

Dr Eaton's Stiptic, and tried them both with Galls before several Gentlemen; the Tincture was the same, a deep Purple. I then precipitated the Contents with old Hock, and found the precipitated Matter to be the same in both. Not contented with my own Enquiry, I sent several small Quantities to others, and went myself to Mr Godfrey, the Chymist. They all told me, that there was no difference betwixt them. I tried several ways to find out it's balsamic Quality, from whence it has it's Name, but found none. Then, I confessed, it surprized me, that a Man who had a mind to vend a thing as a Secret, had not done so much as to alter it either in Taste, Smell, or Colour, and yet this might very well have been done, without robbing it of it's Virtue in the least.

My next Business was to try these two upon the crural Artery. Having got a good middle-sized Dog, Mr. Ranby laid the Artery bare, and opened it with a Lancet the lengthwise of the Artery, for near half an Inch. The old Trick used to be, to cut the Artery cross-ways, and then there was no necessity of a Stiptic at all, nor indeed here neither. But at first *Helvetius's* Tincture was applied, and stopped the bleeding; then we opened the Artery again, and tried Dr. Eaton's with the same Success. I then had the Artery opened in the other Thigh, and tried it only with *French Brandy*, which I found, did as the other two. I opened the Artery again, and had dissolved in *French Brandy* a little *Sal Martis* and *Saccharum Saturni*, and applied that, and it answered in the same manner. This made me immediately conjecture, that there was but little Virtue in either of them, but only that the Brandy, by it's great Heat, did merely contract the Fibres of the Artery, which no doubt, might be a little assisted by the *Chalybs*; but this could not be much. I then reflected upon the Smalness of the crural Artery in a Dog, and that it was no more to be compared to the crural Artery of a Man, than a Cock's Head to a Man's Head, and that a little Pledget of Lint might stop the Blood without more to do, as well as the temporal Artery when opened with a Lancet, which we did, and the Pledget of Lint stopt it. We then untied the Dog, and sent him going, who ran directly home. The Mistress of the House tore off the Pledgets, and had the Dog well washed with Butter and Beer warmed, she not knowing what had been done to him; upon which the Dog fell a bleeding again, tho' not much, and the Blood stopped of itself. Thus far as to it's outward Use, and I could wish it were as harmless within. If only, according to *Helvetius*, it had been ordered to have been taken inwardly, in fresh Wounds and Contusions, one might have let it pass; but when, without exception, Dr Eaton recommended it, as also even Sir Richard in all outward Bleedings, I then thought it high time to make some Animadversions upon it. For Sir Richard himself says, in his Treatise of Consumptions, p. 99, and 101, that in spitting of Blood there is an *Orgasm*, or stimulating Fer-



ment: What is this but a feverish Indisposition? And is there any Hemorrhage without it? Now, if so, will not Brandy and Chalybeats highten this? Which by their Heat and *Stimuli* brace and irritate the Fibres, and accelerate the Blood's Motion. And will not then the Blood take up more room, and press harder against the Sides of the Vessels, and whatsoever opposes it? Is not this the way to make an Orgasm, and cause an Hemorrhage?

Dr *Eaton* tells us himself in his Book, p. 57, That it did very much over-heat a Gentlewoman, and that her Bleeding still continued after the taking of it, and she might have perished if a Surgeon had not given her a cooling and astringent Apozeme. And but just before, p. 47, he complains of a Physician, that was not willing that his Patient should take it, who had a Hectic Fever upon her, because he was afraid that it was too hot.

Since the former Trials, on the 10th of *June* last, I desired Mr *Ranby* to open the Carotide Artery of a Dog, thinking that this Artery might give me more Satisfaction than the Crural Arteries had done, to try the Stiptic Quality of *Helvetius* and *Eaton's* Tinctures. Having laid bare the Jugular Vein, divided, and tied it, that it's bleeding might not hinder us from finding the Carotide Artery, we were obliged to cut some of the Muscles thro' likewise, till, with some Difficulty, we found the Artery; which being opened with a Lancet, the Blood spouting forth, I applied to it *Helvetius's* Tincture, upon which the Blood stopped. I took it off in less than a Minute, and made it bleed again, but it bled but little, and then I applied Dr *Eaton's* Stiptic; we filled up the Wound with Lint, and stitched up the *Cutis*, then untied the Dog and let him run down Stairs; where, after some time, I saw him again, and found he had bled a good deal, and was still bleeding. I was very well satisfied that, the Artery being so very small, he would not bleed to Death, and if he had nothing but Lint upon it, it would have done as well. It must be observed, that the Carotide Arteries are largest in proportion in human Bodies, and that this Artery of the Dog was but a small matter bigger than the Crural Arteries of the former Dog. This shews, that the Stiptic Quality of these Tinctures is very inconsiderable; and that *Helvetius's* Tincture is rather better than Dr *Eaton's*, if there is any difference at all; tho' that, I believe, was owing to the Brandy, for my Brandy was stronger than Dr *Eaton's*.

I enquired for the Dog the next Morning, and found him alive and well, only hanging his Head on one side, which proceeded from the Muscles being cut thro'.

An Aneurysm  
of the Aorta;  
by Pierce Dod,  
M. D. N<sup>o</sup>.  
402. p. 436.

III. 1. An *Aneurysm*, without doubt, is a Tumour arising from some Disorder in an Artery; but what that Disorder is, or whence it arises, is not so well agreed, the Accounts which are given of it, being widely different and uncertain. The Name seems to imply, that it is a Dilatation of the Vessel; but *Galen* describes it to be a Tu-

mour,



mour, which arises not from any Dilatation or Relaxation of an arterial Vessel, and the Blood therein contained; but from an Extravasation of the Blood from some Rupture of the Artery. Agreeable to this are the Opinions of all the rest of the Antients, as likewise of the *Arabians*, who borrowed most that they have from them. *Fernelius*, as it is said, is the first who maintained, that the Artery was only dilated, and not burst in an *Aneurysm*, and that the Blood was contained within the Coats of it, as it is within those of the Vein in a *Varix*; which is therefore called by some, ἡ φλέψ ἀνευρυσμῆν. *Sennertus* makes it to be a Dilatation, not of both the Coats, but of the outward one only, the inner or muscular one being first bursten or broken, and he is followed herein by most of those who have succeeded him, excepting *Wiseman* and some others, who tell us, that it is nothing but an Extravasation of the Blood, bursting thro' the Coats of the Arteries into the Interstices of the Muscles, and there forming a Tumour suitable to the Cavity that it findeth, the Artery remaining undistended or undilated all the while; and that in all those *Aneurysms*, which have come to be examined, both the Coats of the Artery have constantly been found open.

This being the State of Opinions, with relation to an *Aneurysm*, we had lately an Opportunity of examining farther into it, by means of a Patient, who was taken into *St Bartholomew's Hospital*. She was about four and thirty Years of Age, and of a good Constitution, but there was a Tumour, bigger than one's Fist, which began from the upper Part of the *Sternum*, between the Origins of the *Musculi Mastoidæi*, and extended itself to the *Pomum Adami*, almost up to her Chin, and possessed all the Breadth between the two *Carotid Arteries*. The Account that she gave of the Occasion of it was, that her Husband being a passionate Man, took her by the Throat one Day as she was crying out upon some Occasion or other, and griped her so hard as almost to throttle her. She was then with Child, and immediately perceived something of a Pain a little above her Heart, and a few Days afterwards there appeared a Tumour about the bigness of the top of her Finger, just above the *Sternum*, and so continued without Increase or Pulsation, till she was brought to Bed, when it began to be enlarged, upon her having a hard Labour; agreeable to what Practitioners have observed, that Accidents of this Nature often happen to Women in Labour. This was about four Years since, and from that time it had continued gradually increasing, until it was arrived to almost the highest Pitch of Extension; and she had all along been troubled with a Palpitation, Pain and Straitness within the *Thorax*, great Interruptions in her Rest, and frequent Sinkings, together with a constant beating along the Chest up to the Tumour; in which likewise there was a Pulsation correspondent to the regular Pulse, shaking the Tumour at every Stroke, and manifest to the Eye as well as the Touch. Notwithstanding this she was otherwise hearty, had her



*Menses* regularly, had a good Appetite, and was mostly chearful and lively, and never more so than just before the fatal Period of the Tumour. The *Apex* of the Tumour, which was towards the Middle, in the prominent Part of it was beginning to mortify, thro' an over Distension, and the common outward Integuments were the first that seemed to suffer: But the Distension continuing, the Mortification increased, and was quickly communicated to the outer Coat of the Artery likewise, which therefore sloughed off as well as the other Integuments, and being at length wore away, just at the Extremity made a sudden Aperture, about twice the Bigness of a Goose's Quill. The Blood instantly gushed forth, as from a Stream or Torrent, and the poor Patient died in less than a Minute.

Upon opening the Body, we began from the Heart, in which there was little remarkable, except that the left Ventricle was somewhat larger, as were likewise the *Columnæ Carneæ*, than they naturally should be. There was little observable likewise in the *Aorta* itself, till we came to the Curvature; upon the upper Side of which was the Basis of the Tumour, forming a cylindrical Stem of four Inches long while in the Cavity of the *Thorax*; but extending itself into a circular Form of a larger Dimension, when it became external. Upon opening the under Part of the *Aorta* opposite to this Basis, and carrying the Incision throughout it's whole Extent in the *Thorax*, the Trunk retained it's usual Form and Dimensions, and was not at all dilated; but in the upper Part above described, just on this Side the Orifice of the right *Subclavian Artery* (which was nearer than usual to the Orifice of the left *Carotid*) there was a preternatural circular Aperture of half an Inch Diameter. Upon dividing this Aperture, and carrying on the Incision to the *Apex* of the Tumour, it's whole internal Substance appeared. The Edges of the Aperture at the Basis of the Tumour were hard, and almost cartilaginous, and seemingly the Remains of thick and fleshy Fibres; which upon a nicer Inspection they appeared to be in Fact, *viz.* the broken Fibres of the inner, or what is commonly called, the muscular Coat of the Artery; which terminating here, the Tumour immediately increased to 2 Inches in Diameter, and continued of that Dimension, till it came out of the Neck, between the Clavicles; but then extended itself circularly to a Diameter of above 3 Inches, the Covering of which was nothing else but the outer Coat of the same Artery all along dilated from the Base, even to the Extremity of the Tumour. The Cavity was for the most part filled with a sort of *Polypus*, or *Sarcoma*; in which nevertheless there were three Sinuses, or Passages, that were kept open by the constant Influx of the Blood, and communicated near the *Apex* with one another; (that in the middle being the largest) and terminating in one towards the Extremity of the Tumour, not far from where it broke.



2. An *Aneurysm* is by all Authors defined to be a soft circumscribed Tumour, in which there is a sensible Pulsation, contemporary with the Pulsation of the Artery, to which it adheres. As it is certain, that any Tumour of what kind soever, lying on or adhering to any considerable Artery, must necessarily be moved by every Pulsation of such Artery, so this Pulsation (unless understood in such manner as I shall hereafter explain) can no ways be admitted as the true Diagnostic, whereby to specify the Difference between this kind of Tumour and any other. An *Aneurysm* is found most commonly to succeed Falls, Vomitings, Labour-strains, and such other Motions or Indispositions of the Body as, by compressing the great Branches of an Artery, any ways stop the progressive Motion of the Blood. It is obvious that, as the Section of the Artery above the Compressure must in it's natural State be sometimes very incapable of containing at once the whole Quantity of Blood, which ought only to have passed thro' it successively; and as the Force of the Heart may frequently exceed the Resistance it may meet with from the Coats of the Artery; so the Consequence of such a Stop to the progressive Motion of the Blood, may occasion either a Rupture of the Artery, or a Distension of the Artery without a Rupture, or a Rupture of the internal Coats of the Artery, and a Distension of it's external Coat. A Rupture of the large Branches of the *Aorta* necessarily allow so plentiful Effusions of the Blood, as to occasion immediate Death; while the Capillaries may be burst without any other Injury, but a slight *Ecchymosis*, and the Tumour formed by the Effusion from them will be diffused and superficial. A Rupture of the mean Branches (such as descend between the *Tibia* and *Fibula*, the *Radius* and *Ulna*, &c.) will be attended with a considerable Effusion of Blood; but as the Blood will find a Passage between the Interstices of the Muscles, it will never form a circumscribed Tumour. However, the Effusion being continued *per saltum* thro' the ruptured Artery, will give a faint Pulsation, and consequently some Resemblance of the *Aneurysm*; for which Reason it is by some Surgeons termed a *Bastard-Aneurysm*. Whether or no an *Aneurysm* be a Tumour formed by the *Dilatation* of the Artery, or by a *Rupture* of the *internal* Coats of the Artery, and a *Distension* of the *external*, has for some time been a Matter of great Dispute; each Party protesting (perhaps too unjustly) against the Possibility of the others Opinion. As to the Possibility of an Artery's being dilated, it stands supported by Reason and Autopsy. We find the Uterine Arteries constantly increased in Thickness and Diameter, in proportion as the *Uterus* is distended; and many Cases of Palpitations of the Heart have been attended with great Dilatations of the *Aorta*; Instances of which I have seen both in human and brute Subjects. Such a Dilatation will necessarily follow a constant, or frequent Pressure on any Part of the *Aorta*, provided such Pressure does not entirely stop the progressive

*Observations on Aneurysms in general, and in particular, on the foregoing; by F. Nicholls, M.B. F. R. S. No. 402. p. 440.*



Motion of the Blood through the *Aorta*. But on the other Hand, such a Dilatation will always retain somewhat of the Form of the Artery. The Resistance will not be every way equal, as in the extravasate Tumours; because the quaquaversal Pressure of the Blood will be controlled by the Pressure on the Artery, and the Resistance from the Coats of the Arteries, so as necessarily to form a Cylindroid, and the Consequence of such a Dilatation cannot (if considered abstractedly from it's Pressures) be worse (if so bad) than from a varicous Vein. Again, they who conceive an Aneurysm to be a *Rupture* of both Coats of the Artery, oppose their Opinion, who imagine the internal Coat to be ruptured, and the external to be distended, by comparing the two Coats in Question, and urging, that, as the internal Coat is so much thicker than the external, it seems impossible, the last should be sufficient to resist a Force capable of destroying the first. Were these two Coats similar, as to their Structure, we might then compute their Strength by their Thickness, and this Argument would be of much greater Force than at present it can be; because the internal Coat being composed of annular *Fasciculi*, whose Sides have but a very weak Cohesion, their Power of resisting will not be measureable by the Strength of those *Annuli*, but by the Force with which they adhere laterally. And on the other Hand, the external Coat being composed of Fibres equally interwoven, and of a quite different Composition, it may either exert a greater Resistance, or be capable of much greater Dilatations than the internal. But that *Autopsy* may evince the Truth of this Difference in the Strength of these Coats, it will be found by any one who pleases to try the Experiment, that by blowing into the Pulmonary Artery, the internal Coat will soon burst, and the external Form itself into aneurismous Tumours (*which Experiment was accordingly tried before the Society, to their Satisfaction*).

Upon considering all which, and having, by *Order of the Society*, both privately, and publickly examined the Aneurysm before us, which I find to be round like other extravasate Tumours, unless when controlled by any notable Pressure, and that the *Sacculus* does not divide into Coats, as the Artery from whence it arises does, I am induced to think that this Aneurysm is a Tumour formed by the Blood's being forced through the *Ligamentous*, or what is called the Muscular-coat, and distending the membranous or outer one. And because the Impetus of the Blood will, as it were, perpetually press through the Aperture into the Tumour, and be again (at least in Part) returned by the Elasticity of the external Coat; therefore such a Tumour will rather have a pulsatile Dilatation, than a *Pulsation*, for it's true Diagnostic.



IV. Mr *Conssett*, of *Cleveland* in *Yorkshire*, a Gentleman of 67 Years of Age, who all his Life before had enjoyed a perfect good State of Health, sent for me on Account of a Mortification, which began a Month before on one of his Toes, and by gradual Advances, in that time had reached half way his Leg; and this without any manifest Cause. The Gentleman saw himself dying daily by piece-meal; heart-whole, as he expressed it, and had a pretty good Pulse. I proposed Amputation, as the only Remedy, which (I told him) would give him some Chance for his Life; though the odds was against him. This he readily consented to, and as soon as I could get my Dressings ready, I went about the Operation.

*An Ossification of the Crural Artery. By Mr Edw. Naish, Surgeon in York, No. 369. p. 226.*

The Leg being taken off at the usual Place, (which was 4 Inches above the Mortification) about 2 or 3 Ounces of Blood issued out from the Muscular Part, but upon slackening the Turniket, in order to look for, and tie the Artery, not one drop of Blood flowed out, to my no small Surprize. And upon feeling the Extremity of the Artery, I found it hard and callous; however, I secured it by a Ligature, as usual, and dressed the Stump. The Patient (who had born the Operation with the greatest Resolution) being put to Bed, I was desirous to examine the Leg; and having dissected the Artery, with it's two considerable Branches as far as the *Tarsus*, I found them for the most part ossified; that is to say, the Trunk, where it was amputated, was ossified about two-thirds of it's Circumference. About  $\frac{1}{4}$  Inch lower, the whole was bony; leaving so small an Orifice, that it would only admit of a Hog's Bristle; not to a very fine Probe, of I endeavoured to introduce. A little lower, it was one side bony, on the other membranous; then again an entire Case of Bone. Here and there, for the breadth of a Barly-corn, there would be no Bone at all. I opened about 2 Inches of the internal Branch immediately above the *Malleolus*, it appearing blacker than the rest. After it had been washed, I found in it about 2 or 3 drops of coagulated Blood; and now it is expanded and dried, it is one entire *Lamina* of Bone, as thick as the Shell of a Pigeon's Egg, and of an unequal Surface. I dissected three Ramifications of this internal Branch into the Foot; only one of them had a very small bit of Bone in it, about  $\frac{1}{2}$  Inch from the Trunk. The other great Branch, that runs on the Ligament, that ties the Fociles together, was not so much ossified as that which I have described. This Ossification (which is the compleat-est of any I have yet heard of) was, no doubt, the cause of the Mortification, and of the Death of my Patient, which followed four days after the Amputation. I must observe, that this bony Shell, or *Lamina*, was contained within the Tunicles, or Coats of the Artery.

V. Mr *Menzies*, Sergeant in the Second Troop of Horse-Grenadier Guards, was wounded about 3 of the Clock in the Morning, Octob. 30, 1728, and died Nov. 5th in the Morning, being the 7th Day after he was wounded, in the 40th Year of his Age.

*The Use of the Bile in the Animal Oeconomy, founded on an Observation of a*

I was



Wound in the  
Gall-Bladder.  
By Alexander  
Stuart, M. D.  
F. R. S. No.  
414 p. 311.

I was called Nov. 2d, about 11 in the Forenoon, being the 4th day after he received the Wound. The Surgeons, who had attended him from the beginning, being present, told me, his Belly had been distended, as I saw it, from the beginning, giving the Appearance of a Tympany, or Ascites, and it continued at the same Pitch of Distension, neither diminished, nor sensibly encreased to the Time of his Death. He had no *Ructus* or *Flatus*, upwards or downwards, nor *Borborygmi*, notwithstanding this Distension of the Belly. He never went once to Stool after he received the Wound, though pretty strong Purgatives and several Clysters had been given for the three Days before I came; and though no Opiat (which might have been supposed to have retarded their Operation) had hitherto been exhibited: Neither had those Purgatives nor Clysters, which I ordered afterwards, the least Effect. He took what was thought, a sufficient Quantity of Drink, and liquid Food. He never slept, or but very little, by short Slumbers, of about half an Hour, or an Hour at longest, and that very rarely, notwithstanding pretty large Doses of Opiats were given to procure Rest, after I came. The Wound in the *Integuments* never digested in the usual Manner; but looked flaccid, or flabby, and pale, almost without Pus. The *Urine*, in very small Quantity, at most two or three Spoonfuls at a time, clear but yellow, as if tinged slightly with Saffron, and without Sediment. His *Pulse* was full, strong and even, but not quick. No feverish Heat to be felt in the Skin, on any Part of the Body. His *Tongue* not hard, rough or black, as in a Fever, but of it's natural Colour, with a silky Driness, and very little *Saliva*. He was not in the least delirious, from the beginning to the time of his Death. He had some slight Fits of the Hickup the second Day after I saw him, and some few Reachings to vomit; some Intermiissions in his *Pulse*, sometimes one in 10, 15, 20, or 30 a day before his Death.

The Body being opened, the *Abdomen* appeared distended as in a Tympany, or Ascites, and the Skin of the Belly tinged yellow as Saffron in many Places. A triangular Wound appeared about two Inches on the right Side of the Navel, the Direction slanting upwards, obliquely through the *Integuments*. The Belly being opened, discovered the Wound to have penetrated through the *Peritonæum*, and the Sword had slanted upwards from thence along the *Omentum*, grazing slightly upon it, which was superficially ruffled, but so as to be hardly perceivable. A small triangular Wound appeared in the Bottom of the *Gall-Bladder*, which had penetrated through the Membranes into it's Cavity, but had no where wounded the Liver, nor any of the Neighbouring Parts. The *Gall-Bladder* was flaccid or collapsed, containing only a few Drops of Gall, which, by pressing the *Cystis* slightly, flowed out into the Cavity of the *Abdomen* through the Wound. The *Guts*, throughout their whole Tract being distended, so as could be judged to triple the Extent of their natural Diameters



meters, seemed to fill the whole Cavity of the *Abdomen*, so as to give the outward Appearance of a Tympany, or Ascites; which Distension disappeared, and the *Guts* collapsed, upon making several Punctures with a Lancet in their Sides, to give Vent to the Air. The rest of the Cavity of the *Abdomen*, which was not closely filled up by the distended *Guts*, contained a gross muddy Water, or Serum, intensely yellow, or highly tinged with Gall, to the Quantity of three Quarts, as I was able to guess without measuring it. All the *Guts*, and Contents of the *Abdomen* were highly tinged with this yellow Liquor, but no other Part of his Body, out of the Contact of this Liquor, had the least Appearance of it. No Inflammation appeared in any Part of the *Guts*, or in any of the *Viscera*, or Contents of the *Abdomen*, which were all found and healthy. The Obliquity of the Wound through the *Integuments*, *Muscles*, and *Peritonæum*, made it impossible for the external Air to enter into the Cavity of the *Abdomen* that Way.

