the translation of the humor, and therefore to spare charges call not

for

for skilfull Phyſitians, and Chirurgeans, by whoſe skill and diligence the motion of nature might be furthered. And ſo it falleth out many times, partly by reaſon of the thickneſſe of the skin, as in the back, or by reaſon of the thickneſſe of the skin, & compactneſſe of the membranes as in the joynts, that the vertebræ of the back are corrupted, & the cartillage, and tendons of the joynts before remedie is ſought for.

But that you may meet with theſe hide bound patients, and keepe your ſelves from incurring danger or diſcredit, marke theſe prognoſticks which I will deliver unto you.

The prognoſticks of the ulcers of the back.

1. If after inquiſition you find that a tumor in the back continued a long time before it did break of it ſelfe, or was opened, ſuſpect the ulcer to bee of hard curation: for it is likely that the vertebræ of the back are foule.

2. If the vertebræ bee foule, which you may eaſily find out, by your finger or probe, the caſe is deſperate: wherefore take heed that you promiſe not curation.

3. If in ulcers of the back you ſee the parties body day by day to become more and more extenuate, advertiſe the parties friends of the danger: for it is an evident argument that the principall parts are weakned, and cannot wholly diſcharge the humor which offendeth.

Why ulcers in the upper part of the *Spina* are of eaſier curation, than thoſe of the lower.

4. Ulcers in the upper part of the *Spina dorſi* are more eaſily cured, than thoſe in the loynes: Becauſe the abdomen or lower belly ſendeth out more ſuperfluities than the thorax or the breaſt, which is the middle cavitie. Secondly, becauſe they are neerer to the heart, the ſunne of the little world, who by his heat is able to conſume much ſuperfluous humiditie.

Hiſtories.

I think it will not bee unpleaſant to you to heare mee confirme that which I have delivered unto you in my laſt prognoſtick, by true relation of the events which befell mee when I practiſed in Wales in the like griefes: ſeeing examples leave a deeper impreſſion in the mind, than precepts, and leade beſt to the curation of externall griefes.

In

In Denbigh towne there was one *Richard Pryce* an Haberdasher, sonne to *Iohn Pryce*, who kept the principall Inne of the towne, who after hee had beene troubled with a chronicall disease, felt in his back a little below the shoulders blades, a tumor still increasing in the outward parts, as he was eased in the inward, untill at the last it grew to the bignesse of a penny loafe. I having beene called unto it by opening of the Apostеme, & using methodicall indications, cured the Patient. This man (as I heare) having given over his trade, still keepeth the Inne which his father did.

In this same Towne about the same time, a lustie young man, whose sirname was *Owin*, whose father was a retainer to Sir *Iohn Salisburie*, had the like tumor in the Vertebræ of the loines, after a lingring griefe: I having been entreated by the truly worshipfull, Sir *Iohn Salisburie*, (who had not an ordinarie skill in the knowledge of the plants, and in performing chirurgicall cures) tooke a view of the young Gentle-man. After mature deliberation, I told Sir *Iohn* and the young mans friends, that there was much quittor in the tumor, which must be discharged; and that the event of the curation would be uncertaine, if the matter were let out, for the reasons above specified. At the entreatie of Sir *Iohn Salisburie* & the young mans parents & friends, I opened the Apostеme which was in the Vertebræ of the loines: And although no meanes were omitted, which seemed unto us effectuall, for the recoverie of the young mans health, and that the Vertebræ of the loines were not foule; yet hee fell into a Marasmus, or extenuation of the body, being otherwayes a proper and valiant young Gentle-man; and so ended his life before age called for his dissolution, to the great griefe of his parents, having no other sonne but him, and the commiseration of the worthy Knight. I have delivered unto you my observations in this griefe, whereof I hope you will make good use: you having occcasion ministred to be warie, by the examples of others, which is no meane benefit.

How

How I performed the curation of the first Patient, now I will declare unto you: First, I purged his body with a gentle medicament: It was this; ℞ *Electuar. lenitiv.* ʒiiij. *Electuar. de succo ros.* ʒij. *Syrup. ros. solutivi cum Agarico* ʒj. *aq. Cichor.* ʒiij. *Misc. ut fiat potio.* Secondly, I applyed the *Lapis infernalis* to the depending part of the tumor: Thirdly, I opened the Aposteme, making but a small orifice thorow the eschar. Fourthly, everie day I dressed the sore, still suffering a little of the quittor to flow out, untill all was discharged. Fifthly, I used a mundifying injection, untill I perceived the sore to bee cleane, not stinking, and to afford both laudable, and small store of laudable quittor. Sixthly, I used a consolidative injection, and boulsters somewhat thick, to compresse the sore.

How the Haberdasher was cured.

The mundifying injection was this: ℞ *Vini albi* ℔.j. *mellis rosati* ʒiij. *Unguent. Ægyptiaci* ʒß. *Misc. ut fiat injectio usurpanda calida.* The consolidative injection was this: ℞ *aq. Plantag.* ʒiiij. *Syrupi myrtini & è ros. rub. siccat. an.* ʒß. *Trochisc. albor. Rhas. sive opio* ʒij. *Misc. ut fiat injectio applicanda item calida:* All such injections must be warmed; for cold, as *Hippocrates* witnesseth, is hurtfull to the *Spinalis medulla.* The Emplaster which I used was *Diachylon cum gummis.* By these meanes I cured the partie in three weekes space.