In order to make some use of this Case, it must be observed, That the great *Apparatus* in the *Liver* and *Spleen*, two of the largest *Viscera* in the Body, confessedly designed for the Preparation and Secretion of the *Bile*, and the Place of the *Intestines*, into which it is immediately deposited, afford indeed a strong Argument for the universal Use of it in the Animal Oeconomy, but do not directly point out what, or how many these Uses are, about which there has been a great Variety of Opinions.

But this singular Case, which must have happened very rarely, if ever before (wherein none of the *Viscera*, but the *Gall-Bladder* was wounded, and by that Wound, nothing but the *Gall* was lost or misplaced) by shewing how many Functions in the Animal Oeconomy were impaired or destroyed by the sole Want of it, does at the same time point out the Use and Necessity of it towards Health, or the Perfection of these Functions; and perhaps may lead to some Indications of Cure, in Cases wherein it is known to be deficient, faulty, or redundant.

There was no other apparent or assignable Cause for these various Symptoms during his Life, of Death itself, and of those several Appearances in the Body dissected after Death, but this Wound in the *Gall-Bladder*: And as this Wound could not affect any of the Parts, nor produce these Symptoms in any other Sense than as it gave Vent to the *Gall* into the Cavity of the *Abdomen*, and deprived the Cavity of the *Intestines* and the *Blood* of it: Therefore from this Loss, and misplacing of the *Gall*, all these Symptoms and Appearances may justly be concluded to arise, and I think may be accounted for from that Cause in the following Manner:

1. The *Abdomen* was distended, as in a Tympany, or Ascites, from the Beginning, and the *Guts* appeared inflated to their utmost Diameters.



It is true, that this Inflation and Distension happens to most a few Hours before Death, and to all soon after Death, and ariseth from the Springs, or Elater of the Air included, getting the better of it's Antagonist Spring, or Elater of the muscular Fibres of the *Stomach* and *Guts*, which have no longer the Assistance of the *Blood* and *Spirits* to contract them, and keep up their peristaltic Motion. But the Inflation and Distension here spoken of, was several Days before Death, and, as I have been told, the very next Day after he received the Wound, though the *Pulse* was apparently strong and equal, and therefore a defect of *Blood* and *Spirits* not to be suspected; and therefore it may be justly concluded, that the Influx of the *Gall* into the Cavity of the *Guts*, is as necessary to the Strength of their Contraction and Perfection of their peristaltic Motion, as that of the *Blood* and *Spirits* into their Sides; and that these three are the conjunct Causes of this Motion in Health, which would be defective by the total want of any of them. Hence we see, that in Schirrhosities of the *Liver*, where the Secretion, and therefore the Excretion of the *Bile* is more or less defective; and in the *Faundice*, where, by some Obstruction in the *Biliary Ducts* after Secretion, a Part of it is forced back, and regurgitates into the *Blood*, and very little of it is thrown into the *Guts*: I say, in those Cases we observe an uncommon Distension in the *Guts*, and Costiveness; which, if the Case proves incurable, terminates in an *Ascites*, or *Dropsy*, in the Cavity of the *Belly*. It may also be worth while to enquire, whether that which is commonly called an *Hysteric*, or nervous *Cholic*, generally attended with a lesser Degree of such like Distensions, with *Flatus's* and *Borborygmi*; I say, whether this Distemper, wherein the animal *Spirits* are so much, and only accused, does not partly arise from a sluggish Secretion and Excretion of the *Bile*, occasioning a Defect in it's Quantity; or from it's Acrimony and great Viscosity, occasioned by it's Stagnation in the *Gall-Bladder*; or from both these, as well as from a defective or unequal Distribution of the *Blood* and *Spirits* in the Parts affected. In Confirmation of which, I have generally observed, that at some time or other in the Cure, a great Evacuation of porraceous viscid *Bile*, brought away, either by Art or Nature, as well as a great Profusion of pale *Urine*, finished the Cure for that time. The vomiting of porraceous *Bile*, very common in such Cases proves the same; and, I believe, it is generally allowed, that the ferruginous, porraceous and black Colour of the *Bile*, are owing to shorter or longer Stagnations of it, chiefly in the *Gall-bladder*, which the sedentary Life of those who are subject to these *Cholics*, will sufficiently account for, even if there was no other Error in their way of living; and, whoever has observed the high yellow Colour and Contents of the *Urine* in a *Faundice*, arising from a Redundancy of *Bile* in the *Blood*, will readily acknowledge that an uncommon watery Paleness in the *Urine*, where no more than the usual Quantity of Fluids has been taken down to dilute it, does



does shew a Defect of *Bile* in the Blood; and I believe it is easy to account for the *Flatus's*, *Borborygmi*, Inversions of the peristaltic Motion, the *Pila Hysterica*, *Palpitations*, *Scotomia*, *Vertigo*, and other Symptoms of these Distempers, which are called Nervous and Hysterical, from the same Cause. And hence it is, that Bitters and Steel, known *Deobstruents* of the *Liver*, and *Correctors* of the *Bile*, with gentle Chologogues in very small Doses, are of so much Use in such Cases; though it be certainly true, that all strong stimulating Purgatives are very hurtful and improper.

2. There were no *Ructus's*, or *Flatus's* upwards or downwards, nor *Borborygmi*, notwithstanding this Distension of the Belly and Inflation of the Guts.

This, I think, shews very plainly, that the Guts had lost all Motion, and were Paralytic by the total Want of *Bile* only, as much as if their Nerves had been totally obstructed: For had any Motion remained in them, whether the natural and regular peristaltic Motion, or a preternatural convulsive one, the Contraction of them either way, would have propelled the contained Air from one Place to another, and would have occasioned *Borborygmi*, or would have expelled a Part of it upwards or downwards, when Nature had so much need of it to relieve the distended Guts, and Art had contributed to that Intention by Clysters and Purgatives given. Which serves to illustrate what has been said above, concerning the defective and convulsive Motion of the Guts in Hysterical Cases, where, through a Defect in the Quantity or Quality of the *Bile*, or from both these, the Motion of the Guts becomes defective, irregular or convulsive, but is not totally lost through a total Want of it, as in this Case.

3. He never went to Stool after he received the Wound; and the strongest Purgatives and Clysters that could be reasonably given, had no Effect.

This seems also to be owing to the Want, or total Loss of the peristaltic Motion; and plainly shews, that the strongest purging *Stimulus*, has not the Power to restore it, without the Assistance of the Gall: For, had it been in any Degree restored, the Belly would have fallen proportionally, and some Evacuation of what was lodged in the *Primæ Viæ* would have followed. If then the Power of Purgatives depends upon the Co-operation of the *Bile*, it will follow, that where it is most active or redundant, their Operation will be, *cæteris paribus*, greatest; and where it is unactive or deficient in Quantity, they will have proportionally a less Effect. Though it be true, that a Quantity, or morbid Acrimony of the *Bile*, by a too strong and violent Irritation, will bring the *Intestines* into such Spasms, as to stop all Excretion by Stool; and the strongest purging *Stimulus* added to it, does only increase the Spasms and Costiveness; as in *Bilious Cholicks*, which are always attended with exceeding Costiveness, not con-



querable by the strongest Purgatives, if they be not joined with Opiats, to allay the Spasms, and obtund the Acrimony of the *Bile*. He took what was thought a sufficient Quantity of liquid Food and Drink; but if the Elater of the Guts, and their peristaltic Motion were lost, it is easy to prove that none of his Food or Drink could enter the *Lacteals* for want of the peristaltic Motion; and therefore that he died starved. All that have seen live Dissections, intended to shew the Nature of the peristaltic Motion, and the Course of the *Lacteals*, must have observed, that the Guts have an alternate Systole and Diastole, or Contraction and Dilatation called the peristaltic Motion, the superior Section contracting itself, while the immediate Inferior is dilated; and this Motion is carried on in several Parts of the Guts at the same time; and the contracting Part, by expelling the Blood and Chyle out of it's Sides, in it's Contraction, looks pale, while the Parts dilated look florid, and the Vessels full of Blood and Chyle.

Now the Part contracting must necessarily force the Chyle from the grosser Parts of the Food or Aliments, towards the inner Surface of the Guts, where the perforated capillary Extremities of the *Lacteals* in the *villous Coat* are ready to admit, or rather to absorb, it by Attraction, as far as the larger and visible Branches of the *Lacteals* on the Coats of the Guts, into which it easily flows in the time of Dilatation, or Diastole, which expands and unfolds these Vessels at that time for it's easy Reception; from which it is farther propelled by the next Systole, or Contraction, into the primary or first Order of the *Lacteals* in the *Mesentery*; and by the same repeated Impulses of the contracting Sections of the Guts, is forced farther thro' the second Order of *Lacteals* in the *Mesentery*, into the *Receptaculum Commune*, and the *Thoracic Duct*; assisted by Valves, and promoted by the incessant Motion of the Muscles, and of all the Contents of the *Abdomen* and *Thorax* in Respiration, it is at last poured into the *subclavian Vein*, for a perpetual Recruit of the Blood in a healthy State. But if the muscular Fibres of the Guts have lost their peristaltic Motion, as in this Case, then the Expression, Absorption, and Progress of the Chyle described, cannot succeed, the Blood must be deprived of it's Recruit, and the Person die starved; which seems to have been this Person's Case, and will sufficiently account for the rest of the Symptoms above recited. 1<sup>st</sup>, His want of Sleep, and the Inability of *Opium* to procure it, might be owing to a want of Recruit of Chyle in the Blood: As we see that those who live sparingly, sleep very little; and those who feed plentifully, require by so much a greater Number of Hours to sleep; and in all chronical Cases, where the Body ceaseth to be nourished, the Sleep also fails, and *Opiats* have but little Power; whereas in Children, where a great part of their Food goes towards both Nourishment and Accretion, the greater part of their time is spent in Sleep. It may indeed seem difficult



cult to conceive how a want of Rest should ensue so soon after the Accident. But considering that the Loss of one Meal in a Day, especially of Supper, to such as have been accustomed to sup, has occasioned fewer Hours Rest in the following Night, it will follow, that such Persons require at least some small Recruit once in six or seven Hours, in order to rest their usual Number of Hours; and therefore in our Case, where all Recruit must have ceased soon after the Accident, he might be sensible of the Impairment of Rest in six or seven Hours after it, and those about him might well observe the Increase of that Symptom, at least in the following Night. Another Difficulty ariseth from the Observation of *Swallows, Tortoises, &c.* who sleep most in Winter, when they eat and drink nothing. In answer to which, there seems to be no Parity between the natural Constitution of their Blood and Humours, and that of Men: To these, and such like Animals, with regard to Recruit and Nourishment, Action and Rest, the Spring and Summer are as one Day, and the Winter as one Night, and their Blood and Humours seem to be fitted, not only to bear, but even to require such long Periods of Rest and Action. And probably there is as little Parity between the Crasis and Constitution of the Blood and Humours of a healthy Person, and of those in soporous and cataleptic Diseases, who are reported to have slept for Weeks or Months without Food of any kind: And therefore, I say, where the Crasis and Consistence of the Blood and Spirits are nearly the same, that is, *cæteris paribus*, he who feeds and is nourished most, will sleep longest, & *è contra*. The Position here advanced is farther confirmed by the Inefficacy of the Opiats given, they being capable of entering into the Blood thro' the Pores of the Stomach in Contact with them; by which quick Passage they have been observed to procure Rest soon after they have been applied outwardly, or taken down into the Stomach, as in this Case they may justly be supposed to have done: Tho' for the Reasons above-mentioned, neither they nor any thing else could pass by the *Lacteals*: But as the Aliments could not pass that way, *viz.* by the Pores of the Stomach, nor by the *Lacteals* into the Blood, there could be no Recruit nor Nourishment: And therefore the Opiats, tho' they did enter into the Blood by the Pores of the Stomach in contact with them, could not procure Rest. Thus it would seem probable, that Opiats do produce their Effect by detaining the Chyle crude longer than usual in the Mass of Blood, and thereby lengthen Sleep beyond the usual Time; and that they are ineffectual where is no Chyle in the Blood to be detained. But their Power of retarding or suppressing all or most of the Secretions and Excretions; their palling or obtunding the Appetite; their enabling one to fast long, and supporting one in Journies and Labour for a long time without Food (Effects well known to the *Turks* and *Asiatics* in their Journies thro' Deserts, &c.) These, and some other known  
Effects



Effects of Opium, very much favour this Opinion. 2<sup>dly</sup>, The want of Pus in the Wound was probably owing to a want of Recruit of Chyle in the Blood; and the Flabbiness and Paleness of it's Lips, to a shrinking of the Parts for want of daily Nourishment. 3<sup>dly</sup>, The small Quantity of Urine was probably owing to a want of Recruit of Fluids from the *Primæ Viæ*: For these, in a healthy State, find their way to the Urinary Passages very soon. The slight Tincture of Yellow, which it had, must have been from the Bile spilt in the *Abdomen*, and filtrated thro' the Duplication of the *Peritonæum*, and bottom of the Bladder: For it could not be supposed to derive it's Colour from the Blood, into which no *Bile* could now enter by the common Way. 4<sup>thly</sup>, The Want of *Saliva*, and the silky Driness of the Tongue, seems to have been owing to the same Cause, a Want of Recruit of Fluids in the Blood, and a Loss of so much of them as fell into the *Abdomen*. 5<sup>thly</sup>, If it be supposed that such a small Wound thro' the Integuments and Muscles of the *Abdomen* and the *Peritonæum*, was capable of producing a Fever, then his not having any Symptoms of a Fever, must be owing to a total Defect of Bile and Chyle in the Blood, none of which could enter the Lacteals for want of the peristaltic Motion, as has been said. Lastly, The few Fits of Hiccup, Reachings to vomit, and Intermissions in the Pulse in declining and dying Persons, seem to arise not only from a Defect, and therefore an unequal Distribution of the Blood and Spirits, but chiefly from the Corruption and irritating Acrimony of them, as the immediate Cause of Death in this and most other Cases. Which will be farther explained in the following Pages.

Objection I.

It may very reasonably be objected here, that the *Ductus Hepaticus* would carry a Sufficiency of *Bile*, for the Uses of the animal Oeconomy, into the Cavity of the Intestines, tho' none came by the *Ductus Cysticus*; and Nature seems to have provided the *Ductus Hepaticus* for this Purpose, that if any Obstruction or Defect should happen in any of these Secretory Channels, the Secretion and Excretion might go on for the Benefit of the Oeconomy, in the other: As Nature has provided two Kidneys, and double Organs of Sense, for the same Reason. But the Effect will not be the same in a Wound, which is the Reverse of an Obstruction; because by a perpetual Evacuation thro' it, such a Revulsion and Derivation is made, as drains and desiccates all the neighbouring Parts, and either lessens or entirely frustrates the Secretion and Excretion by them: And this we find to be true, where the Secretory Organs and Ducts concerned in the different Secretions, lie at a great Distance from one another; as in the *Diabetes* we generally see a very great Desiccation of the *Salival Glands*, a Defect of *Saliva*, and a perpetual Thirst; and Sweating and Looseness lessen the Secretion by Urine; an *Issue* drains and emaciates the neighbouring Parts; and it is mechanically demonstrated by *Bellini*, that the Flux of Blood, and of all the Humours, will

will



will be most and strongest towards the Part where the Resistance is taken off; as in Bleeding; to which this perpetual Flux of Bile, thro' the wounded *Gall Bladder*, seems to have a great Affinity; and therefore would probably promote the Afflux of Blood and Secretion of the Bile so much and so strongly towards the *Vessels, Glands, and Secretory Ducts* leading to the *Cystis*, as very much to lessen, or totally to hinder, the Secretion by the *Ductus Hepaticus* into the Guts by that Channel.

Another Objection is, that as the Guts and other Contents, and *Objection II.* even the Muscles and Integuments of the lower Belly, were highly tinged by the Bile, it is probable that some of it has got into the Cavity of the Guts, where it might by it's *Stimulus*, keep up the peristaltic Motion, and by the *Lacteals* get into the Blood, as some of it got into the Bladder in that manner, and tinged the Urine. It is not unlikely that this might happen when the Bile came to be very redundant in the Cavity; but in passing thro' the Interstices of the Vessels and Fibres of the Guts, as thro' a *Filtre*, the grosser, saline, and sulphureous Particles of it, which are the most pungent and active Parts, must have been left behind; which the muddy Thickness as well as Deepness of the Colour of the Liquor found in the Cavity of the *Abdomen*, compared with the transparent Clearness of the *Urine* of a much lighter yellow Colour, without Sediment, does seem to prove: And it is not likely that such a small Quantity of filtrated Bile, as may be supposed to have passed that way, deprived of all it's active Particles, could either in Quantity or Quality be sufficient to assist in any Function of the Animal Oeconomy: And, in Fact, if any passed that way, it appeared plainly insufficient to promote the Contraction and peristaltic Motion of the Guts, which remained preternaturally distended, from the Beginning to the Time of his Death.

It has also been objected, that an Animal which dies starved, dies *Objection III.* delirious and feverish; the Experiment having been made on Cats and Dogs: And therefore this Person, who had no Fever, nor Delirium of any kind, cannot be supposed to have died starved. I will not dispute these Facts, especially the Experiments upon Cats and Dogs, tho' I have not made any myself, nor do I remember to have had any just or accurate Account of the Symptoms of such who have died of Hunger and Thirst, in Sieges, and at Sea; tho' many Instances have been, and no Notice, that I know of, has been taken of their having died mad, delirious or feverish, tho' these Symptoms are so remarkable and affecting. But supposing these Facts, these Cases will differ very much from this before us: For an Animal starved to Death purely for want of Food, has the Gall flowing continually into the Cavity of the *Intestines*, unmixed and undiluted with Chyle, and from thence by the *Lacteals* into the Blood; so that in a few Days this acrimonious Juice must become more redundant there, than any other Humour; which joined with the constant Attrition



tion of the Globules in Circulation, must soon render the Blood very acrimonious, rancid, and alcalin; that is, must reduce the whole [to a Mass] of Putrefaction, capable of stimulating the Brain and Nerves, so as to produce a Fever, Delirium or Madness: But in the Case under consideration, no Gall could enter into the Blood: And therefore this Degree of Putrefaction, and the Effects of it, could not happen; tho' it must be owned, that, thro' a Want of Recruit and Dilution, a lower Degree of Putrefaction of the Blood and Humours must have followed, even in this Case, from the continual Attrition in Circulation; such at least as was sufficient to render the whole Mass in a few Days unfit for any of the Uses in the Animal Oeconomy; and therefore may be justly supposed to have been the immediate Cause of Death: For all the passive Principles or Materials of Putrefaction, being actually in the Substance of the Blood, and all the active Principles of Heat and Attrition being at work upon it to produce this Effect, it could not fail to be brought about in a few Days; and the same would happen to all Animals, if what is effete, corrupted or altered, so as to be unfit for the Use of the Animal, was not continually carried off by the *Emunctories*, and a fresh Recruit daily supplied from the *Primæ Viæ*; which Evacuations and Supply being kept up in their due Quantity and Proportion, do effectually prevent all Putrefaction and Acrimony, and keep the Blood and Humours in their natural Temperature. It is not then a Defect in the Quantity of Fluids which kills an Animal in fasting, but a poisonous Acrimony, which the Blood and Humours naturally contract, for want of a fresh Recruit and equal Evacuation. Thus in chronical Distempers, where the Person appears extenuated and exhausted, the Quantity of the Fluids is certainly very small, yet enough to maintain Life for some Months or Years, being kept in some degree of Sweetness or proper Temperature, by a certain Proportion of Recruit and Evacuation: But where the Recruit is entirely subtracted, the Evacuations will be proportionably lessened: And therefore the Quantity of Fluids may remain much the same, but the Quality will alter, and Putrefaction, for the Reasons above-signed, must take place, and be the immediate Cause of Death, even long before the Mass of Fluids can be much diminished in quantity, as in the Case before us. Which leads to the Answer of another Difficulty, *viz.*

*Objection IV.*

How the *Pulse* should continue full, strong and equal for several Days, while the Person was in a starving Condition, and the Blood had no Recruit from the *Primæ Viæ*. This indeed would be very unaccountable, if the Waste of the Blood and Humours were supposed to continue at the same Height as before the Accident, and the Evacuations by the *Emunctories* were the same as in perfect Health. In this manner the Contents of the Blood-Vessels would be soon wasted and exhausted: But *Sanctorius's* Observations and Experiments shew, that the daily Recruits and Evacuations keep pace with one another, and are nearly equal in 24 Hours in a healthy State: And therefore

where



where the Recruits are plentiful, the Evacuations will be equally so ; and where those are sparing, the Evacuations are small ; or where the Balance is cast too much on either side, some Indisposition or Distemper must follow. There is no Exception from this Rule, but in Children, a part of whose Nourishment goes to Accretion : Therefore in the Case before us, the Recruit being entirely substracted, the Evacuations must have been little, or next to nothing : And therefore the Quantity of the Blood and circulating Humours would remain much the same, and keep up the Fulness, Strength and Equality of the *Pulse* for several Days, until the *critical Putrefaction* and *Colliquation* of the Blood above-mentioned, on the fifth or sixth Day, rendered it unfit for a regular Circulation, and produced Intermiſſions in the Pulse, reachings to vomit, and Hiccup, all of them being local Convulsions, and the Effects of Corruption, Acrimony, Irritation, and an unequal Distribution of the Fluids, which terminated in Death the Beginning of the seventh Day.

The Sum of what has been said is, that in this Case, very little, if any, Bile entered into the *Intestines*, and that ineffectual ; and none at all into the Blood. And as there was no apparent Defect in any Part of the Body, nor any Wound that could have been either dangerous or deadly, in any other respect than as it gave Occasion to the Loss and misplacing of the Gall ; it is therefore evident, that all the Symptoms, and his Death, were entirely owing to the Loss of this useful Juice ; which it seems is so necessary to all Parts of the Animal Oeconomy, that this Person could not live above six Days without it.

The practical Inferences that seem to flow by necessary Consequences from this Observation, are, 1. That the peristaltic Motion of the Intestines is as much owing to the Influx of the Bile into their Cavity, as to the Influx of the animal Spirits and Blood into their Sides : And therefore that the Bile is to be looked upon as one of the prime Movers in the Animal Oeconomy, by which the elastic Springs of the natural Motions, to wit, the muscular Fibres of the Guts are set to work ; upon whose Motion all the subsequent vital and animal Motions do so far depend, that none of them can be long in perfection where it is imperfect, nor subsist many Days where it is totally wanting. 2. This prime Motion is totally lost by a total Want of Bile ; proves sluggish by a Defect in it's Quantity ; becomes irregular or convulsive by a great Redundancy or morbid Acrimony of it. From whence several Distempers that are called Nervous may arise, and are more likely to be cured by correcting and evacuating the redundant or faulty Bile, and disobstructing the Liver, than by most Medicines taken from the common Class of *Nervines*. 3. That the Power of Purgatives depends upon the Co-operation of the Bile : And therefore it is probable, that the Difference of Constitutions, at equal Ages, with respect to Purgatives, depends more upon the Quantity



and Quality of the Bile, than on the Bulk or Weight of the Body, Quantity of the Blood, or other circulating Humours. 4. It also appears, that the Nourishment and Accretion of the Body do in some measure depend upon a due Quantity and proper Quality of this Juice, without which the Blood and circulating Humour could not be recruited from the *Primæ Viæ*: And therefore that Defects in it may be frequently the Cause of a *Marasmus*, or Waste of the Body, where it is little suspected: Which may serve to point out the Method of Cure in such Cases. 5. This Observation seems to lead to the Knowledge of the immediate Cause of natural Rest or Sleep in a healthy State; to wit, a certain Quantity or Proportion of fresh Chyle in the Blood; the Want of which, from whatever Cause, will occasion Watchfulness, or some degree of it. And this may serve to point out the immediate Effect and Consequences of Opiats, whence may be gathered how far, and in what Cases they may be effectual and useful; and in what Circumstances they may be ineffectual, useless or hurtful. 6. That a due Quantity of Aliments, at proper intervals of Time, is necessary to keep the Blood and Humours in their natural Temperature and Sweetness, and to preserve them from Acrimony and Putrefaction: And this will be true in all Distempers as well as in Health, and is against the Practice of such as pretend to starve away Distempers, or to deny a due Quantity of Drink and liquid Food to the Sick, especially in Fevers, where the want of this Recruit will tend to increase the Acrimony or Putrefaction, whence the Malignity of most Fevers arises. 7. That Pus, or Matter, in a Wound or Ulcer is the Product of Chyle, and not of the Blood or Serum: Which has indeed been the received Opinion, tho' supported by no other Proof than the Similitude from Pus to Chyle. And as a great Redundancy, as well as a Defect of Pus, does sometimes retard the Cure of a Wound or Ulcer, this may serve to shew by what Means it may be increased or diminished, to answer the Intentions of the Artist. This also makes it appear probable, that a great Redundancy of Chyle disposeth the Body to purulent, suppuratory and scrophulous Distempers; and seems to indicate the subtracting such sorts of Food as afford a rich, gross or plentiful Chyle, and the administering of such Medicines as may strengthen Sanguification, and the other assimilating Powers, to assimilate and thereby consume it; the Sanguification and assimilating Powers being manifestly weak, as the Chylification seems to be strong in all such Cases. And this seems to be the Reason why in Adults, as the Sanguification grows stronger, and in Age, as the Voraciousness of the Appetite, too common in Youth, declines, these Distempers do often decrease, and at last wear out of themselves: Which shews what Assurances Art ought to contribute, to bring about the same Effect in a less Time.

I must



I must here own my Omission to open the Stomach and Guts, in order to view the State of their Contents, where the Gall was entirely wanting, which might have given some Light to this Observation. This Omission happened thro' some Hurry at the Time, which I regret; but am apt to believe, that as most of his Aliments were Liquids, the Alterations would not have been very conspicuous.

VI. D. Fox, quadragenarius, gracilis, biliosus, per mensem unum alterumve elanguerat, nausea, ictero & doloribus colicis vexatus, tandem ex epoto largiter vino pomaceo vehementissimo colices paroxysmo correptus me consulit, vomitabat omnia, urinae parum reddebat coloris lixivii, quae sedimenti plurimum deponebat subviridis. Ego statim illi potionem ex Ipecac. emeticam propinari jubeo, infuso dein C. Bened. affatim hausto plurima viscosa, biliosa, rejecit: tum enemate Terebinth. injecto alvus bis terve respondit. Ex sumpta mistura anodyna vomitus & tormina comprimuntur; jam de languore summo & abdominis distentione conquestio; paulo etiam post recrudescit dolor. Bolum praescripti ex Jalap. ℥j. Calomelan. gr. viij. Spec. Diamb. gr. vj. Laud. solid. gr. j. Syrup. de Sp. Cerv. q. i. quam primum sumend. cum Tinc. sac. ℥ij. Hinc omnia pacata, post horas 12 ter fundit alvus perliquida, biliosa. Ex sumpto dein haustu anodyno nox tranquilla. Mane de dolore & faucium tumore queribundus crassa, subfusca, expuebat; mox abunde effluit saliva colore viridissima, bili porraceae quam simillima, nisi quod tenuior. Perduravit fluxus hic salivae viridis horas quasi 40, quo tempore sputavit quantum vix caperent sextarii duo: ad flavedinem dein vergebat color fluoris eo usque dum ad instar solutionis Gut. Gambae evasit: quantitas autem aucta potius quam diminuta. Perstitit & hicce color per horas etiam 40, dein sensim pellucida facta est saliva, atque subito, uti oborta est, evanuit penitus salivatio. Intra biennii spatium bis terve in icterum incidere ante hujus morbi accessionem. Decem abhinc annis maxima salivatio sponte erumpens hunc ipsum hominem in summum vitae discrimen intulerat; salvus autem evasit ope doctissimi expertissimique Medici, D. D. Pyne. Tunc vero temporis ne vel ♀ ii hilum sumpserat, nec ullo modo fuerat colorata saliva.

*Spittle of an unusual Colour,*  
by John Huxham, M. D.  
No. 382. p. 63.

In hac historia observatu haud indigna quaedam occurrunt. Salivatio nempe sponte exuscitans, vel ex tantillo forsan Calomel. excitata. Calomel. autem probe paratum novi, quippe qui plurimas ejusdemet doses, quarum aliquas ad scrupul. integrum, exhiberi jusseram, ne vel minimo sequente salivationis signo. Occurrit porro, quantum ego saltem scio, salivae inauditus color. Saliva viridi ita penitus tincti erant dentes & fauces quasi aerugine obducti fuissent: permansit dentium color viridis 14 post diebus quam convaluit. Notandum praeterea fluxum hunc salivae fuisse criticum, quo judicatus est & icterus & colicus morbus; ab inceptante enim salivatione ne vel minimus dolor ventris, & color cutis subviridis sensim evanuit, uri-



nam etiam reddidit copiosius; sed subnigram. Ille vero, qui ante hunc fluxum valde languidus fuit & jam quasi moribundus maximum salivae evacuationem *εὐρίστος φέρει*. Serum Ictericorum tinctum esse bile omnibus notum est: nec alicui forsitan videatur magis mirandum, serum flavum posse per glandulas salivares excerni quam per serosa cutis vascula, quod tamen ictero laborantibus contigisse saepius observavimus, admoto prius epispastico: de urina biliosa nil dicam. Unde vero color salivae viridis haud ita facile dictu. Hujus opinor ego causam procatartica esse pomacei vini potationem. Bili si miscueris acidam color oritur viridis. Hinc torminosae infantum dejectiones virides, lacte in ventriculo ascescente. Hinc porracea bilis. Ponamus jam acidum pomaceum à venis lacteis vel & à mesaraicis forsan, absorptum, seroque sanguinis bilioso permixtum: quid eveniret inde? Credo equidem flavi feri coloris in viridem permutatio. Profiteor hercle, acida quaecumque à vi corporis vitali in alcalinam naturam mutantur, etiam ipsum vitrioli acidum: languescantibus autem viribus, concoctione laesa, lymphæ effoeta facta, facta & inerte bile, quæ adde sanguinem tardius circulantem, acida parum subacta, nec in primis viis, nec in ipso sanguine, acidam exuunt naturam. Hoc testantur acidi debiliùm sudores, acidusque in ore sapor à febris inflammatoriis convalescentium, quibus ad restinguendam febrem largius fuerat exhibitus acidus potus. Saepius certe memini me vinum pomaceum largiter potasse brevique urinam ipsissimum potus odorem spirantem reddidisse. Curabam nuperrime mulierem summa hæmorrhagia, durante diu, correptam, cui inter cætera plurimum fuerat exhibitum Elix. Vitriol. Mynsich. cessavit tandem hæmorrhagia, debilis autem inde reddita mulier incidit in leves spasmos, artuumque dolores, ventris tormina diarrhoea comitante, plures excrevit alvus dejectiones viridissimas, stercoris vaccini simillimas, talesque per plures dies, quanquam Rhabarb. fuerat ter exhibitum ad expurgandas acidi particulas, intestinis adhaerentes. Hic sal acidus sanguini immixtus, post dies plures iterum è sanguine per intestina rejectus est, vi vitæ nullo fere modo subactus. Microscopio olim observavit *Leeuwenhoekius*, quod chyli sales acidi à bile retundantur & comminuantur, quum vero in jecore subsistat obstructa bilis, integris viribus vasa lactea permeat acidum. In aegroto autem nostro bilem obstructam fuisse, patuit inde, quod alvus fuerat compressior, & foeces ante vomitum medicamento commotum reddidit albas. Hypothesis fortasse nostra illustretur magis, si perpendamus unde oriatur virginum *καχέκλιον* color herbeus. His enim fructus immaturi, acetum atque id genus alia, summae sunt cupidiae, vitiatis autem concoctionis organis, parum immutata sanguini miscentur, bilemque & sanguinem obrunt acido. Hinc glandulae obstructae, hinc facies ex viridi pallida, tumor hinc hydropicus; atque quod non levis est momenti jecur schirrosum ex chlorosi præmortuarum saepe inventum fuit viride. Jam paucis restat dicendum unde colori salivae viridi successit color flavus,

flavus,



flavus, quod inde factum arbitror, quia post acidum à sanguine partim ablegatum, partim & à motu sanguinis, ob cardiaca exhibita, aucto destructum, supersuit solum superflua bilis sanguine expellenda, quod & brevi secessit, referatis bilis poris, & per patulos salivae ductus mirandum in modum excreta.

VII. *Exper. I.* I suspended a Frog by the Fore legs in a Frame, leaving the inferiour Parts loose; then the Head being cut off with a pair of Scissars, I made a slight Push perpendicularly downwards, upon the uppermost Extremity of the *Medulla Spinalis*, in the upper *Vertebra*, with the Button-end of the Probe, filed flat and smooth for that purpose; by which all the inferiour Parts were instantaneously brought into the fullest and strongest Contraction; and this I repeated several times, on the same Frog, with equal Success; intermitting a few Seconds of Time between the Pushes; which, if repeated too quick, made the Contractions much slighter.

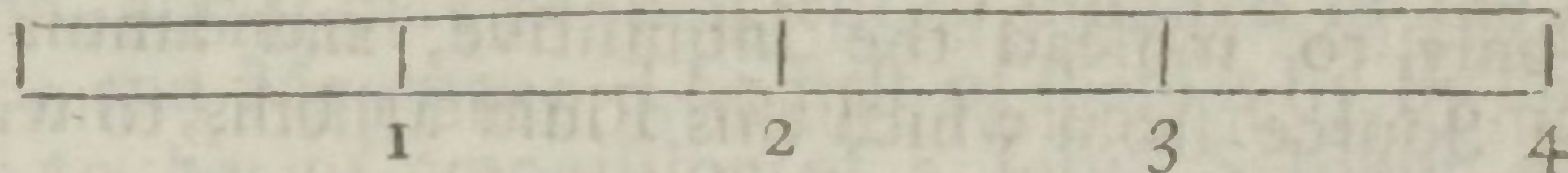
*Experiments to prove the Existence of a Fluid in the Nerves; by Alex. Stuart, M. D. F. R. S. No. 424. p. 327.*

With the same flat Button end of the Probe, I pushed slightly towards the Brain in the Head, upon that End of the *Medulla Oblongata* appearing in the occipital Hole of the Skull; upon which the Eyes were convulsed. This also I repeated several times, on the same Head, with the same effect.

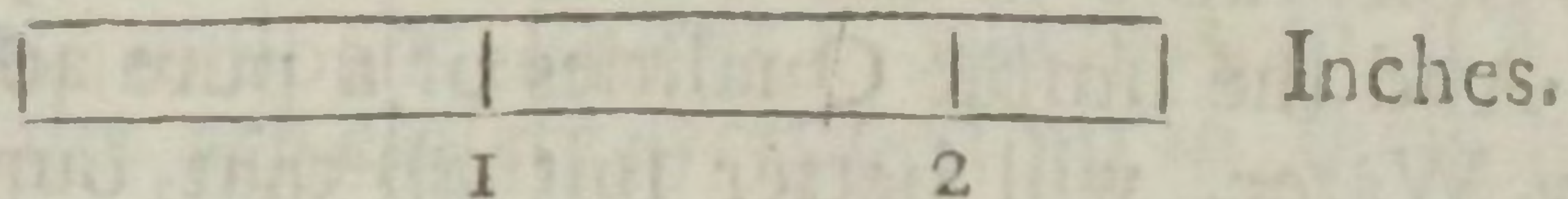
*Exper. II.*

I tied a piece of fine Twine, or Thread, parallel to the crural Artery, Vein and Nerve of a Dog, and made a Ligature on them, and on the parallel Twine, above and below, at the Distance of about 4 Inches; then I cut beyond the Ligatures above and below, so as to take out the Vessels and Nerve, together with the parallel Twine, in one Bundle; and laying them on a Board, both the Artery and Vein contracted immediately, and were shortned to almost one half of the natural Length which they had in the Body; to wit, to two Inches and a half: whereas the Nerve remained uncontracted, at it's natural Length, and commensurated to the parallel Twine of four Inches, as before it was cut out of the Body, according to the annexed Figure.

*Exper. III.*



The Nerve and Twine at their natural Length.



The Artery and Vein contracted.

By which it appears that the Proportion of the Blood-Vessels in their compleatest Contraction, to themselves in a State of Extension, and to the Nerves at their constant and natural Length, is nearly as

5 to



5 to 8 ; or, which is the same thing, any given Section of a Blood-vessel, cut out and left to itself, is capable of contracting, so as to lose  $\frac{2}{8}$  Parts of it's Length. But tho' this Experiment may suffice for estimating the Elasticity of the Blood-vessels in general, yet it is not to be doubted, but the Degree of their Strength and Elasticity may differ a little more or less in Animals of different Species, and Individuals of the same Species, nay even in the same Individual at different Stages of Life ; but these Differences are not material to my present Purpose, which is only to shew, that the Nerves are not elastic, and that the Blood-vessels are so to a very considerable degree.

*Inferences from  
these Experi-  
ments.*

The two first Experiments shew, that the Brain and Nerves contribute to muscular Motion, and that to a very high degree. The third Experiment makes it as plain, that what they contribute in muscular Motion, cannot arise from, or be owing to Elasticity, which they have not. What remains therefore but to conclude, that the Action of the Nerves in muscular Motion, is owing to the Fluid they contain, by whatever Name we may chuse to call it. To fortify this Conclusion, let us consider, that we can have no other Evidence of the Existence of that invisible Fluid the Air, and of it's several Qualities of Elasticity and Gravity, but what arises from Experiments and Observations of it's Effects ; which are sufficiently satisfactory, and convince us of it's Existence, tho' the minute Particles of it's Composition fall under none of our Senses. Therefore, in the same manner, seeing these Experiments put the Elasticity and elastic Vibrations of the Nerves quite out of the Question, I think we may as fairly conclude, that there is a Fluid in the Nerves, tho' invisible ; as that there is such a Fluid called the Air, tho' it cannot be seen. I shall only add, that tho' we may call this nervous Fluid by any Name, to which a proper, determined and fixed Idea is annexed, yet I think the Word (*Spirits*) was an unhappy Choice, as it includes an Idea either of something like to the Spirits of fermented Liquors, or some of the saline volatile Spirits, as that of Hart's-horn, &c. or a flying Vapour or Exhalation, all which being loose and indetermined, have served only to mislead the Inquisitive, and amuse the Ignorant. But the Source from which this Fluid ariseth, to wit, the circulating Blood ; the Vessels thro' which it is secerned ; and the Nerves in which it moves and is contained ; the soft and almost insipid Taste, and no Smell observable in the Brain and Nerves, suggest no Idea of such Spirits : And the simple Qualities of a pure and perfectly defecated elementary Water, will better suit all that our Senses can discover of it, and are indeed sufficient to solve all the *Phænomena* of the Animal Œconomy, as far as they depend upon the Nerves.

*The Operation  
of Medicines ;  
by Dr John  
Quincy, N<sup>o</sup>.  
365. p. 71.*

VIII. I suppose. 1. That all those Parts of an Animal Body, which are vascular, or thro' which any Fluid passeth, from the Intestines to the minutest Fibre, are the Seat of the Medicine's Operation. 2. That this whole Course of Circulation, or Animal Motion is naturally



rally distinguished into 3 different Stages, by the different Capacities of the Vessels and Motions of their Contents, each having it's proper Outlet; and that these are the Seat of the 3 Concoctions, so often mentioned by Physical Writers: The first in the Stomach and Bowels, having the *Anus* for it's Emunctory; the second, all within the Blood's Motion, so far as it retains it's Colour, having the Kidneys; and the third, all beyond that Circuit, having the Skin for an excretory Organ. 3. That every Medicine which causeth Evacuation is a Purge. 4. That every Purge operates as a Dissolvent, by fusing the Juices and increasing the Quantity fit for Expulsion; or as a *Stimulus*, by accelerating their Motions, so as to bring the Matter fit for Expulsion, oftener to the secretory Out-let, or both. These Assumptions, which, I expect, will not be disputed, are premised only for the better Proof of this grand Proposition. That a Change in the Bulks, Figures, and Motions of the component Particles of a purging Medicine, will change the Seat of it's Operation, and fit it for Exertion in larger or lesser Vessels as those mechanical Affections are intended or remitted.

For Illustration hereof, it may be convenient to attend the Management of common Practice, in making a Purge operate more or less, than it otherwise would do. Substances which are gross and heavy, as those consisting chiefly of saline and earthly Particles, such as Tartar, Manna, &c. if they are reduced smaller by Triture, or repeated Solutions, operate more gently; but if acuated by Acids, or any Management which exposeth their Angles more sensibly to the Membranes, they are rougher, and take place sooner. Resinous Medicines, as Scammony, Gamboge, Jalap, and most of vegetable Production are more violent, and operate sooner, when they are more tenacious and adhesive, as in their Extracts, but gentler, when divided by hard brittle Substances, such as Salt of Tartar, Sugar, &c. Medicines which have in their Composition, Sulphur and Salt, are more or less rough, and speedy in their Operation, in proportion to their greater or lesser Participation of the saline Ingredient, and the Asperity of it's Angles: Of this kind are most Minerals, and their Preparations, and it may be sufficient to instance in the Management of Antimony and Mercury: The first of these is by chymical Analysis known to be a Composition of a subtil Sulphur and Salt, and the more the saline Part is let loose by Preparation, and opening the Sulphur, as it is commonly termed, with the more Vehemence will this operate, and the sooner; whereas in it's lesser Preparations, when the Salts are closely wrapped up in their native Sulphur, they will hardly work at all till they are got into the farthest Stages of Circulation. *Mercury per se* is little known as a Medicine, and it's first Preparation, which makes it into Sublimate, so loads it with saline *Spicula*, that it amounts even to a Poison; but the more those *Spicula* are broke by Triture, Sublimation, &c. the milder it operates; and if to the Comminution of it's Points be added a Sulphur subtil  
enohug



enough to join it, it may be reduced to so mild a Medicine, as not to be felt, but in the last Stage of Operation.

This short View may be sufficient to shew, that it is excess of Asperity, and Motion in a Medicine, that will not suffer it to pass the Stomach, without irritating it into such Convulsions, as will throw it up again by Vomit; that a farther Comminution, and smoothing it's Figure, will admit it into the Bowels, and make it operate by Stool; that a yet farther Remission of it's Properties will carry it into the Blood, and allow it there to promote Evacuation by Urine; and that a yet farther Comminution will pass it into the minutest Canals, where by the same Properties, only in a lower Degree, it will increase Perspiration, or cause Sweat: so that the subtiler Medicines operate in the Capillaries, and smallest Fibres by the same Mechanism, that more gross do in the common Stream of the Blood, when they go off by Urine, or the grossest of all do in the greater Passages, when they promote Stool. Hence the Skill of preparing, and administering of Medicines consist in proportioning it's manifest and known Properties, to the Capacity and Circumstances of the Part it is to operate in, and to intend or remit it's mechanical Affections, as it is sooner or later to take Place in the greater or lesser Vessels.