The description of the injections.

Now the ulcers of the Abdomen, or of the lower belly, doe offer themselves onely to bee but compendiously touched. Seeing there are three parts of it, *Regio epigastrica, umbilicalis,* and *hypogastrica,* the upper, the umbilicall, and lower region; I am to shew unto you what parts in these regions most commonly suffer ulceration.

Of the ulcers of the Abdomen.

I saw the stomack of one Mistresse *Ferne,* together with the muscules perforate by the erosion of a sharp humor, in the Howlt, a towne distant from Chester five miles: the meat, drinke, and chylus came thorow the perforation: the ulcer also smelled strongly. I being unwilling to deale with her,

1. Of an ulcer penetrating of the stomack.

her, prescribed some locall meanes, which wrought but small effect; for she died of a Marasmus, or extenuation of the body, within a short time: the ulcer hindering the chylification of the aliment, and so defrauding the body of nourishment. My opinion was then, and now is, that ulcers penetrating into the cavitie of the stomack are mortall, although wounds of this kinde bee sometimes cured: for in the second there is but a bare solution of continuitie; but in the former there is a solution of continuitie, having annexed to it the sharpnes & malignitie of the matter. Here

s. Of an ulcer of the liver.

in London, in the Inne a little above Fleet-conduit, one *Richard*, who was Tapster of the Inne, had for a long time a great paine in the right side of the epigastricall region of the Abdomen: in progresse of time there appeared a great hard tumor, causing a sharp fever: at last the Phlegmon breaking of it selfe, sent out great store of quittor. I then being lodged within the signe of the Naked Boy, a little below the Conduit, and being of his familiar acquaintance, was sent for, finding him in a strong fever, and having difficultie of breathing, the tumor of the liver hindring the free motion of the *Septum transversum*, the instrument of naturall respiration, I pronounced his griefe to be mortall, and so it fell out: for although no rationall meanes were omitted, fit to have recovered the partie, if the griefe had beene curable, yet the partie died. It were but a fruitlesse labour to set downe the medicaments which were used, seeing they prevailed not.

This historie I thought good to set downe, that you may imagine what the event is like to be, if you be called to the like griefe.

Of an ulcer of the navell.

It falleth out sometimes, that superfluous flesh groweth above the navell, if it be slackly bound, and bee left somewhat long, which doth become ulcerate: This I saw once in Tavestock, a towne in the West Countrey, in Devonshire, in a childe of Master *Moones*, a Draper of that towne.

I

I having beene called to the cure, first bound off the navell by a strong ligature, afterwards I cured it by the application of *Vnguentum de cerussa.*

A penetrating ulcer of the groine.

In the groine after a Phlemone of it opened, oftentimes an ulcer is left penetrating thorow the oblique and transvers muscules of the Abdomen: If you perceive such an ulcer, pronounce it to be not of easie curation, chiefly if it fall out to be after a venereall Bubo: For first, there is *morbus cum causa*, a griefe having the cause annexed: Secondly, it corrupteth the Fibres of the muscules: Thirdly, it corrupteth sometimes the Vertebræ of the loines, in which case all medicaments are fruitlesse, because the griefe is mortall: This happened to a young woman, who dwelt with the Lady *Lucie*, whom Master *Napkin* dressed, and opened after her death. Both M. Doctor *Gifford* and I were called to view the sore sundrie times; and although means were used for her recoverie, yet they did not prevaile; so that shee died of a Marasmus, the body becomming extremely extenuate; although she seemed to bee of a firme and thick habit of body, when the tumor first appeared. If any such tumors come to your hands, after they are brought to maturation, use the generall meanes prescribed for the curation of *Lues venerea*, lest the like event happen to you.

An Historie.

Of ulcers of the joynts.

I will touch briefly the curation of ulcers of the joynts, which differeth but verie little from the curation of ulcers in other parts, saving that they require medicaments of more desiccation without any sharpnesse, and more powerfull anodine cataplasmes for asswaging of paine, which is an inseparable accident of ulcers, seizing upon these parts.

The Topicks.

Apply then to the sore *Desiccativum rubeum*, and anoynt the brims with this liniment: ℞ *Vnguent. popul. & albi Caphurati an.* ℥j. *Ol. Cydonit. & Papaverin. an.* ℥ß. *Misc. ac fiat liniment. ex arte.* Before you apply your medicaments

nents, foment the part with a fomentation made of Sumach, Pomegranate pils and flowers, red Roses dryed, and Myrtle-berries infused in astringent red wine, being put into a long and narrow galley pot, and set in a warm place, or in a posnet having in it boyling water.

In curing of these ulcers often purging is required, to stay the flowing of sharp humors; but seeing everie purgative medicament is not of like efficacie, I will set downe one as a patterne, after the which you may frame others: ℞ *Caricostin. & Elect. de succo ros. an.* ʒiij. *Syrup. ros. solut. cum Agaric.* ʒj. *aq. Cichor.* ʒiij. *Misc. ut fiat potio:* You may either detract from the quantitie of the purging Electuaries, or adde to them what you shall think fit, after you have diligently considered the strength of the partie: with this I will end the Lectures for this present, and finish the Tractation of Ulcers. When God shall permit mee to ascend againe into this seat, I will begin the Lectures of wounds.

FINIS.

FINIS.