Of the first Class, there are few to be reduced small enough to go beyond the greater Passages, and none of them are worth the Pains they require, to fit them farther than for Diuretics: besides, their natural Fitness to attract, and join with the serous Part of the Blood, whenever they get into that Stage of Motion, runs them off by the Kidneys, before they can undergo Comminution enough to get farther; but if by frequent Repetitions of such Medicines, and uncommon Laxity of the Passages, any Thing is passed into the Habit, their Grossness fouls the delicate Strainers, which are left for their Expulsion; and they lodge upon the Glands and Capillaries in such Manner, as induceth Intermittents, which is observable in many Persons after the Use of Cream of Tartar, the common Cathartic Salts, and the Purging Waters, especially at the latter End of the Summer, when the Heat of the preceding Season hath debilitated the Solids, and left them under too great Relaxation.

Among the resinous Purges, there are many very powerful ones, but where their Operation is desired in the *Viscera*, Blood, and remoter Parts, they must be extreamly divided, and this we find spirituous Menstruums will do, by taking up the most subtile Parts only, and carrying them into very small Passages, where their Operation is chiefly by Fusion, because the Softness of such Substances cannot enable them in hardly any Degree to act as *Stimuli*, farther at least than ordinary Detergents. And thus we find Aloes, the chief of this Tribe, to go farther into the Habit, and be longer e'er it operates, when managed in a spirituous Menstruum as in the *Tinct. Sacra*. The *Rad. Turpeth.* and *Colocynth* likewise, with all of the vegetable Kind, that will



will yield to a spirituous Liquor, are to be carried by that Means into the farthest Scenes of Animal Action, and there prove efficacious Medicines in Cases, that with other Management they would never be able to reach: And on this Foot, it undoubtedly must have been, that we frequently meet with, in practical Writers, many of this Sort, mentioned as Alterants; *Colocynth* particularly by *Helmont*, for all Medicines, which operated in the farthest Passages, they commonly included under that general Appellation.

But the most efficacious Purges, and those which require the most Skill, are from the Mineral Kingdom; these abound in Solidity, beyond any other Materials, and therefore, wherefoever they are brought into Action, excel in Quantity of Impulse: Many of these therefore want not only the utmost Comminution to carry them into the farther Scenes of Operation, but also some Restraint to their Asperities, and Motions, to fit them for many Intentions. Thus Sublimate, is not only to be much sweetened, that is, smoothed in it's Points, to make it a safe Purge in the large Vessels; but if it is intended to go farther than the Blood, and those Glands, which in that Circuit, they are most apt to be lodged upon, when it salivates, it must be rendered not only very fine but covered with such Substances, as weaken it's Points, and make it strain into the last Subdivisions of the Constitution. To this Purpose, the common Practice wisely contrives in Distempers which lie farthest off, according to the Course of Circulation, to wrap up the Basis of this Medicine, in Sulphurs, and such like Substances, as follow it into it's last Division, without giving it any Asperities to make it act as a Stimulus. Thus for all cutaneous Foulnesses, and habiual Taints, the Cinnabar, the Æthiops, and all of that Sortment are in Readiness; and that ordinary Sulphurs will cover and deaden the efficacies of Mercurial Preparations, so that they shall not operate, but in such Parts only, and in certain Circumstances, is demonstrable in ordinary Salivations, which are to be lowered at Pleasure by sulphureous Medicines. Medicines from such Minerals where a Salt, and Sulphur are united by Nature, as they are in some Mercurials by Art, as in Antimony, the Native Cinnabar, Steel, &c. are manageable only upon the same Principles, and the more they are designed to be carried into the Habit, the more are they to be restrained by their natural, or adventitious Sulphurs: Steel, when opened by, and joined with, the Points of acid Liquors, operates sooner, and will sometimes prove even Emetic; but when it is covered with an additional Sulphur, it will go farther, and answer Intentions much more remote, as is manifest in the common Preparations of Steel, with Tartar, or Vinegar, and with Sulphur.

This Way of Thinking, on these Occasions, seems to me also the more just, from considering the Texture of those Substances, which by a natural Preparation are fitted for Operation in the minutest Part of an Animal Body, such as those of the Aromatic Kind, all which, more or less, according to their greater or lesser degree of Subtilty,



and Smoothness, promote a *Diaphoresis*: They consist of exquisitely fine Salts, covered with a most subtile Sulphur, as is demonstrable by Chymical *Analysis*; and the common *Sal Volatile Oleosum* is an admirable Contrivance upon the same Foundation, where a very volatile Animal Salt is covered with a most exalted Vegetable Oil, whereby it is suited to pass into the minutest Fibres, and make, as it were, a Part of the Animal Spirits themselves. And here it may not be amiss to observe, that all Animal Salts are very volatile or easily rendered so, but when bare, and naked, just as the fire draws them out, with a Mixture also of it's own Particles in their Composition, they are too pungent to be felt without painful Sensations, but when softened with a fine Portion of an opposite Texture, which is smooth and yielding, they become most efficacious, and safe *Sudorifics*. On these Considerations, it likewise ceaseth to be a Wonder why the subtile Salts of *Cantbarides* are more sensibly injurious to the Bladder, than any other Parts, and why *Camphire* prevents those Injuries, for the exquisite smallness of those *Spicula*, makes them imperceptible, but in the most minute Canals, into which the Fibres composing the Membranes of the Bladder are known to be divided; and Camphire blunts their Irritations, because it's exquisite Subtilty enables it to follow them into those Meanders, and sheath their Asperities. To this purpose, it is very remarkable, what many (as I have been informed) now commonly practise, in guarding even Mercurials against their stimulating Properties, and sending them into the finest Passages to operate by Fusion, and the bare Force of Impulse: For not only *Calomel*, and the *Mercurius Dulcis*, may be restrained from manifest Operation in the wider Passages, and the *Glands* about the Mouth, but even the Mineral Turbith, which of itself, in a small Dose, will operate powerfully by Vomit and Stool, when mixed with Camphire, will not be so much felt in those respects, but go into the farthest Circuit of Motion, and promote the cutaneous Discharge in a more efficacious Manner, than any Medicine of less specific Gravity. But in this Management, the Camphire is to be mixed but very little before taking, otherwise it hath not this Effect, which appears to be from it's great Volatility, which makes it in a great Measure exhale, while it stands mixed in a Medicine.

I am sensible of many good Purposes in Practice, that this *Theory* is applicable to, but because the Limits I have set myself herein, will not suffer me to enlarge, I shall content myself with this only Instance of Camphire, which is enough to suggest to those who turn their Thoughts this Way, in what Cases, that, and such Substances of like Subtilty and Texture, may be used with Success: For the Seat and Causes of many Chronic Distempers lie most remote in the Course of Circulation, and their eluding the ordinary Means of Cure, it is to be feared, is owing to the Want of sufficient Attention to that particular Management of efficacious Remedies, which is necessary to

carry



carry their Operations so far; an ordinary Judgment knows, how to intend, or remit, the Efficacies of Medicines by acuating their Points and Quantity of Impulse, or softening and weakening them with Broths, and the gross expressed Oils of Almonds, or Linseeds, in the first and larger passages; but an active Medicine, or a distempered irritating Salt, in the minutest Capillaries and Fibres, is not to be managed by such coarse Instruments.

IX. Pestem Constantinopoli ex Ægypto communicatam tum historiis, tum quotidianâ observatione constat. Nidum tamen in hac urbe sibi fecit, & quamvis nunquam fere veteris Pestis desint seminia, novus etiam subinde somes advehitur. Ab hyemali intenso frigore satis bene sopitur; emicant tamen hinc inde scintillae aliquot hyeme & vere: aestate incrementum sumit; autumnali tempore summo flagrat incendio. Venti Aquilonares statis temporibus aestate flantes (Etesiae scilicet hujus loci) quamvis frigidiusculi sint, veneni tamen pestilentialis dilatationi haud obsistunt. Australes satis calidi, si constanter flent, aestivo tempore Pestem supprimunt. Quoad symptomata Pestis Constantinopolitana adamusim respondet pesti Noviomagensi annorum 1636 & 1637, ab Isbr. de Diemerbroeck descriptae, Humanum genus invadit, cap. 4. Diemerbr. Compertum tamen est unum vel alterum, equum, canem, selemve peste bubonaria correptum, & mortuum. Vulgus (praecipue, cui angusta domi res est) tum Turcarum, tum etiam Christianorum, Hebraeorumque facile sibi persuasum habet divinitus missam pestem; hinc non cavet à contagio: Politiores, & praecipue Christiani sibi cavent.

*Of the Plague at Constantinople. By Emanuel Timone, M. D. No. 364. p. 14.*

Symptomata à \* dicto auctore enumerantur ista, febres, bubones, carbunculi, exanthemata, capitis dolor phrenitis, sopor, vigiliae, anxietas, debilitas, seu magna virium prostratio, visus turbulentus, cordis palpitatio, linguae siccitas, vomitus, singultus, lumbrici, fluxus alvi, haemorrhagia narium, menstruorum profluvium, sanguinis mictus, sputum cruentum, dolores lateris, hepatis, renum, aliarumve partium.

His adjicio ego lassitudinem artuum ulcerosam, horripilationem, subsequente aliquando calore, saepius non subsequente, nauseam sine vomitu, vertiginem, & motus vertiginosos, tremorem manuum statim à morbi initio. Nullum ex omnibus symptomatibus est inseparabile, imo nec tria illa pesti specialia, bubones dico, carbunculos, & exanthemata; febris saepissime abest; ita ut regula ista generalis stabiliri possit: *Quando adsunt manifesta pestis signa, certo statuere possumus morbum esse pestem: sed quando absunt signa ista, non possumus certo statuere contrarium.* Multis enim peste correptis, leni praecedente rigore, quo nec catarrho se laborare quis suspicaretur, per plures dies ex istis signis non manifestatur nec minimum, postea autem catervatim erumpunt. Nonnulli post susceptum contagium levissimo tantum

\* Cap. 7. Diemerb.



languore attacti, mox erectè obambulant, & consueta munia sine incommodo exercent; tertiâ autem, vel quartâ die statim corruunt, animamque exhalant in viâ: & nequis suspicetur apoplexiam vel quid aliud, post mortem demum nigrae maculae deprehenduntur: fidem etiam facit tum praecedens causa contagii manifestissima, tum propagatum postea contagium. Multi etiam sine ullâ manifestâ laesione erectè obambulantes sanantur, erumpentibus etiam bubonibus & carbunculis. Plerique tamen febricitant, & graviter aegrotant. Vomitus & alvi fluxus cum subitâ virium concidentia, & cum febre pestem indicant, & sine febre adhuc magis. Minime ex signis suspectis si dolor in emunctoriis communibus jungatur, pronuntiandum est esse pestem.

Pustula rubicunda ad semi-ciceris magnitudinem in extremo purulenta maligna est: in lividum enim carbunculum brevi excrescit. Carbunculi in omnibus corporis partibus indifferenter erumpunt, non exceptis labiis, linguâ, bulbis oculorum, glande penis, &c. Bubones tantum in emunctoriis. Glandulae parvae durae circa collum malignae. Exanthemata semper sunt lethalia. Bubones si cito ad suppurationem tendant, spem promittunt. Non malum est, si etiam non bene maturi ferro aperiuntur. Multi per bubonis resolutionem curati, annis sequentibus, si peste infecta loca petant, eo in loco dolorem obscurum sentiunt, in quo bubonem habuerunt. Pestis in aliquibus individuis per plures dies latitare potest, & postea in actum erumpere. A peste convalescere incipiens, si ante quadragesimum gravem aliquem in diaeta errorem fecerit, novo erumpente bubone moritur. Pro monstro habetur, si quis à peste perfecte sanatus eodem anno peste corripiatur. Si dispositionem corporum ad octo gradus placeat revocare; intacta peste corpora dispositionem habent ut septem, & rudem merita ut unum. Infectas aedes per menses aliquot impune incolens tandem peste correptus fuit. \* Senes difficillimè peste corripiuntur, facillimè pueri. Exteri multo magis periclitantur, quam Cives. Armenii omnium nationem minimè ad pestem sunt dispositi. Observo illos paucissimis uti carnibus; cepis, porris, alliis, vinoque maximè utuntur. Caro porcina in peste praesentaneum venenum est. Nil aequè ad pestem disponit ac animi pathemata, ac praecipue intensus moeror, & terror inopinatus. Lue venereâ infecti indifferenter se habent ad contagium: bubones tamen illis suppurantes in fistulas ut plurimum degenerant. Nitidae aedes haud aequè facile inficiuntur ac sordidae. Cachectici, ictero laborantes, & variis aliis chronicis morbis conflictati homines dantur, & tamen pestis spicula vel eludunt, vel superant; roseâ è contra facie praediti, & robustissimi moriuntur multi.

Suffumigia ex baccis Juniperi, pice, sulphure utilia sunt, si diu noctuque continentur, ita ut ab inferiore parte totam penetrent domum. Odoramenta ex aceto haud inutilia censentur. Oleum succini

\* Cap. 4. Diemerb.



naribus illitum optimum est. Vinum moderate sumptum, hilaritas animi, & bona victus ratio haud parvi momenti sunt in preservatione. Phlebotomia damnatur, & praecipue sera; sanguis è venâ sectâ fluens, nullo modo multoties sisti potest; ex scarificationibus etiam pro cucurbitularum applicatione factis ad plures horas, hoc est ad mortem usque, sanguinem vi magnâ effluxisse observatum est. Vomitoria levia non profunt, fortia valde nocent: purgantia statim enecant. Sola spes in sudore, & alexipharmacis. Communissimè utuntur in hac urbe Theriaca Veneta. Lapis Bezoar, quamvis genuinus, nullius fere est momenti. Judaei acidis utuntur. Armenii & Graeci vino, & spiritu vini. A carnibus, & carniùm jusculis religiosè abstinent Christiani ad multos dies. Turcae etiam hanc diaetam non spernunt. Multi, quibus parvus tuberculus nullo livore insignis erupit, à carnibus abstinentes, per hebdomadam sani obambularunt, postea carnibus usi brevissimè mortui sunt. Opium crudum, & opiata omnia bona sunt pro scopo praeservativo, saepe etiam pro curativo. Summum remedium Turcis magnatibus habetur oleum naphthae, seu Petroleum albicans, ad duas usque drachmas epotum in vehiculo ad libitum; convenit hoc cum Camphorâ à nostris tantopere celebratâ. Quidam multos sanasse dicitur phlebotomiâ (primâ tamen morbe die) ad lipothymiam usque celebratâ, propinato postea haustu aceti acerimi, in quo sanguinis draconis & boli armenae ana drachmam unam dissolvebat. Phlebotomiae negotium in medium examinandum relinquo; est certe praestantissimum remedium est. Frictio rubificans tum in pectore, tum in dorso, in locis utrinque cordi respondentibus, cum allio contuso fortissimè per aliquot horas celebrata proficua est. Radix hellebori, sectione factâ, carni ad emunctoria transversim infixâ utilis est. Pulli gallinacei, vel columbini, seu vivi, seu per medium secti, bubonibus & carbunculis, & etiam regioni cordis appliciti, & saepissime iterati (sed ultra semihoram non retinendi) utilissimi comperti sunt. Oleum Succini, & extractum Juniperi in praxi feliciter successerunt. Methodus praedicti *Diemerbroeck* per omnia utilis est huic pesti; certè bene de Peste scripsit auctor hic, excepto quod pestis causam nimis alte deducat. *Barbette* etiam haud est contemnendus.

Anno 1712. Pestis *Byzantii* in fine *Maii* Mensis incrementum sumpsit. In fine *Julii* erat in summo furore. In determinato loco observatorem habui, qui mortuorum cadavera ad nonaginta & supra uno die numeravit. Etesiae flabant vehementissime; cessantibus Etesis, Auster flavit satis intense. Primâ post Austri flatum hebdomadâ, cadavera non numeravit in die nisi circiter quadraginta; secundâ hebdomadâ triginta circumcirca; tertiâ minus viginti qui numerus in bonâ etiam urbis salubritate tali anni tempore singulis diebus non deest. Sic autumnali tempore pestis sopita est anno illo: sed ut plurimum tali tempore saevire solet, & mediâ aestate, vel in fine aestatis incrementum sumere. Pestem vere incipientem, autumno sopitam



pitam alias etiam observatum est. Notandum est post solstitium aestivum pestem in Ægypto, quamvis ferocissimam, infallibiliter desinere : causa altioris indaginis est. Climatis Ægyptiaci characterismus in hoc peculiari pestis phaenomeno aliquatenus ad Smyrnam usque insulamque Chiam, ipsaque Hellesponti angustias sese extendit. Observandum ulterius Etesias, ventos scil. Aquilonares, cursum solis sequentes, aërem vehere, non excrementitiâ solum humiditate, sed nitrosis particulis valde saturatum & imbutum. Ansa mihi fuit hujus rei cognoscendae vestis quaedam, quâ nos utimur ex pilis caprarum textâ. Vestis haec Hygroscopii quoddam genus videtur ; nam quâ parte sudore manuum, vel colli, fuerit antea madefacta, quamvis ferescat, & post multos etiam menses in usum denuo accipiatur, horâ tamen dimidiâ, vel unâ post ortum Solis, quando nimirum Etesiae spirare incipiunt, talem madorem denuo contrahit, ut maculâ nigrâ intensissimâ inficiatur. Vestis post duas, vel tres horas denuo exsiccat, & macula evanescit. Hic duo sunt notanda : primum est ; si simplici aquâ vestis illa fuerit saepius imbuta, & postea ferescat, haud succedit hoc phaenomenon madoris & maculae, prout quando sudore imbuta est : secundum consideratione dignum est hoc : si forte fortunâ tempus sit actualiter pluvium, haud aequè facile madere inficique maculâ vestem illam, dummodo actualiter pluviae non exponatur ; ex quibus colligo, praeter aqueas particulas, nitrosis salibus imbutum aërem ex Ponto Euxino huc advehi primo Etesiarum flatu. Particulae istae nitrosae à congeneribus salinis particulis à sudore vesti illi communicatis fixantur & retinentur, & combinatione factâ maculam efficiunt. Salibus igitur istis imbutus aër fermenti pestilentialis (quod indolis salino corrosivae esse probabile est) dilatationi fomitem praebere potest. Ægyptium autem aërem, mediante vento austrino huc pervenientem, summe rarefactum & talium expertem salium, Pestis dilatationi obsistere posse verisimile est : Adde, quod calidus Auster corpora ad transpirationem magis disponat.

Si quis quaerat interim, utrum Pestis sanguinis coagulationem vel nimiam dissolutionem inducat? dico neutrum primario, & immediatae facere, sed utrumque posse accidere tum processu temporis, tum ratione massae sanguinae, in variis individuis, quoad principia activa, variantis. Primario autem & immediate Pestis spiritus adoritur : liquidis subsequenter, & solidis varia inducit mala, secundum varium tum liquidorum, tum solidorum schematismum. \* Hinc varia symptomata in peste, & sibi è diametro opposita, quae unico remedio vinci non possunt, sed prudentis Medici requirunt Judicium, ut, quod opportunum est, in actum deducatur. Generaliter tamen observandum, ut citissime generosissima remedia, & in magna dosi propinentur : ut in principio oleoso-balsamica, & spiritibus amica volatilia usurpentur ; ut omnes evacuationes praeter sudorem

\* Diemerb. cap. 7.



vitentur artificiales igitur non tentandae, naturales sistendae suis quaeque appropriatis; (sic alvi fluxus salutariter sedatus fuit clystere astringente, cui Theriaca erat immixta) si spiritus sint effraenes & peccent in motu aucto, quod à Vigiliis potissimum cognoscitur, ut sistantur per Opiata. Si contra necrosi, seu languore afficiantur, quod ab effectibus potissimum soporis cognoscitur, ut suscitentur per volatilia, & Camphorata: ut sanguinis consistentia integra fervetur in processu, mali, quod fit acidis & terreis adstringentibus, ut Venenum ad peripheriam alliciatur.

X. 1. *Exp. 1.* The humane Bile, taken from the Gall-bladder of the Bodies of those that died of the Plague at *Marseilles*, has been always found to be of a black and greenish Colour. It has become constantly of a lasting Grass-Green upon the mixing of Spirit of Vitriol with it; and always very yellow when we mix Oil of Tartar *per deliquium*, or the Alcalious fixed Salt of the same dissolved in a sufficient Quantity of Water. These two Colours, green and yellow, have continued for whole Months. The said Bile has become of a black Colour, like Ink, but soon fading, by the Affusion of Spirit of Nitre.

*Experiments made with the Bile of Persons dead of the Plague at Marseilles,*

*with what appeared upon the Dissection of the Bodies; also some Experiments made*

*Exp. 2.* The Bile, taken from the Gall-bladder of the Bodies of those that died of the Plague, having been poured into a Wound made on purpose in different Dogs, has rendered them thereupon melancholy, drowzy, and without caring to eat. All these Animals died in three or four Days with the essential Marks of the true Plague, declared by Buboes, Carbuncles, and gangrenous Inflammations in the *Viscera*, in the same manner as in the human Carcasses from whence the Bile was taken.

*with the Bile of Persons dead of other Diseases, by Dr Deidier, Prof. Phys. Montpel.*

A Drachm of the said pestiferous Bile having been mixed with two Ounces of Fountain-water made luke warm, and injected into the Jugular Vein of several Dogs, has rendered them presently drowzy, and has killed them in four Hours, with gangrenous Inflammations, the Heart stuffed full of black thick Blood, the Liver swelled, and the Gall-bladder full of green Bile.

*Exper. III.*

The same Quantity of Bile, injected by the Crural Vein, has produced in the Dogs a Heaviness in about an Hour. They have had such strong loathing of their Food, that they would not eat or drink the least matter after the Injection was made. They pissed frequently, especially if they were stirred. On the third Day there appeared considerable Tumours under the *Axilla*, and on their Thighs, about 3 Inches from the Wound. The Wound turned to a Gangrene, and the Creature usually died on the fourth Day, with all the Marks of the Plague.

*Exper. IV.*

A Dog, of the Hospital at the *Mail*, in *Marseilles*, who followed the Surgeons when they went to dress the Sick, used greedily to swallow the corrupted Glands, and the Dressings charged with Pus that they took off the Plague-Sores; he licked up the Blood that he found spilt on the Ground in the Infirmary; and this he did for

*Exper. V.*

about



about three Months, and was always well, gay, brisk, full of Play, and familiar with all Comers. We injected into the right Crural Vein of this Dog about a Drachm of the pestiferous Bile, mixed with two Ounces of warm Water. He died the fourth Day, as the others did, with a Bubo on the wounded Thigh; on which likewise there were two Carbuncles, and the Wound gangrened. What we took particular Notice of in this Dog was, that after the Injection, both when he was living, and after he was opened, when dead, he had a very stinking Smell, which we did not observe in any of the others. He had moreover a considerable Hæmorrhage from the Wound, the Night before he died, having struggled hard to escape out of his Confinement.

Exper. VI.

The 2d of May having injected about a Drachm of human Bile, taken from Persons dead of the Plague, mixed with 2 Ounces of warm Water, into the Crural Vein of a Dog; the Creature was presently drowzy, refused his Food, and died about the third or fourth Day after the Injection, with all the inward and outward Marks of the Plague that the others had.

Exper. VII.

The 6th of the same Month we collected the Bile of this Dog dead of the Plague, and injected it by the Crural Vein into the Blood of another Dog; who, presently after the Injection, had convulsive Motions all over him, which was followed by a Lethargic Heaviness. On the 2d Day after the Injection, there appeared a Carbuncle upon the great Pectoral Muscle on the right Side. The third Day there arose a considerable Bubo on the Thigh; and the Dog died the same Day. Upon opening the Body, we found the fore part of the Breast all gangrened under the Teguments; and, in the inward parts, the *Viscera* were full of black clotted Blood; as in all the rest. The outward Surface of the Lungs was all Purple; the Heart was swelled as big again as usual, with the four Cavities full of black clotted Blood. The Creature had lived 3 Days from the Injection without eating or drinking. The 10th of May, we injected the Bile of this second Dog into the Crural Vein of a third Dog, who was thereupon seized with violent Convulsions, and different convulsive Motions, for about half a quarter of an Hour. When he was recovered from these, he appeared dull, and sleepy; he vomited with violent Strainings. The Vomiting was followed with a Hickup. He eat a little boiled Meat, having fasted a good while before the Injection was made; but he vomited it up two Hours after he had taken it. He died the third Day with the same Symptoms of the Plague that the other Dogs had.

The State of  
the Bodies of  
Persons dead of  
the Plague,  
from which the  
Bile was taken  
for the Expe-  
riments before-  
mentioned.

One *Belesleur*, a Soldier, of 25 Years of Age, of a strong robust Constitution, having a flattish Bubo growing on the hollow of the right Groin, died delirious. We found his Heart of an extraordinary Bigness, stuffed with black clotted Blood. His Lungs covered with a livid Purple, and sticking a little to the *Pleura*. The Liver was double

double



double the natural Bigness, and stuffed with a thick Blood. The Gall-bladder was full of a black and greenish Bile. The *Dura* and *Pia Mater* by their Blackness seemed to have been seized with a gangrenous Inflammation. The inward Substance of the Brain was sprinkled over with an infinite Number of small livid Spots.

*Mary Pisanne*, aged 30 Years, of a sanguine Habit, had a *Bubo* The second Body. under her right Armpit, with a *Delirium* that was followed by a mortal Sleepiness. In the opening of her Body, we remarked, that the Lungs were in their natural State. The Heart was of a prodigious Bigness, full of black coagulated Blood, with the left Auricle livid and gangrenous. The Liver, which was much enlarged, was all covered with Purple; and the Gall-bladder filled with a black and greenish Bile. The Head was not opened.

*Peter Moulard*, of a tender, feeble Constitution, about 14 Years The third Body. of Age, had a *Bubo* under the Hollow of the right Groin very deep, and that never came well out. He became delirious with Convulsions, in which this Child died. We found in his Body his Heart of double the Bigness that it ought naturally to be, containing a black thick Blood: His Lungs were besprinkled with livid Spots. The Gall-bladder full of black and greenish Bile. The Head was not opened.

*Jean Raynaud*, Cook, aged about 25 Years, of a melancholy Temperament, The fourth Body. had the whole Habit of his Body covered with a purple livid Colour, and a *Bubo* under his left *Axilla*; he died in a delirious Phrenzy. We found in his Carcase two Abscesses, one between the Teguments and the left great pectoral Muscle, and the other in the Breast between the *Sternum* and the *Mediastinum*. His Heart was very large, filled with black thick Blood. The right Auricle was of the Breadth of three Inches; the left was in its natural State. His Lungs were covered with little livid Spots, remaining soft and pliant, without any hardness in the Substance of them. The Liver was larger and harder than ordinary, and was also full of livid purple Spots; and the like were found in the Substance of his Brain, of which all the Vessels were filled with black thick Blood.

*Jaques Audibert*, aged about 35, of a melancholy Complexion, four The fifth Body. Months after he had been cured of the Plague, the Mark of which was a *Bubo* in the fold of the right Groin, which came well to a Suppuration, was attacked afresh with 3 Carbuncles; one in the middle of the Arm, and the other two in the fore Arm. He had but little Fever, with some small Sickness at Stomach; but a *Delirium* coming of a sudden, carried him off. Upon opening his Body, we found his Heart of a prodigious Bigness. The right Auricle being of the breadth of five Inches, and the left of three. We found a little Imposthume upon the Body of the *Aorta*. The Lungs were covered with livid Spots, and the Liver appeared gangrenous. The Gall-bladder



was of a very black Colour. The *Duodenum* and the *Rectum* were inflamed. We did not open the Head.

The sixth Body.

*Venture Cajoule*, about 40 Years of Age, of a melancholy Temperament, died without any outward Eruption on the third Day, of a violent Fever, with a Sleepiness. We found the *Mediastinum* torn towards the upper part. The *Pericardium* was of a livid Colour. The Heart larger than in it's natural State, by the swelling of it's Ventricles full of black thick Blood, as in the other Carcasses. The Liver also was very large, and of a livid Colour, with a carbuncular Pustule on the Side of the Gall-bladder; this was filled with very black Bile.

The seventh Body.

*Margueritte Bachire*, aged 18 Years, of a lively vigorous Constitution, having two carbuncular Pustles on the middle and inside of the Thigh, with a sharp Pain in the Head, died delirious. We found the Coverings of the Brain of a blackish red; the cortical Part of a livid Colour, and the Medullary sprinkled with a few black Spots; the Heart of a prodigious Size, full of a thick black Blood: The Liver also very large, and the Gall-bladder very full of a black and green Bile. There were several livid Spots upon the Surface of the Intestines.

The eighth Body.

*Louise Bellingere*, 20 Years of Age, having a *Bubo* in each Fold of the Groin, died very suddenly without any dangerous Symptoms. We found her Heart all covered with a livid Purple, much larger than natural, filled with thick black Blood, having a *Polypus* in each Ventricle. The Lungs were in their natural State. The Liver of a prodigious Greatness; and the Gall-bladder full of Bile, of a deep green Colour.

The ninth Body.

One named *Rampeau*, a Peasant, aged about 20 Years, of a sanguine robust Constitution, having had a carbuncular Parotide for the Space of eight Days, accompanied with a burning Fever, was carried to the Hospital the 2d of *May*, where he died the 5th. We found the outward Part of the left Side of the Lungs covered with a livid Purple. The Heart was of double the bigness, having scarce any Blood in the Ventricles, whose Cavities were filled each with a large *Polypus*, that on the right Side having dilated the Auricle to the breadth of four Inches. The Liver also was larger than ordinary, and the Gall-bladder was full of a black and green Bile,

The following Experiments were made at Montpellier, in the Hospital of *St Eloy*, during the Months of Sept Octob. and Nov.

A Soldier, between the Age of 20 and 25, of a lively brisk Temper, being sick in the Hospital of *St Eloy* of an ordinary malignant Fever, died about the 15th Day by a Defluxion upon his Breast. His Lungs were found very much blown up, filling all the Cavity of the Breast, and adhering to the *Pleura*. Having remarked that the Bile in the Gall-bladder was of a bright Grass-green Colour, we gathered it for the following Experiments. This Bile, being mingled with four Ounces of warm Water, was part injected into the Jugular Vein



Vein of a Dog, and a Compress soaked in the rest of the Liquor was applied to the rest of the Wound. The Creature thereupon appeared heavy and sleepy, and would neither eat nor drink; the third Day he eat and drank willingly. The Compress falling off the fourth Day, the Wound was diminished one half, and was healed by little and little, and the Dog grew perfectly well.

A Peasant of about 50 or 60 Years old, of a melancholy Temperament, had been near a Month in the Hospital with an ordinary malignant Fever, having alternatively a *Delirium* and a Sleepiness. After his Death, the Bile was found extreme thick, and black as Ink, and a great deal of it. We put about a Drachm in a Wound made for that purpose on the outer Part of the right Thigh of a Dog, thrusting in Pledgets dipped in the said Bile diluted, into the Wound. There did not appear any Change in the Dog. We made him swallow some of the same Bile, without losing his Appetite; and seeing he was like to do well, we left the Wound to itself, which healed in 15 Days only by the Dog's licking it. *The eighth Experiment.*

Being willing to inject some of the same Bile into the Crural Vein of another Dog, and the Syringe being stopped by the too great Thickness of the said Bile, the Injection could not be made; wherefore we took a Pledget soaked in as much of this Bile diluted, as it could take up, and applied to a fresh Wound made in the inside of the right Thigh. The Pledget was fastened within the Skin by some Needles. This Application produced no considerable Alteration in the Dog; he neither appeared sleepy nor stomachless; but licked his Sore readily enough; and after the Pledget was fallen off, the Wound healed, as in the foregoing Experiment. *The ninth Experiment.*

About a Drachm of the same black Bile drawn from the same Carcase, and mixed with warm Water, was injected into the Jugular Vein of another Dog. The Creature was not incommoded thereby, but was as brisk as before the Injection, only he appeared very thirsty, and he drank with Greediness. The next Morning being willing to view the Wound, we found it black and dry, and the Dog becoming furly, bit one of the Assistants. The two Ligatures made for the Injection were taken away without our seeing any Blood to run out. We applied a Dossil, charged with the ordinary Digestive, and kept on by a Bandage; and about 4 Hours after the Dressing, we found the Dog dead, having lived 23 Hours after the Injection. Having opened him, we found that his Heart beat still with Violence; and the Beating ceasing, there was no Blood either in the Ventricles or the Auricles. This Liquor crowded together in the great Vessels, appeared of a lively red, and very fluid, without any of those Concretions that we constantly observed in all the Bodies that died of the Plague. Here appeared neither internal nor external Marks of the Plague. *The tenth Experiment.*



The eleventh  
Experiment.

An Inhabitant of *Montpelier*, aged about 30 or 35, very fat and robust, of a sanguine Complexion, having had a Fall upon the Pavement, had received a simple Wound on the upper part of his Forehead on the right Side. This being neglected, brought on an *Erysipelas* all over his Face, which was accompanied with a Swelling of the left *Parotide*. This appeared and disappeared thrice from Morning till Night. The *Erysipelas* came suddenly on; he grew delirious, and died after 15 or 20 Days Illness, reckoning from the Fall. In the opening of the Body, we found a quantity of Water between the Skull and the *Dura Mater*. The Brain, which was firmer than ordinary, was a little red, and part of the *Pia Mater*, covering the hinder part of that *Viscus*, appeared inflamed. There was about half a Septier of Water of a yellowish Colour, shed in the Cavity of the Breast. The great right Lobe of the Lungs was a little hard on the upper part. The Heart had a *PolyPOSE* Concretion in each Ventricle: We found likewise two Pints of limpid Water got forth into the lower Belly. All the Fat of his Carcase was yellow. The Liver appeared to us a little swelled, and the Gall-bladder almost empty, not having above two Drachms of yellow Bile in it. That Bile of this Carcase, mixed with  $\zeta$ ij of warm Water, was injected into the Crural Vein of a Dog. The Creature eat and drank heartily after the Injection, and did not appear at all incommoded. The Wound bleeding much, we were obliged to fill it with restrigent Powders, kept in by a Pledget and a convenient Bandage. Twenty-four Hours after, the Dressing was taken away, the Wound appeared black and dry. The Dog licking it, it suppurated the next Day, and afterwards became red and well coloured; and the Wound was lessened one half in 8 Days, during which time, the Dog appeared in perfect Health.

The twelfth  
Experiment.

Eight Days after the foregoing Experiment, the Dog, that was the Subject of it, was killed by about half a Drachm of Powder of *Hungarian Vitriol*, dissolved in a Spoonful of warm Water, which we injected into the Jugular Vein. The Creature died on the Spot, with universal Convulsions. His Heart was found full of grumous Blood reduced to a kind of thick Pap, but without any Clods. The Bile of this Dog was yellow and in little quantity. Not being able to inject it into the Crural Vein of another Dog, because the Vein was too small, we contented ourselves to dip two Compresses in this Bile, which we applied and kept under his Skin, by two Wounds made on purpose in this second Dog: There arrived no notable Change. We observed in these two Dogs no Marks, either internal or external, of the Plague.

Another Expe-  
riment by the  
same. N<sup>o</sup>. 373  
p. 105.

2. We caused two Dogs to swallow a pretty large Quantity of the Bile, taken from the Bodies of Persons dead of the Plague. Upon this, they appeared heavy and melancholy, refused their Food, and made Water very often, especially when they were any ways disturbed.



disturbed. Their Urine was thick, and very fetid, and their gross Excrements were tinged with the black and greenish Bile, which they had swallowed. But in a few Days those Accidents went off, and the Dogs recovered their perfect Health, though they were all the time confined in a Cellar, belonging to the Dispensary, in company with the other Dogs that we tried our Experiments upon.

XI. I took a Quantity of Blood from the Body of a Person dead of the Plague, and mixed it with warm Water, which Mixture I attempted to inject into the Crural Vein of a Dog, but the End of the Syringe being too large to enter the Vein, the Experiment did not succeed. This made me resolve to try to lay some of the same infected Blood upon the Wound. This I accordingly did, and covered it with a Dressing, which the Dog got off in the Night. I found the next Morning, that the Dog had licked his Wound, and that he refused his Food. Towards Night, he began to bemoan himself, and gave Signs of an approaching Death. The next Morning I found him dead, the Wound being considerably swelled and gangrened, and the Edges round the Swelling were likewise gangrened.

*An Experiment made with the Blood of a Person dead of the Plague. By M. Couzier, Physician in the Infirmeries at Alais, No. 372. p. 103.*

Upon opening the Body, we found the Liver something larger than usual, with Spots of a livid Purple, as in the Bodies of Persons dead of the Plague. In the Stomach, was found a Quantity of black coagulated Blood, of the Size of a Hen's Egg. This in all likelihood was what he had swallowed upon licking the Wound. The Heart was very large, with a black grumous Blood in the Ventricles, and the Auricles were turned blackish and gangrenous.

XII. 1. We make usually a couple of Incisions in the Arms, where we make Issues, but somewhat larger than for them, sometimes in one Arm, and one Leg. Into these we put bits of Lint (the Patient at the same time turning his Face another way, and guarding his Nostrils) which have been dipt in some of the Variolous Matter taken in a Vial, from the Pustules of one that has the Small-Pox of the more laudable Sort, now turning upon him, and so we cover them with a Plaister of *Diachylon*. Yet we find the Variolous Matter fetched from those, that have the inoculated Small-Pox, altogether as agreeable and effectual as any other. And so we do, what is taken from them that have the Confluent Sort. Within 24 Hours, we throw away the Lint, and the Sores are dressed once or twice every 24 Hours with warmed Cabbage Leaves. The Patient continues to do all Things, as at other times, only he exposes not himself unto the Injuries of the Weather, if that be at all tempestuous. About the 7th Day, the Patient feels the usual Symptoms of the Small-Pox coming upon him; and he is now managed as in an ordinary putrid Fever. If he cannot hold up, he goes to Bed; if his Head aches too much, we put the common Poultice to his Feet; if he be very sick at the Stomach, we gave him a gentle Vomit, yea, we commonly do these Things almost of Course, whether we find the Patient want them or no. And we reckon

*The Way of inoculating the Small Pox in New-England communicated by Hen. Newman, Esq; No. 370. p. 33.*





reckon, the sooner we do these Things, the better. If the Fever be too high, in some Constitutions, we bleed a little; and finally, to hasten the Eruption we put on a couple of Blisters. On or about the third Day from the Decumbiture, the Eruption begins. The Number of the Pustules is not alike in all, in some they are a very few, in others they amount to a Hundred; yea, in many they amount unto several Hundreds; frequently unto more than what the Accounts from the *Levant* say, is usual there. The Eruption being made, all Illness vanishes; except perhaps, a little of the Vapours in those that are troubled with them; there is nothing more to do, but to keep warm, drink proper Tea's, eat Gruel, Milk Pottage, Panada, Bread, Butter, and almost any Thing equally simple and innocent. Ordinarily the Patient sits up every Day, and entertains his Friends, yea, ventures upon a Glass of Wine with them. If he be too intent upon hard Reading and Study we take him off. Sometimes, though the Patient be on other Accounts easy enough, yet he cannot sleep for divers Nights together. In this Case, we do not give him Anodynes or Opiats, because we find, that they who have taken these Things in the Small Pox are generally pestered with miserable Biles after their being recovered: So we let them alone; their Sleep will come of itself, as their Strength is coming on. On the 7th Day, the Pustules usually come to their Maturity; and soon after this, they go away, as those of the Small Pox in the Distinct Sort use to do. The Patient gets abroad quickly, and is most sensibly stronger, and in better Health than he was before. The Transplantation has been given to Women in Child-bed, Eight or Nine Days after their Delivery; and they have got earlier out of their Child-bed, and in better Circumstances than ever in their Lives. Those that have had ugly Ulcers, long running upon them, have had them healed up. Some very feeble, crazy, consumptive People, have, upon this Transplantation, grown hearty and got rid of their former Maladies. The Sores of the Incision seem to dry a little in three or four Days of the feverish Preparation for Eruption. After this, there is a plentiful Discharge at them. The Discharge may continue a little while after the Patient is quite well on other Accounts; but the Sores will soon enough dry up of themselves; but the later, the better, as we think. If they happen to be inflamed, or otherwise troublesome, we presently help them in the Ways we do any ordinary Sores.

Concerning the  
Inoculation of  
the Small Pox.  
By Dr. Nettleton,  
Physician at Halifax  
in Yorkshire.  
N<sup>o</sup>. 370, p.  
35.

2. In *December* 1721, I first began to put this Method in Practice, and finding it to succeed beyond my Expectation in the first Instance, I was encouraged to repeat it upon some others, and afterwards several, seeing with how much ease these got through the Distemper, were desirous to have the same done to themselves, or their Children; so that there are now upwards of forty here, who have received the Small Pox by Incision; who are all got well through the Distemper, and are at this time in very good Health. Only one that was inoculated, did



did die; of which I shall give you a particular Relation hereafter, and refer it to your impartial Judgment, whether that ought to cast any Blemish upon the Operation or no.

What was done by Way of Preparation, was chiefly purging with Rhubarb for Children, and sometimes Vomiting or Bleeding for grown Persons; and many have had no Preparation at all. But I always found, as far as I was able to judge, That those, whose Bodies were well prepared by such proper Methods as their different Ages or Constitutions did seem to require, had more favourable Symptoms than others in like Circumstances, where that was omitted.

The Method which I always took in the Operation, was to make two Incisions, one in the Arm and another in the opposite Leg. It is not material, as to raising the Distemper, whether the Incisions be large or small; but I commonly found, that when they were made pretty large, the quantity of Matter discharged afterwards at those Places was greater; and the more plentiful that Discharge, the more easy the rest of the Symptoms generally are, and they are also by this Means the best secured from any inconvenience which might follow after the Small Pox are gone off.

At first I collected some of the Matter from the Pustules of one, who had the Small Pox of the natural Sort, into a Shell or Vial, and infused two or three Drops of it into the Wound; but finding it to be very troublesome and difficult to get any quantity of the Matter, and observing also, that the least imaginable will be sufficient for the Purpose, I commonly take small Pledgets of Cotton, and ripping the Pustules, when they are ripe, with the point of a Lancet, roll the Pledgets over them, till they have imbibed some of the Moisture. I put one of these upon each Wound, and cover it with any common Plaister till the next Day, when I commonly take away both the Cotton and the Plaister, leaving the Wound to itself, only covering it with a slight linnen Roller, to defend it from the Air. I have sometimes rubbed the Pledget only once over the Wound, without binding it on, which I found to answer the End as well; and from some other Observations I have made, I have been surprized to see the Small Pox produced this way, when I was very well assured, the quantity of Matter received into the Vessels, could not amount to the hundredth part of a Grain.

The Persons inoculated have not been confined to any Regimen, but only to be kept moderately warm; and those, who were grown up, to live very temperate and regular, to keep their Minds easy and composed, and to use proper Means to drive away all Fear and Concern. Some have been obliged from the time of the Incision, to abstain from Flesh, and all strong Liquors; but I found afterwards, that the Eruption did not proceed so well, when they were obliged to live too low. Perhaps in warmer Climates, where they are not so much accustomed to live upon Flesh, such Abstinence may be necessary;



but here I find it best to let them eat and drink as usual, though something more sparingly, till the Fever begins to rise; and then, but not before, we enjoin such a Regimen as is usual in like Cases.

The first Thing that occurred after the Incision, was the Inflammation of the Wounds, which commonly happened about the 4th Day, when they began to appear very red round about, and to grow a little sore and painful; in about two Days more they began to digest and run. In some they begin to run sooner, and the quantity discharged is much greater than in others. I generally found, that in those who discharged most this way, the Fever was more slight, and the Small Pox fewer, though I have known some do very well when these Places have only appeared very red, but have scarce run any thing at all, as it usually happens, when the Incision is made so superficial as not to cut through the Skin.

About the 7th Day, the Symptoms of the Fever begin to come on, which are the very same, that we always observe in the Small Pox of the distinct Kind, in the natural Way. A quick Pulse, great Heat and Thirst, Pain in the Head and Back, and about the Region of the Stomach, vomiting, drowsiness, startings, and sometimes Convulsions. All were not seized with all these Symptoms, nor in the same Degree or Continuance; some began on the 7th Day, and continued ill without any Remission, till after the 11th; many not till the 8th or 9th Day; and the Fever in these, was more moderate with great Intermissions; and some have scarce had any Illness at all. During all this time, the Places of Incision continued to be very sore, and swell very much, so as to appear very large and deep, and to discharge a great deal of Matter.

On the 10th Day the Small Pox most commonly did appear, sometimes on the 9th, and sometimes not till the 11th; but I never found that any difference of Age, Constitution, or any other Cause, ever made them vary above one Day from the 10th. The Number was very different, in some not above 10 or 20, most frequently from 50 to 200, and some have had more than could well be numbered; but never of the Confluent Sort. Their Appearance was the same with those of the distinct Kind; they commonly came out very round and florid, and many times rose as large as any I have observed of the natural Sort, going off with a yellow Crust or Scab as usual; though it sometimes happens, especially when the Sores discharge a very great quantity of Matter, that they are both few in Number, and do not rise to any Bulk; but having made their Appearance for four or five Days, they waste insensibly away.

After the Small Pox come out, the Feverish Symptoms gradually abate, and when the Eruption is completed, they usually cease, without any second Fever, or any farther trouble in any respect.

While the Pustules were rising, and for some time after they were gone, the Sores continued to swell and to run very much, the longer they

they



they did so the better; but they never failed to heal up of themselves after a certain Time.

I very rarely saw Occasion for any Medicines in the Course of the Distemper, only sometimes when the Symptoms ran very high, I gave a gentle Anodyne, to be repeated as Occasion should require, and once or twice I thought it necessary to blister, and to use such Medicines as are found to be most serviceable in the Small Pox of the natural Sort. After the Pustules are gone away, they have always been purged twice or thrice, and sometimes let Blood, which is all that has been usually done. But though the Practice may seem to be very easy, yet it is an Affair of such a Nature as to require the utmost Care, and I presume it will never be undertaken without the Advice of Physicians to direct a proper Method of Preparation before the Infection is made, as well as a just Regimen afterwards; to watch every Symptom, and lend Nature all proper Assistance, when ever it shall be requisite. Where this is done, it will seldom fail of being attended with happy Success.

It has happened in one Instance or two, that the Symptoms in the Distemper have been worse than usual; and some few, after the Small Pox were gone off, have been subject to other Indispositions. Of all which, I shall give you a particular Account.

\* The first that was Inoculated, a Boy about a Year and half old, began to be ill on the 8th Day, and had a brisk Fever for two Days, then the Pustules began to appear, which were but few in Number, and rose very large. The Child was soon well, and continued so for about a Month, when being carried out, and kept a long time in the Cold, he fell into a feverish Disorder, accompanied with a Cough, and was ill for four or five Days; after that time it went off, and he has ever since been in very good Health.

† The second was a Girl of two Years of Age, in a Family where they had formerly buried three Children successively of the Small Pox, and this they feared might undergo the same Fate. The Fever came on about the 7th Day, and she continued very ill till the 10th, on which Day, about Noon, she had a strong convulsive Fit. In the Evening the Small Pox appeared, and though she had more in Number than usual, yet she grew well as soon as they were fully come out, and has continued so ever since.

‖ The eighth and ninth were in a Family where they had four Children, none of whom had had the Small Pox. I was called to the Eldest, who was seized in the natural Way, with the most malignant Sort I ever saw, attended with the worst Symptoms that could be, insomuch that he died on the 4th Day, all full of purple and livid

\* *Thomas Thorp's Son of Hallifax.*

† *Jer. Turner's Daughter.*

‖ *Mr. John Simpson's Children.*



Spots. The Parents were very desirous, that any Means might be used to preserve the rest; but here I was in great doubt and perplexity what part to act. I knew very well, that if I should venture to make the Infection, whatever should happen would be charged upon that, and it was not improbable, but some of them might have already taken the Infection, in which Case it was uncertain what the Event might be. On the other hand, if it was omitted, I did very much fear they might all die; such Instances having been known, and the Contagion which was got amongst them, being of such a destructive Nature. Wherefore I was willing to run the risque of my Reputation, rather than that the Children should all perish. They were therefore all three inoculated the Day before the eldest died, after having told the Parents that I could not answer for the Success, in case they had already caught the Infection, which would be known if any of them fell ill before the 7th Day. According as we feared, one of them began on the 2d Day, much after the same manner with the Eldest, and the Small Pox appeared on the 3d Day, or rather an universal Redness all over the Skin, interspersed with many purple Spots. There were none of these Spots near the Places of Infection, which began to swell a little, as usual about the 4th Day, and the Small Pox rose a little more about those Places than elsewhere; but Nature was too far oppressed with the Violence of the Distemper, and though this Girl continued longer than her Brother, and was not delirious as he was, yet she died on the 7th Day. I did not reckon this Child in the Number of those who received the Distemper by Inoculation; for I thought there was sufficient Reason to conclude, that she had taken the Infection before; but of this, I must leave you to judge, as you please, I only give you a Relation of Facts. The other two continued well till the 8th Day, when they both fell ill together. The Small Pox came out on the 10th, of a very good Sort, though more in Number than some others had, and they both got very easily thro' the Distemper without any Indisposition since. It was observable, that the elder of these Children, about the time of the Eruption, had many Spots appeared on him of a deep red Colour, very much like those of the other two Children, which changed in them to Purples afterwards, which the Mother was very much concerned at, fearing they would prove the same in this; but when the Small Pox came out, these Spots grew gradually less, and at last quite disappeared. The other Child had been very subject to Convulsions for a long time, when very young, and it was afflicted with the same very much, from the time that the Fever came on, till the Small Pox appeared.

\* The twenty-seventh was a married Gentlewoman, aged about 26; who got very well through the Distemper; but about a Week after, was seized with a very great coldness and shivering, which were followed

\* *Mrs. Breara of Eland.*

by



by a burning Heat, with a great Pain and Disorder in her Head, which continued for several Hours. She had some time ago an intermitting Fever, of which I took this to be a Paroxysm, and expected it's Return, but she felt no more of it, and has ever since continued in good Health.

Of her two Sons, who were both inoculated at the same time, the younger got thro' the Distemper with a great deal of Ease, the *Small-Pox* being few, and the Symptoms very slight; but the elder, a Boy about 5 Years old, fared quite otherwise. The Symptoms before the Eruption were more than usually severe, especially the Vomiting; the Pustules appeared at the usual Time, but more numerous than ordinary, and when the Eruption was finished, the Fever did not cease, as it has done in every Instance but this: On the 5th Day after he was seized, the swelling of his Face began, which was followed by a Pain and Swelling in his Throat, and a Salivation, which continuing till the 11th Day, were succeeded by a Swelling in his Hands and Feet, the usual Symptoms of the distinct Sort when they are very full; and tho' there appeared some little Signs of Malignity, yet with the Use of Blisters and the milder Cordials and Alexipharmics, the Pustles rose very large, and all Things went on very well, so that he got thro' the Distemper without any Danger, but with much more Pain and Trouble than any of the rest have endured. After the *Small-Pox* were gone off, we found a hard Swelling upon his Shoulder, which disabled him for some time from moving his Arm; but by the Use of some common Applications, that is entirely gone. In this Family the only Child they had before these, died of the *Small-Pox*, of a very malignant sort, and this Boy was of an ill Habit, and has had many dangerous Illnesses.

\* The twenty-third, was a Girl about 9 Months old; in this Child, after she was well of the *Small-Pox*, the Mother discovered that one of her Thighs was a little swelled, which was painful to her for some time, and made her unwilling to move that Part; there were also some small Tumours in the Groin; but these went off in a few Days, there only remaining a Hardness about the Knee, which also disappeared in a short time without coming to Suppuration, and the Child is now in perfect Health.

† The thirty-seventh was a Girl 6 Years of Age; she got very easily thro' the Distemper; but before the *Small-Pox* were gone, we found a small Tumour upon the Muscles of the Loins, which ripened very speedily, and was opened and healed up in a very short time. Her Sister, a young Woman about 18, had also a Swelling of the same kind in her Leg, but it lay something deeper, and gave her a great deal of pain for 3 or 4 Days; afterwards it discharged a great quantity of Matter, and was healed without any farther Trouble.

\* Mr *Js. Hanson's* Daughter. † Mr *John Haigh's* Daughters.



All the rest, excepting these I have mentioned, got very well thro' the Distemper without any manner of Trouble, or Hazard, or any ill Consequence afterward. Whether those slight Indispositions, which some have been subject to afterward, were owing to the Infection, I have not been able to judge; but I presume what they have endured in the Course of the Distemper, and what has followed after, is not to be put in the Balance with what is undergone in the common way, by those who are thought to come off very well; and if this Method were more generally practised, 'tis probable some Means would be found out, to prevent even these subsequent Disorders, which are no more frequent, nor near so bad, as those which follow the natural Sort.

In two Instances the Inoculation had no effect; the Reason of which in one \* was, because the Child had the *Small-Pox* before, as the Parents did believe; but the Distemper had been so favourable, as to leave it doubtful. † In the other, the Matter was taken, when the Pustules were withered, and almost gone, and that little Moisture which they contained, I suppose, had lost it's Virtue; the Boy to whom it was made use of, was no way affected; the Places of Infection did not at all inflame, or swell as usual, nor did any Pustules appear; but about a Month after, he was seized with the Distemper in the ordinary way, and did very well.

Some of those who have been inoculated, that are grown up, have afterwards attended others in the *Small-Pox*, and it has often happened, that in Families where some Children have been inoculated, others have been afterwards seized in the natural way, and they have lain together in the same Bed all the time; but we have not yet found, that ever any had the Distemper twice; neither is there any reason to suppose it possible, there being no difference that can be observed, betwixt the Natural and Artificial Sort, (if we may be allowed to call them so) but only that in the latter the Pustules are commonly fewer in Number, and all the rest of the Symptoms are in the same proportion more favourable. There is one Observation which I have made, tho' I would not yet lay any great Stress upon it, That in Families where any have been inoculated, those who have been afterwards seized, never had an ill Sort of *Small-Pox*, but always recovered very well.

Continued by  
the same. N<sup>o</sup>  
37<sup>o</sup>. P. 51.

3. The Hazard in this Method is very inconsiderable, and in proportion to that in the ordinary way by accidental Contagion, so small, that it ought not to deter any body from making use of it. In order to satisfy myself, what proportion the Number of those that die of the *Small-Pox*, might bear to the whole Number that is seized with the Distemper, in the natural way, I have made some Enquiry hereabouts, and I shall take the Freedom to transmit the Accounts to you, because

\* *Mich. Bland's* Daughter.

† *William Clark's* Son.

I believe



I believe you may depend upon their being taken with sufficient Care and Impartiality. In *Hallifax*, since the beginning of last Winter, 276 have had the *Small-Pox*, and out of that Number 43 have died. In *Rochdale*, a small Neighbouring Market-Town, 177 have had the Distemper, and 38 have died. In *Leeds* 792 have had the *Small-Pox*, and 189 have died. It is to be noted, that in this Town the *Small-Pox* have been more favourable this Year than usual, and in *Leeds* they have been more than usually mortal; but upon a Medium in these three Towns, there have died nearly 22 out of every hundred, which is above a *fifth Part*, of all that have been infected in the natural way. I have in these Accounts confined myself to the Limits of the Towns. The Numbers that have had the *Small-Pox* in the Country round about, is vastly greater; but the Proportion of those that die is much the same. I have made the Enquiry in several Country Villages hereabouts, in some I found the Proportion to be greater, in others less, but in the main it is nearly the same.

4. There are two Propositions advanced by the Favourers of the Practice of Inoculation, concerning which the Public seems to require more full Satisfaction. *That the Distemper raised by Inoculation is really the Small-Pox; and, that it is much more mild and favourable, and far less mortal, than the natural Sort.*

The former of these is not so much disputed now, as it was at first, when this Method was introduced, nor can it be made a Doubt of by any one, who has seen those that have been inoculated, and has also been much conversant in the natural *Small-Pox*. There is usually no manner of Difference to be observed betwixt the one Sort and the other, when the Number of Pustules is nearly the same; but in both there are almost infinite Degrees of the Distemper, according to the Difference of that Number. All the Variation that can be perceived of the Ingrafted *Small-Pox* from the Natural, is, that in the former the Pustules are commonly fewer in Number, and all the rest of the Symptoms are in the same Proportion more favourable. They exactly resemble what we call the Distinct Sort: The Symptoms before the Eruption are the very same, and when the Pustules begin to rise, their Appearance is the same, as well as their Periods of Maturation and Declension; they are at first of the same florid, rosy Colour; and when fully ripe, of as fair a yellow. They commonly rise as round and as large as the other, and when they are very numerous, the Inflammation and swelling of the Face comes on at the usual Time, and is followed by the swelling of the Hands and Feet, and only once I observed a Salivation, tho' the Pustules were distinct. In the Natural *Small-Pox*, when the Pustules are very few, we sometimes observe, they do not rise to so great a Bulk, neither do they ripen so fully, nor continue so long as usual; and it is the same in the way of Inoculation. In short, as this Distemper is raised by an Ingraftment from the *Small-Pox*, as it has the very same Appearance,

Concerning the Inoculation of the Small Pox, and the Mortality of that Distemper in the natural Way; by the same, No. 374. p. 209.

and



*Of inoculating the Small Pox.*

and as it is capable of producing the same by Infection, there seems to be no room to doubt of it's being the true and genuine *Small-Pox*. And if that be allowed, it will follow from thence, as a Corollary, that *Those, who have been inoculated, are in no more Danger of receiving the Distemper again, than those who have had it in the ordinary way.* And this is also thus far confirmed by Experience. We are very ready to own, that the Operation may sometimes fail: Those Gentlemen, who first communicated to the Royal Society some Account of this Practice from *Turkey*, did both of them intimate so much; tho' I believe that will but rarely happen. In one \* Instance here, I observed no Eruption at all, neither did the Wounds inflame and swell any more than would have followed from a common Incision, which made me conclude, that what was applied had not taken effect, and indeed the Reason of it was very well known to me. In three others, tho' the Wounds did inflame, and swell, and discharge considerably, yet the Eruptions were so imperfect, as to leave me a little in doubt: But two of these have since been sufficiently tried, by being constantly with those who had the *Small-Pox*, without receiving any Infection; which makes me inclined to believe they will always be secure from any danger of it. As to all the rest, neither I nor any body else, who saw them, did in the least question, but that they had the true *Small-Pox*.

As to the latter Proposition; *That the Ingrafted Small-Pox is far less dangerous than the Natural:* The Truth of this, I suppose, can only be found by making a Comparison, so far as our Experience will extend. In order to this, I have taken an Account in this Town, and some part of the Country, and have procured the same from several other Towns hereabouts, where the *Small-Pox* has been epidemical this last Year, with as much Exactness as was possible, how many have had the *Small-Pox*, and how many out of that Number have died.

	Have had the Small-Pox.	Died.
In <i>Halifax</i> _____	276	43
In a part of the Parish at <i>Halifax</i> , stretch- ing towards <i>Bradford</i> _____	} 297	} 59
In another part of the same Parish _____	} 268	} 28
In <i>Bradford</i> _____	129	36
In <i>Leeds</i> _____	792	189
In <i>Wakefield</i> _____	418	57
In <i>Rochdale</i> _____	177	38
In <i>Ashton under Line</i> , a small Market-Town in <i>Lan-</i> <i>cashire</i> , including two neighbouring Villages _____	} 279	} 56
In <i>Macclesfield</i> _____	302	37
In <i>Stockport</i> _____	287	73
In <i>Hatherfield</i> _____	180	20
Total	3405	636

\* *William Clark's* Son. See *Philosoph. Transact.* No. 370. P. 45.



I am very sensible you will require a great Number of Observations, before you can draw any certain Conclusions. I would only crave leave to remark, that it appears from these Accounts, that this last Year, in this part of the Kingdom, almost nineteen out of every hundred, or near one fifth of those, who have had the Natural Small-Pox, have died; whereas out of 61, which have been inoculated hereabouts, not one has died; for as to the Case of Mr John Symson's Daughter, which would have made the sixty-second, I leave it out of my Account, and I will refer it to any impartial Judgment, whether I may not justly do so. \*

5. The Number of Persons who have had the Small-Pox by Inoculation here in England, is, by the best Information I have been able to collect, as follows:

*A Comparison between the Danger of the Natural Small Pox, and of that given by Inoculation; by James Jurin, M. D. R. S. Secr. No. 374. P. 213.*

Inoculated by					
Dr Nettleton	—	—	—	—	61
Claudius Amyand, Esq; Serjeant-Surgeon	—	—	—	—	17
Mr Maitland, Surgeon	—	—	—	—	57
Dr Dover	—	—	—	—	4
Mr Weymish, Surgeon	—	—	—	—	3
The Rev. Mr Johnson	—	—	—	—	3
Dr Brady at Portsmouth	—	—	—	—	4
Mr Smith, Surgeon, and Mr Dymer, Apothecary, at Chichester	—	—	—	—	13
Mr Waller, Apothecary, at Gosport	—	—	—	—	3
A Woman at Leicester	—	—	—	—	8
Dr Williams, at Haverford-West	—	—	—	—	6
Two other Persons near the same Place	—	—	—	—	2
Dr. French, at Bristol	—	—	—	—	1
					In all—182

Out of this Number the Opposers of Inoculation affirm, that two Persons died of the Inoculated Small-Pox: The Favourers of this Practice maintain, that their Death was occasioned by other Causes. If, to avoid dispute, these two be allowed to have died of Inoculation, we must estimate the Hazard of dying of the Inoculated Small-Pox, as far as can be collected from our own Experience, to be that of 2 out of 182, or 1 out of 91.

The Rev. Mr Mather, in a Letter dated March 10, 1721, from Boston in New England, gives an Account, That of near 300 inoculated there, 5 or 6 died upon it or after it, but from other Diseases and Accidents, chiefly from having taken the Infection in the common way by Inspiration, before it could be given them in this way of Transplantation.

\* See Philosoph. Transact. No. 370. p. 41, 42.





If, as we have done before, to avoid all occasion of dispute, we allow 5 out of these 300 to have died of the *Small-Pox* by Inoculation, notwithstanding what Mr *Mather* has said of their dying by other Accidents or Diseases; the Hazard of Inoculation will thence be determined to be that of 1 in about 60. But here it must be observed, that by all the Accounts from *New-England*, the Operators there appear not to have been so cautious in the Choice of their Subjects, as here in *England*. For Mr *Mather* tells us, that the Persons inoculated were young and old, from 1 Year to 70, weak and strong; and by other relations we are informed, that *Women with Child, and others even in Childbed*, underwent the Operation. Apparently the Greatness of the Danger they were in, from the Infection in the natural way, which then raged among them with the utmost Fury, made them the more adventurous.

We come now, to the second Part of our Design, which is to form an Estimate of the Hazard, which all Mankind, one with another, are under of dying of the natural *Small-Pox*, that, by comparing this with the Hazard of Inoculation, the Public may be enabled to form a Judgment, whether or no the Practice of Inoculation tends to the Preservation of Mankind, by lessening the Danger to which they are otherwise liable.

With this View I have consulted the yearly Bills of Mortality, as far back as the Year 1667, being the Year after the Plague and the Fire of *London*, comprehending to the present Time the Space of 56 Years, from 42, of which I have given Extracts in the two following Tables.

The first of these takes in the first 20 Years, distinguishing for every Year the total Number of Burials, and likewise the Number that died of the *Small-Pox*, in two separate Columns. The third Column shews how many died of the *Small-Pox* out of every thousand that were buried; and the fourth Column represents the Proportion between those that died of the *Small-Pox*, and the whole Number of Burials, by the nearest Vulgar Fraction, having always one for the Numerator.

The second Table gives the last 22 Years, after the same manner; and at the bottom of each Table is given the total Number for each Series of Years, and likewise the Number that died each Year, taken at a Medium, one Year with another: By which it appears, that the Proportion between the Number of those that die of the *Small-Pox*, and the whole Number of Burials, is very nearly the same, upon an Average for each Series of Years.

The 14 intermediate Years between 1686 and 1701, are left out, because in the Bills for those Years, the Accounts of the *Small-Pox* and *Measles* are not distinguished, as in the preceding and following Years, but are joined together in one Article, so that from them no certain Account can be drawn of the Number of Persons, that died of the *Small-Pox*.



T A B L E I.

Years	Total No of Died of the Small-Pox.			
	Burials	In all	in 1000	In Proport.
1667	15842	1196	75	$3\frac{1}{3}$
1668	17278	1987	115	$3\frac{1}{9}$
1669	19432	951	49	$2\frac{0}{1}$
1670	20198	1465	73	$1\frac{4}{4}$
1671	15729	696	44	$2\frac{3}{3}$
1672	18230	1116	61	$1\frac{6}{1}$
1673	17504	853	49	$2\frac{1}{1}$
1674	21201	2507	118	$8\frac{1}{8}$
1675	17244	997	58	$1\frac{7}{7}$
1676	18732	359	19	$5\frac{2}{2}$
1677	19067	1678	88	$1\frac{1}{1}$
1678	20678	1798	87	$1\frac{2}{2}$
1679	21730	1967	91	$1\frac{1}{1}$
1680	21053	689	33	$3\frac{1}{1}$
1681	23971	2982	125	$8\frac{1}{8}$
1682	20691	1408	68	$1\frac{7}{7}$
1683	20587	2096	102	$1\frac{0}{0}$
1684	23202	156	7	$1\frac{4}{9}$
1685	23222	2496	107	$9\frac{1}{9}$
1686	22609	1062	47	$2\frac{1}{1}$
20 Years	398200	28459	$71\frac{1}{2}$	$1\frac{1}{4}$
Each Y. at a Medium	19910	1423	$71\frac{1}{2}$	$1\frac{1}{4}$

T A B L E II.

Years	Total No of Died of the Small-Pox.			
	Burials.	In all	In 1000	In Pro
1701	20471	1095	53	$1\frac{9}{9}$
1702	19481	311	16	$6\frac{3}{3}$
1703	20720	898	43	$2\frac{2}{2}$
1704	22684	1501	66	$1\frac{5}{5}$
1705	22097	1095	50	$2\frac{0}{0}$
1706	19847	721	36	$2\frac{8}{8}$
1707	21600	1078	50	$2\frac{0}{0}$
1708	21291	1687	79	$1\frac{7}{7}$
1709	21800	1024	47	$2\frac{1}{1}$
1710	24620	3138	127	$1\frac{8}{8}$
1711	19833	915	46	$2\frac{2}{2}$
1712	21198	1943	92	$1\frac{1}{1}$
1713	21057	1614	77	$1\frac{3}{3}$
1714	26569	2810	106	$1\frac{9}{9}$
1715	22232	1057	48	$2\frac{1}{1}$
1716	24436	2427	99	$1\frac{0}{0}$
1717	23446	2211	94	$1\frac{1}{1}$
1718	26523	1884	71	$1\frac{4}{4}$
1719	28247	3229	114	$1\frac{9}{9}$
1720	25454	1440	57	$1\frac{8}{8}$
1721	26142	2375	91	$1\frac{1}{1}$
1722	25750	2167	84	$1\frac{2}{2}$
22 Ye.	505598	36620	72	$1\frac{1}{4}$
Each Year at a Medium	22982	1665	72	$1\frac{1}{4}$
42 Ye.	903798	65079	72	$1\frac{1}{4}$
Each Year in 42 at a Medium	21519	1550	72	$1\frac{1}{4}$





By these Tables it appears, that upwards of seven per Cent. or somewhat more than a fourteenth part of Mankind, die of the Small Pox; and consequently the Hazard of dying of that Distemper, to every individual born into the World, is at least that of one in fourteen. And that this Hazard increases after the Birth, as the Child advanceth in Age, will appear from what follows.

From this Estimate it is demonstrable, that, in the Case of Persons actually having the Small-Pox, the Hazard that they run, one with another, of dying of that Distemper, is greater than that of one in fourteen; or, which is the same thing, *there must be fewer than thirteen, that recover, for one that dies of the Small-Pox.* For since one fourteenth part of Mankind die of the Small-Pox, and the other thirteen parts die of other Diseases; if these thirteen have all had the Small Pox, and recovered from it, before they fell ill of those other Diseases of which they died, then just thirteen will have recovered from the Small-Pox, for one that dies of that Distemper: But, as it is notorious, that great Numbers, especially of young Children, die of other Diseases, without ever having the Small-Pox, it is plain, that fewer than thirteen must recover from this Distemper, for one that dies of it.

To determine exactly how many of these thirteen parts of Mankind, die without having the Small-Pox, is a very difficult Task: But it is easy to see, that a considerable Deduction is to be made from them.

In the first place, the two Articles of *Stillborn* and *Abortive Children*, which are put into the Yearly Bills, as part of the Number of Burials, are unquestionably to be deducted.

With these two, you will not, I believe, think it unreasonable to join the following Heads, which, by the best Information I can procure, comprehend only very young Children, or at most not above one or two Years of Age. *Overlaid, Chryfoms and Infants, Convulsions, Horseshoehead, Headmoldshot, Teeth, Water in the Head, Worms, Rickets, Livergrown, Chin-Cough, and Hooping-Cough*; which Articles in the yearly Bills for 22 Years last past, amount at a Medium to 386 in each 1000, of the whole Number of Burials.

It is true indeed, that, in all probability, some small part of these must have gone thro' the Small-Pox, and therefore ought not to be deducted out of the Account: But then, on the other hand, as it is

certain, that of the remaining  $\frac{614}{1000}$  of Mankind, that are above one

or two Years of Age, there are great Numbers that never have the Small-Pox, it will, I presume, be judged to be no unequal Supposition, if I suppose all that are contained under the Heads abovementioned, to have missed that Distemper, when by way of Compensation, I allow all the remainder of Mankind to undergo it; which

Concession



Concession is so large, that it will abundantly make up for what I assume too much in the former Supposition.

Allowing therefore, that out of every 1000 Children that are born, 386 die under one or two Years of Age, without having the Small-Pox, and 72 do some time or other die of that Distemper; it follows, that the Hazard of dying of it, to the remainder of Mankind, above one or two Years of Age, who are all supposed to undergo that Disease sooner or later, is that of 72 out of 614, or nearly 2 out of 17: so that *no more, than between 7 and 8, can recover from that Distemper, for one that dies of it.* And if any considerable part of the aforesaid remainder of Mankind, more than is allowed for above, do escape having the Small-Pox, then the Proportion of those that recover from it, will be still smaller.

This Consideration shews the Fallacy of one plausible Argument, that has been often made use of on occasion of the present Disputes about Inoculation: Which is, that whatever be the Danger of dying of the Small-Pox, to those that actually have that Disease, yet, as great Numbers of Persons never have the Small-Pox at all, this Danger is what any particular Person may never be in; and therefore it will be Madness to undergo the Hazard of Inoculation, be it great or small, in order to prevent a Disease, which possibly may never befall one.

For if two parts in 17 of all Mankind, that are above one or two Years of Age, must sooner or later die of the Small-Pox, it is plain, that how many parts soever of these 17 are supposed to escape that Distemper, the Mortality among the Remainder, who undergo it, must in proportion be so much the greater. As for instance, if 7 parts escape having the Small-Pox, and 10 undergo it, then 2 out of 10, or 1 out of 5, that have the Small-Pox, must die of that Disease.

And as it can never be known, whether or no any particular Person be one of those, that are to have the Small-Pox; his Hazard of dying of that Distemper, being made up of the Hazard of having it, and the Hazard of dying of it, if he has it, will be exactly the same, namely, that of 2 in 17, or 1 in 8 or 9, whether the proportion of Mankind, that escape having the Small-Pox, be great or small.

But as what has been said concerning the hazard of the natural Small Pox, is taken from an Account of 42 Years; whereas the Hazard of Inoculation is estimated only from what has happened in the Space of about 18 Months, since which time it had it's first Rise among us; it will perhaps be asked by some Persons, why we do not likewise make the Estimate of the Hazard of the natural Small-Pox, from the last two Years alone, without running back into so great a Number of Years before Inoculation was begun?

To which we answer, That the Proportion of those that die of the Small-Pox, varies so much in different Years, as appears from the



*Of inoculating the Small Pox.*

Tables above, that it was impossible to come at any Certainty in this Point, from the Consideration of the two last Years alone: And if any one suspects us of Partiality in proceeding after the manner we have done, he need only cast his Eyes upon the second Table, where he will find, that the Mortality of the natural Small-Pox, for the two last Years, has considerably exceeded the Medium we have determined, from taking in 42 Years.

There is another Method, which, if it were put in practice in several large Towns, or Parishes, and for a sufficient Number of Years, would enable us to come at a nearer and still more certain Computation of the Proportion between those that recover, and those that die of the Small-Pox; which is, to send a careful Person once a Year, from House to House, to enquire what Persons have had the Small-Pox, and how many have died of it in the preceding Year. This has been done by Dr *Nettleton* the last Year, at several Towns in *Yorkshire*, &c. and the same was done at *Chichester* for the same Year, to the 15th of *October* last, by a Person of Credit, whose Account was communicated to me by Dr *Whitaker*. Such another Account has been transmitted to me from *Haverford-West*, in *South Wales*, by Dr *Perrot Williams*, Physician in that Place. The Sum of these Accounts is as follows:

	Sick of the Small-Pox.	Died.
Several Towns in <i>Yorkshire</i> _____	3405	636
<i>Chichester</i> _____	994	168
<i>Haverford-West</i> _____	227	52
Total	4626	856

From which it appears, that, upon a *Medium* between these Accounts, there died of the *Small-Pox* almost 19 per Cent. or nearly one in five, of Persons of all Ages, that underwent that Distemper. Which is the more to be remarked, for that out of 82 Persons, that had the *Small-Pox* by Inoculation, the same Year, and in the Neighbourhood of the same Places, not one miscarried.

Mr *Mather* observes, in his Letter mentioned above, that out of more than 5000 Persons that had the *Small-Pox* at *Boston* in *New England*, within little more than half a Year, near 900 died, which is more than one in six; and this Account added to those from *Yorkshire*, *Chichester*, and *Wales*, reduces the Proportion of those that die of the *Small-Pox* to somewhat more than 18 per Cent. so that the Hazard of dying of that Distemper, to those who are taken ill of it, is that of one in between five and six, or something above two in eleven.

The Result therefore, of these Computations is, that if the same Proportions should still continue, as have hitherto been determined by Observation, we must expect,

That



That of all the Children that are born, there will, some time or other, die of the Small-Pox, *one in fourteen.*

That of Persons of all Ages taken ill of the natural Small-Pox, there will die of that Distemper, *one in five or six, or two in eleven.*

That of Persons of all Ages inoculated, without regard to the Healthiness or Unhealthiness of the Subject, as was practised in *New England*, there will die *one in sixty.*

That of Persons inoculated with the same Caution in the Choice of the Subjects, as has been used by the several Operators one with another, here in *England*, (if we allow in the two disputed Cases above-mentioned, that the Persons died of the inoculated Small Pox) there will die *one in ninety one.*

But if those two Persons be allowed to have died of other Accidents or Diseases, then we shall have reason to think, as far as any Judgment can be made from our own Experience here in *England*, that *none at all* will die of Inoculation, provided that proper Caution be used; as we are informed, on all hands, is the Case in *Turkey*; where *out of many thousands*, that, in the Space of about 40 Years past, have been inoculated in and about *Constantinople*, by one *Greek Woman*, who still continues that Practice, notwithstanding her extreme old Age, *not so much as one Person has miscarried*, as I am assured by the ingenious *Dr le Duc*, a Native of *Constantinople*, who was himself inoculated there under the Care of his Father, an eminent Physician in that City:

6. In *May 1721*, the Small-Pox was brought into the Town of *Boston*; in *June* it began to spread pretty much, and in the Month of *July* it was got into most Parts of the Town, and a considerable number of People died of it. At this time Inoculation was first put in Practice by *Dr Boyleston*, who then performed it upon his own Child and a Negro Servant, who both did well; notwithstanding which, this Attempt gave great Uneasiness to the Neighbours. However the Practice went on, to the Number of about 40 Persons, one of which was a Woman \* of about 40 or 45 Years of Age, who got well over the Small-Pox, as her Husband publickly declared, but had been before troubled with Hysteric Fits, of which she died some little time after. When about 70 Persons had passed under the Operation, myself and Wife, who had hitherto been at a Place called *Roxbury*, a Mile from *Boston*, went into Town and received the Small-Pox by Inoculation. We had it with all the Gentleness that was possible, neither of us having had a hundred Pustules, or being sensible of any Fever worth mentioning; so that we did not find it necessary to keep our Beds for it.

*The Success of Inoculation in and about Boston, in New England, by Capt. John Osborne, who resided in that Town and Neighbourhood during the whole time of that Practice. No. 374. p. 225.*

\* Mrs Dixwell.



In August the Small Pox in the natural Way proved more mortal, and Inoculation made a greater Progress, the People continuing to come into the Practice of it. A second Person that died after Inoculation, was an Apothecary's House-keeper, that was out of Town, till an *Indian* Maid got the Distemper in the same House, and removed, and died. Upon which, this Woman coming to Town, her Master undertook to perform the Operation upon her, which by the Way was the first and last that he ever performed; and on the third Day, after the Inoculation, the Small Pox came out upon her very full; from which it was plain, that she had taken the Infection before in the common Way.

The third Person that died after being inoculated, was a \* Gentleman, that lodged in the same House with my Wife and self at *Roxbury*, who was under great and extreme Infirmary of Body, as myself was Witness, that we feared he would have lived but a short time under it. His Friends much persuaded him to make use of Inoculation, believing it would have carried off his Illness; but when he made the Experiment, he had not Strength to go through with it. He was about 45 Years of Age.

His Sister † was the fourth Person that died upon this Operation. She was about 40 Years of Age, of great Indisposition of Body, and weak, as was her Brother.

The fifth, that died upon Inoculation, was a Woman Servant in a House, where the whole Family, to the number of eight, were inoculated at the same time. She lay in a cold upper Room during her Illness, and was much neglected, the whole Family being down together, so that she died merely for want of a little Attendance. This was in the Town of *Roxbury*, where observe, that 13 Men, Masters of Families, got the Small Pox, and all died; which inclined the People to make use of Inoculation, having before been much against it, and there were 43 Men inoculated there, who all did well. The † Minister of the Town was the first, that put it in Practice there, much against the Mind of his People at first, though afterwards they were very well pleased with it, seeing with what great Success it was attended; and then whole Families came into it, and underwent the Operation. There were in all at least 280 Persons inoculated, that I knew of, and I suppose there might be about 20 or 30 more, but of those I can give no certain Account.

*A Method of  
procuring the  
Small Pox,  
used in South-  
Wales. By  
Perrot Wil-  
liams, M. D.  
Physician at  
Haverford  
West. No. 375.  
p. 262.*

7. However new the Method of communicating the Small Pox may appear in this Kingdom; yet I am to acquaint you, that it has been commonly practised by the Inhabitants of this Part of *Wales*, time out of Mind, though by another Name, viz. that of buying the Disease, as I have been long ago acquainted by several, who procured the Distemper by that Means. There is a married Woman in

\* John White, Esq; † Mrs Wells.

‡ The Reverend Mr Walter.

the



the Neighbourhood of this Place, who practised it on her Daughter, about a Year and half ago, by which Means she had the Small Pox favourably, and is now in perfect Health, notwithstanding she has ever since, without Reserve, conversed with such as have had that Distemper this last Summer.

In order to procure the Distemper to themselves, they either rub the Matter taken from the Pustules, when ripe, on several Parts of the Skin of the Arms, &c. or prick those Parts with Pins, or the like, first infected with the same Matter. And notwithstanding they omit the necessary Evacuations, such as Purging, &c. yet, as I am informed, they generally come off well enough; and what is remarkable, I cannot hear of one Instance of their having the Small Pox a second time.

8. Mr *George Owen*, a Counsellor at Law, solemnly declares, that having, when at School, above 20 Years ago, rubbed the Skin off his left Hand, where the Scar is now very visible, with the back edge of his Penknife, till the Blood began to appear, he applied the variolous Matter to that Part; which by Degrees growing inflamed, about a Week afterwards he fell into the Small Pox; and that he has since frequently conversed with such as were sick of that Distemper. He says also, five or six more at least of his School-fellows made the like Experiment on themselves at the same time, with the like Success.

*Continued by  
the same. No.  
375. p. 263.*

I have since talked with several more, who made the like Experiments on themselves, some 20, some 16, &c. Years ago; who all positively affirm, they never had the Small Pox a second time.

9. Mr *Owen* was about 15 Years of Age, when he made the Experiment on himself, and he questionless had the genuine Small Pox; the Signs of them on his Face, and the Mark on his Hand, where he applied the Matter, being still so very visible, as to put that Matter beyond Dispute. The Physician, who then attended him, is dead. Though I cannot pretend to remember how many informed me of their procuring the Distemper in this manner; yet I can aver, that within the compass of twenty Years last past, I have been so often assured of the Truth of it, not by Children, but grown Persons of undoubted Credit, that I am entirely satisfied, it has been an immemorial Custom in these Parts; and not only practised by Boys, when at School, but also by many others of both Sexes more advanced in Years, and consequently capable of distinguishing the Small Pox from other Distempers. There are now living in this Town and Neighbourhood, five or six Persons, who undoubtedly had that Distemper after taking the foresaid Method to infect themselves; one of whom, a young Woman, aged 23, told me, that about 8 or 9 Years ago, in order to infect herself, she held 20 pocky Scabs (taken from one towards the latter end of the Distemper) in the hollow of her Hand, a considerable time; that about 10 or 12 Days afterwards she sickened, and had upwards of 30 large Pustules in her Face, and other

*Continued by  
the same. No.  
375. p. 264.*

Parts;



Parts; and that she has since freely conversed with such as have had the Small Pox on them.

To make it appear, that Inoculation is a sufficient Preservative against receiving the Small Pox a second time; about six Weeks ago, I caused my two Boys, who had been inoculated this last Summer, not only to see, but even to handle a Child, dying of a most malignant sort of Small Pox; who, notwithstanding, continue in perfect Health.

Upon a very exact Inquiry I find, that out of 227, who have had the Small Pox in the natural way, in this Town and a neighbouring Parish, since the beginning of *June* last, 52 have died.

*P. S.* A Person about six Miles off, caused his Son, about ten Years of Age, near three Weeks ago, to buy (as he termed it) the Small-Pox. Carefully viewing the Boy, I found him recovering from the distinct Kind of that Distemper, having not had, as I could perceive, above 40 pretty large Pustules, which were then drying off.

Of the same.  
By Mr Rich.  
Wright,  
Surgeon at Havertord West,  
No. 375.  
p. 267.

10. I find buying the Small Pox to be a common Practice, and of very long standing; being assured by Persons of unquestionable Veracity, and of advanced Age, that they have had the Small Pox communicated to themselves this way, when about 16 or 17 Years of Age, they then being very capable of distinguishing that Distemper from any other; and that they have parted with the Matter contained in the Pustules to others, producing the same Effects. There are two large Villages in this County, near the Harbour of *Milford*, more famous for this Custom than any other, namely, *St Ishmael's* and *Marloes*. The old Inhabitants of those Villages, (with which they abound, being in a healthful Situation) say, that it has been a common Practice with them, Time out of Mind; and what was more remarkable, one *William Allen* of *St Ishmael's*, 90 Years of Age, (who died about six Months ago, or thereabouts) declared to some Persons of good Sense and Integrity, that this Practice was used all his Time; that he very well remembered his Mother's telling him, that it was a common Practice all her Time, and that she got the Small Pox that way. These, together with the many other Informations I have met with from almost all Parts of the County, confirm me in the Belief of it's being a very antient and frequent Practice among the common People; and to prove that this Method is still continued among us, I will give you the Relation of an elderly Woman, a Midwife, whose Name is *Joan Jones*, aged 70 Years, of good Credit, and perfect Memory. She solemnly declares, that about 54 Years ago, having then the Small Pox, one *Margaret Brown* (to the best of her remembrance then about 12 or 13 years of Age) bought the Small Pox of her; that the said *Margaret Brown* was seized with the Small Pox a few Days afterwards; that she had not had the Small Pox a second time, a twelve-Month ago, and she verily believes, that she has not

had



had them since. She farther says, that she has known this way of procuring the Small-Pox practised from time to time, above 50 Years; that it has been lately used in her Neighbourhood, and that she knows but of one dying of the said Distemper, when communicated after the Method aforesaid, which Accident happened within these 2 Years last past; the Person who miscarried, (a young Woman about 20 Years of Age) having procured the Distemper from a Man then dying of a very malignant Small-Pox. The above Relation I heard the old Woman declare 2 Days ago, and she was willing to take her Oath of it before a Magistrate. As to the manner of communicating the infectious Matter to the Blood, by scraping the Skin thin with a Penknife, and so rubbing in the Matter, that was only the Case of one particular Gentleman, Mr Owen,, whom I heard several times positively affirm, that he bought the Small-Pox when at School, and of such a Lady now living, and gave her 3 Pence for the Matter contained in 12 Pustules. That hundreds in this Country have had the Small-Pox this way is certain; and it cannot produce one single Instance of their ever having them a second time.

11. We do not as yet see any ill Effects of Inoculation, but the Inoculated are as yet as well, and some of them a great deal better than ever; as for the ill Consequences that have been in *England*, I cannot tell what they may raise from, but I can hardly think they are the genuine Effects of Inoculation, but may arise from some previous Disposition to such Distempers as you mention, or for want of due Evacuations after Inoculation, and too soon healing the Places of Incision; but I dare not pretend to say any more, and so leave it to the Opinion of better Judges; but only assure you I do not know, as yet of any such ill Effects in this Country.

12. A young Gentleman ill of the Small Pox, of that Sort which is called the *Cohærent*, or the middle between the distinct and the confluent Kind, on *Wednesday Octob. 3d 1722*, being the sixth Day from the Eruption, grew delirious in the Night, and got out of Bed in spite of the Opposition of two Nurses that attended him; and seizing one of his Nurses by the Neck with his bare Arms, he pressed her Forehead against his naked Breast, then covered with the Small Pox in the State of Maturation, and held her for some time in that Posture. She was heated by striving with him, and in struggling to get loose, she was sensible that she bruised and broke some of the Pustules with her Forehead. The Woman was about 40 Years of Age, of a clear, florid, sanguine Complexion; she told me she had had the Small Pox, when she was about 7 or 8 Years of Age, and had been pretty full of them, but I saw no Marks upon her Face. On *Friday Morning* the Small Pox began to appear upon her Forehead, and increased by degrees to between 50 and 60: she had likewise a small Number of Pustules upon the back part and sides of her Neck, where the Gentleman had grasped her with his naked Arms; but had none,

*Concerning the Effects of the Inoculation. By Mr Thomas Robie, Physician in New-England. No. 382. p. 67.*

*A remarkable Instance of the Infection of the Small Pox. By Dr Jurin, Soc. Reg. Secret. No. 373. p. 191.*



as she told me, upon any other Part of her Body. The lower Part of her Face was perfectly clear, and those upon her Forehead were chiefly confined to the middle and most prominent part of it, which had been pressed against the Gentleman's Breast. They rose gradually, and came to Maturity, in the same manner as the Small Pox of the milder coherent Kind use to do, with a great Inflammation and Swelling of her Forehead, and the adjoining Part of her Face, and especially between the Eye-brows, where a small Cluster of the Pustules were seated, infomuch that on *Tuesday* the 9th of *October*, her right Eye was quite closed up, and the left almost in the same condition; but all this time she had no Fever, Sickness, or other Symptom of the Small Pox, beside this Eruption, and the Inflammation, and Pain that attended it. That Night she caused a Blister to be applied to her Neck, upon which she recovered the Sight of her Eye the next Day, being the sixth from the Eruption, when the Pustules were turning, and beginning to scab. The Scabs agreed with those of the milder coherent Small Pox in their Appearance and Duration. I saw her hitherto every Day, as likewise at several times after this, and particularly on *Monday Octob. 22d*, which was the 18th Day from the Eruption of the Pustules, when she had still some small part of the Scabs remaining upon her Forehead.

In this Instance it is worthy of Remark: 1st, That this Woman, though, she had had the Small Pox before, was yet infected again by the immediate and close Application of the variolous Matter to her Skin, when her Body was heated with Exercise. Which seems to prove, that such an Application is more effectual to give the Infection than the bare morbid *Effluvia*, arising from the Body of the sick Person, and received into the sound one by Inspiration; for that she received no Infection by Inspiration, is plain, from the appearing of the Small Pox upon those Parts only where there had been such an Application and Contact. From which it appears very probable, that a Person who has already had the Small Pox, as the Man inoculated by Mr *Tanner* in *St Thomas's Hospital*, may possibly receive it again in some slight Degree by Inoculation; that being still a more close and immediate Application of the variolous Matter to the Blood, and Juices of the sound Person, than when it is applied only by Contact to the Skin whole and unwounded.

2dly, That the Infection communicated to this Woman not being universal, as appears from her having no Fever, or Sickness, or general Eruption of the Pustules all over her Body, but only on the Parts infected by immediate Contact, no Argument can be drawn from hence, for a Person's being liable to undergo the Small Pox a second time, so as to have the usual Symptoms of that Disease, and a general Eruption of the Pustules; but rather the contrary.

3dly, That the time in which this Infection shewed itself, by the appearance of the Pustules, is very different from that observed upon

Inocula-



Inoculation; the first appearing in about a Day and an half; whereas in the latter Case, the Eruption generally shews itself on the tenth Day, or not above a Day sooner or later, as appears from the accurate and curious Observations of Dr *Nettleton*. Which difference is what ought in reason to be expected, since in one Case the Infection went no further than the Parts affected by immediate Contact; whereas in the other it must be propagated through the Mass of Blood to all Parts of the Body.

13. The Small Pox were preceded by the usual Symptoms of that Distemper; but the Pains of the Limbs, and Back, were generally more severe than common, as were likewise the *Nausea* and vomiting. Abundance were seized with violent Colic Pains, which would leave them upon the Eruption, or after a Clyster or two, with a gentle Anodyne: The Stools were commonly bilious. It sometimes happened, that the Symptoms would not seem very severe before, and at the Eruption; and yet the Pox would prove very confluent and fatal at the State. The Pustules were very small, and did not regularly fill; but in a Day or two after the Eruption, would flat and be depressed in the middle. I observed this, even in the distinct Kind. In some Persons they appeared in less than 24 Hours from the Seizure: When they broke out so very soon, they were always of the Flux Kind, as is commonly observed. The Eruption was attended with prodigious Sneezing, especially in Children. I saw one \* Child about 5 Years old, that sneezed incessantly for more than 30 Hours, nor could it be allayed but by Anodynes. This Child had the *Confluent Pox*, and died the 13th Day. In some, at, and after the Appearance of the Pustules, they would itch most intolerably: This happened also to the Child now mentioned, and was generally a bad Symptom; as it was an Argument of the great Acrimony of the morbid Matter. In some few, a Day or two after the Eruption seemed to be compleated, there would appear in the Interstices of the Pox several miliary Pustules, some of a dark red, others filled with a limpid *Serum*: These never came to Suppuration, as the secondary Crop of Small Pox, which I have now and then observed sometimes do; nor were they as large. Though this is an ill Symptom in general, yet, in a † Girl of seven Years old, I perceived her Fever and *Dilirium* go totally off upon this Eruption, and the Urine immediately settled. Some had abundance of Purple *Petechiæ* appear among the Pox at the Eruption, and the Pustules would look of a lurid Hue: In others, the Purples would not discover themselves, till the Maturation. I knew but || one Person that had these Spots, during this Constitution, that survived the Distemper; but some died the 5th or 6th Day, some dwindled on till the 10th or 11th. During the Suppuration, the Pox would become very sessile, and the coherent

*An Account of  
the Anoma-  
lous Epidemic  
Small Pox,  
beginning at  
Plymouth in  
August 1724,  
and continuing  
to June 1725.  
By J. Huxham  
M. D. No.  
390. p. 379.*

Mr *Cockey's* Child.

† *Mils Spurrel*

|| *Mr Lang's* Son.

E e 2

Kind



Kind would enlarge their Bases exceedingly; so that, though they seemed for some time after the Eruption to be very distinct, they would now flux together. A Purple Speck would often appear in the Center of the Pustules, which would spread and grow blacker and blacker by degrees. The Interstices would also sometimes turn pale, sometimes livid. Symptoms of very ill Omen! The Pustules, that had not the Purple Speck, did not incrust yellow, but appeared of a dead ash Colour, and by degrees grew into a dark black Crust.

The Salivation, which constantly ought to accompany the Maturation in the confluent Small Pox, was in several very inconsiderable, in some none at all, saving a very small quantity of extremely viscid Matter, which was got off by syringing. I had two adult Persons, and some Children, labouring under the confluent Sort, who neither salivated, nor purged, except when some lenient Cathartics were given them; and yet they got over the Distemper. Indeed, it was very rare, that we should find Children have that gentle *Diarrhæa*, which *Sydenham*, and others justly reckon, supplies the Salivation in Persons of more advanced Age. Some very young Children, on the contrary, drivelled exceedingly through the Course of the Distemper. In \* two Children, one of 5, the other of 7 Years old, no Salivation came on till after the 13th Day, and then it was so profuse, and continued so long, that it was with Difficulty I put a Stop to it by Purges first, and then by the Bark, Astringents, &c. To the younger of these, indeed, I had given Calomel, Gr. iv, but it was soon purged off. Where the Swelling of the Face and Throat was very hard, painful, and tense, with a strong Vibration of the carotid Arteries, and little or no Salivation, the Patients generally grew delirious at the State. These Symptoms frequently proved fatal. The maxillary and parotid Glands, of those that recovered, would remain swoln, and indurated for a considerable time after the intire Desquamation of the Pox, (though that was very slow) nor would these Tumours go off, but after repeated Purging, and that with Calomel, &c. Those Tumours were undoubtedly the Consequence of a very viscid Matter obstructing those Glands, which hardened the Swelling of the Face, hindered the Salivation, and in some Measure, the Circulation through the external Carotids; by which Means, more Blood being forced through the Internal, an Inflammation of the Brain, and a *Delirium* might be partly brought on; and this happening too, when the Blood was fraught with acrimonious Matter absorbed from the Pustules, rendered the *Delirium*, at that *Stadium* of the Disease, vastly more to be dreaded than in the *Apparatus*, when it happened almost of course. Under these Circumstances, Bleeding, emollient Clysters, Eccoprotics, plentiful Dilution, were absolutely

\* Mr. Wallis's little Boy, Mr. Collier's Daughter.

necessary.



necessary. On this Occasion, it may be asked, whether or no, the Salivation being very viscid and defective, the Tumour of the Face hard and tense, some Mercurial (as a duly prepared Calomel) might not be given with Advantage, even in the State of Maturation? (I have frequently given Cinnabar to good Purpose). There are some Instances that would seem to justify such a Practice; and I know but one material Objection to it, and that is, that the Weight of the Mercury would, by encreasing the Moment of Motion of the Blood augment the Fever; but surely we have given Calomel after the Incrustation, when the secondary Fever hath subsisted without any manner of ill Consequence, I might say, with great Success. Nothing so certainly fuseth viscid tough Humours, being joined with plentiful diluting Liquors, as this, and so prepares them to be discharged by proper Outlets. As to *Oxymel Scillit.* Syringing, and the like, in a defective Salivation; the former, indeed, by Puking, sometimes irritates the Glands of the *Membrana Schneideriana* to discharge their Contents; Syringing barely deterges the Mouths of the *Ductus Salivares*: Either have little certain Effect further; whereas the viscid obstructing Matter is lodged in the inmost Glands, and even in the Blood itself. This Method seems peculiarly adapted to such an Epidemic Small Pox, as I am now describing, in which we had all the Indications imaginable of a very viscid State of Humours. The Blood, when drawn, was always excessively viscid, especially at the State of the Disease: Frequently there was little or no Salivation; generally it was extremely glutinous, so that the Nurses were many times obliged to pull the Matter out of the Patient's Mouth with their Fingers; and without drinking very plentifully, it would soon cease. A *Diarrhæa* very seldom happened to Children. The Blisters soon dried up. I heard of no one, during this Constitution, that made bloody Urine. Where that dreadful Symptom happened, the *Crisis* of the Blood seems to be dissolved, (as *Lyster* well observes); on the contrary, the recited Symptoms argued a too compact and viscid *Diatheſis* of the Blood. The State of the Humours, during this Constitution, might, in part, at least, depend on the extraordinary Driness of the Season, and the almost constant Northerly and Easterly Winds, which we had in the Months of *October, November, February* and *March* last. From the middle of *January* to the middle of *April*, was a drier Season than ever was known in this Country, where we have certainly, in general, more continued Rain than in most Places in *England, Plymouth*, being infamous for wet Weather.

This remarkable Change of the Temperature of the Air must undoubtedly have some considerable Effect on human Bodies: A very cold Wind suffering only the thinner Part of the Blood to pass off by Perspiration: Nor, in such Seasons, doth the Body imbibe so much of a diluting Humidity from the Air (as *Keil* observès). Hence the Necessity of drinking plentifully of thin diluting Liquors, which,



as it is always proper in this Distemper, so, when it happens in such a Season, is highly necessary. And I am of Opinion, M. Andry's Method of bathing in warm Water and Milk, or warm Milk, before the Eruption, may, upon many Accounts, be proper in such a Constitution of the Air. There can be no Objection against it, but it's not being in fashion. I took particular Notice, that while, and just after the Easterly Winds blew excessively strong for seven or eight Days together in the Months of *Octob.* and *Nov.* the Patients I then saw in the *Small-Pox*, scarce salivated at all. Then particularly, \* an *adult* Person, who had the *confluent Pox* very severely, did not spit the least thro' the whole Course of the Disease: She was seized with a violent Pleurisy the 18th Day, but was relieved by Bleeding. The Blood was the most viscid that ever I saw. It is remarked by *Lancisi*, that People expectorate very little in Disorders of the Breast, when cold, dry, Easterly Winds blow; and it is what I have frequently observed: And this may be one Reason, why some *Asthmatics* generally suffer a *Paroxysm* at such Seasons. The Swelling of the Hands did not so regularly succeed the *Detumescence* of the Face, during this Constitution, as I have observed in other Epidemic Small-Pox. Some had very small, or rather no Tumours at all. It was very rare the Legs and Feet swelled, till after the Patients sat up, and then they had much Pain in the Parts. I have often reflected upon it, whether the Succession of the Tumours in the Hands, to that of the Face, might not partly depend on the later Inflammation and Suppuration of the Pustules of those Parts: The Pain and Inflammation being a *Stimulus* determining the Humours to the pained Part: And it is particularly to be observed, that the greatest Pain of the Hands and Arms commonly happens at the Time, when the Salivation begins to cease: So that the Tumour of the Hands may, in some measure, prove a *Succedaneum* to the Spitting. It is the common Observation, that the Pustules of the Arms and Hands inflame and maturate a Day or two later than those of the Face, and those of the Legs and Feet latest, which may also be the Reason, that the Tumour of the Legs succeeds that of the Hands. I have been the rather inclined to this Opinion; inasmuch as I have sometimes observed a considerable Swelling of the Hands (the Pustules being very painful and inflamed) and that too in the distinct kind, when there hath been little or none in the Face. Generally the more painful a Boil is, the greater the Tumour around it; and by consequence, the Tumour of a Part is in proportion to the Painfulness of the Boils, and their Number. From this, I would enforce the Use of Epispastics applied above the Wrists, a little before the Time we expect the Tumour of the Hands should arise (especially when Symptoms are threatening) as they are *stimuli* to be depended on, not only attenuating and deriving the Hu-

\* *Betty Boddy.*



mours to the Parts, but also discharging them, and so proving a convenient Outlet to the morbid Matter, which before was thrown off by the (now partly suppressed) Salivation. Blisters applied to the Neck frequently relieve the extreme Pain of the Throat, and difficulty of swallowing, which sometimes are exceeding troublesome to the Patient in the third *Stadium* of the Small-Pox, by drawing the Humours another Way. Nay, in some, where Vesicatories have been early applied, and continued to run extremely, there hath been less Swelling and less Salivation, than seemed proportionate to the Vehemence of the Distemper, but without any Disadvantage to the Patients; the Running of the Blister supplying the Defect of the Spitting. It seems then but reasonable, when we expect the Translation of the noxious Humour to the Hands, which is what Nature itself affects, to endeavour to promote it's Flux thither, and give it vent. How advantageous Discharges of this nature may be, I had occasion some Years since to observe in the Case of a Lady, for whom I was concerned, together with Dr *Seymour* of this Town; where, thro' the prodigious Discharge of Blisters applied to her Neck, Ears and Arms; as likewise a plentiful Flux of Urine, she neither swelled nor salivated, thro' the whole Course of a very dangerous, *confluent Small-Pox*, and yet recovered. Any Person, that hath been conversant in Practice, cannot but have observed Translations of the morbid Matter from one Part to another sometimes of the greatest Service, especially where it hath had a Discharge. (Indeed, all critical Evacuations are of this Nature). But I mean, how often hath a Boil, an Imposthume, or swelling of the Limbs, been the evident Means of terminating a Fever? This I experienced particularly in myself, several Years since at *Paris*; when labouring under a violent, inflammatory Fever with *Delirium*, the 9th Day towards Night, I was seized with excessive Pain in my Arms and Hands; upon which I bathed my Hands a long time in warm Water by persuasion of two worthy Gentlemen of the Faculty, now living, who were then my Fellow-students, and watched by me. In a little time my Hands began to swell, and in 4 or 5 hours my *Delirium* and Fever went off intirely, tho' my Hands remained swollen and pained for some time. If Nature, therefore, in some Cases, take such extraordinary Methods to free herself from Diseases, how intent ought we to be in promoting her Operations, in a Distemper, where the *Metastasis* of the morbid Matter to the Hands and Feet is generally regular and salutary. It is, undoubtedly, upon this View that *Baglivi* orders Sponges soaked in a warm emollient Decoction, to be applied to the Hands and Feet in the Small-Pox: And this, he saith, he hath done with great Success. I have seen no less from Blisters maturely applied to the Arms and Legs; but then I ordered the Patients to drink plentifully of a thin Whey or the like, which takes off, in great measure, the Acrimony of the *Cantharides*. Before I conclude this Paragraph, I cannot but observe,



serve, that the Delirium, attending the Eruption of the Small-Pox, is very much alleviated by the Application of emollient Cataplasms to the Feet, in Children especially. It is indeed what I do commonly of course apply, when I am consulted at the beginning of the Distemper, and I think have had reason to imagine, in many Cases, that it hath been a Means of deriving the variolous Matter that way; and, by making the Eruptions more copious in the lower Parts, the Face and Breast have suffered less than, I had reason to fear, otherwise might have happened. The great Tenderness of the Feet, which happens after their Application, is a trifling Disadvantage, in comparison of the Benefit may be received by them; and so are those shooting Pains, which often affect the Legs on the Use of those Cataplasms: Not to say, that these are rather an Argument of the Benefit arising from their Use.

In the *confluent* Kind, generally a *Micturition* and *Dysfury* came on about the 12th or 13th Day, and that when there were no Blisters applied. If a large Quantity of turbid Urine followed, it was soon succeeded by Urine, which deposed a very large Sediment; but if it proved thin and limpid, and in small Quantity, a *Delirium*, *Tremor*, *Subsultus Tendinum*, and other convulsive Symptoms, soon followed. There were no Symptoms so certainly fatal at the Turn of these Small-Pox, as a Delirium, and (what is, I think, of constant ill Omen in all kinds of eruptive Fevers at the State) a *Dyspnœa* or the *Anhelosa Respiratio*: If we bled upon the first Appearance of them, we frequently saved our Patient; the Omission of which a few Hours made the Case irrecoverable. It was very common in Persons afflicted with these Pox, that 8 or 10 Pustules would run together, and form a large Vesication full of a limpid, crude Matter, which would continue so several Days after the Incrustation. \* In one that died, I saw Mortifications under these Bladders. I thought it necessary to let out this Matter with a Lancet or Needle, as soon as possible, lest it should, (as it did when left to itself) cause an Ulceration; and I could not but believe it proper, inasmuch as the Thinness of the Matter rendered it capable of being absorbed into the Mass of Blood, and that the longer it lay, the more acrimonious it would grow, it not admitting of Concoction. In two Patients, I saw several of the Pustules filled with a bloody *Sanies*: I was surprised to find † one of them get so easily over the Distemper, tho' she laboured also under the Flux-kind. The Desquamation was very slow, the black Crusts adhering several Days, nay Weeks, after the Turn, while abundance of purulent Matter gleeted from under them. These left very ugly *Cicatrices*. No Application seemed to me to have a better Effect, in this Case, than frequently fomenting the Parts with warm Milk, or Milk and Water; this diluted the acrid Salts, washed them off, and

\* Miss Boose.

† Mr. Bass's Child.



softened the Skin : Oily Liniments, by stopping the Pores, are frequently hurtful. In a Case or two I observed a Repullulation of Pustules under the Crusts in the Face and Hands, when thrown off. This particularly in the Boy, that recovered with purple Spots. The latter were distinct, tho' the former were in the greatest degree confluent. Nothing so certainly abated, and took off the secondary Fever after bleeding, (if indicated) as gentle Carthartics; such as *Rhubarb*, *Manna*, *Tartar*, *Infus. Senn.* and the like. The hot, scammoniatic, aloetic Purgers seem not so proper, at least, to begin with. These I gave the 10th, 11th, 12th or 13th Days, if I found the Patient have a quick Pulse, feverish Heat, dry Tongue, Head-ach, restless Anxiety, and other Symptoms of the putrid Fever. Some one, or other of these, being once or twice repeated, I gave Calomel, and purged it off. This was our general Method, and the most successful. I cannot but think the World highly obliged to the most learned Dr *Friend*, and the other noble Ornaments of our Faculty, that have introduced, and writ in Favour of, this Method. In the beginning of my Practice, relying upon the Authority of *Morton*, I gave the Cortex to check the secondary Fever; especially when I found it (as is very frequent) evidently intermit; but I cannot say with a Success any way answering my Expectation: Not but that after due purging, the *Bark* is very proper to extinguish the hectical Disposition of the Blood, which is frequently the Consequence of the *Small-Pox*, to which, if a cool Regimen, and Asses Milk (where no *Idiosyncrasy* forbids it) be subjoined, we have done, perhaps, as much as lies in the Power of Physic. By this Method of early purging, in the *coherent* and *confluent Pox*, I have seen several rescued from the most imminent Danger, whose Recovery looked rather like a Resurrection. This, surely, is the only way of cleansing the *Primæ Viæ* stuffed with a Load of fœtid, acrid Impurities thrown off by the Glands of the Guts, which cannot be supposed to cease from their Office, during the Course of this Distemper: And forasmuch as the Pores of the Skin are at this time very much constipated by the incrusted Pustules, it is reasonable to believe, the Glands of the Guts rather separate more than usual; it being an allowed Maxim in Physic, That the lessening one Evacuation is the Increase of another; especially where there is such a peculiar Consent, as between the Skin and the Guts. If so, the Excrement being retained for a Week, or more, by it's Weight pressing on the great Artery, hinders the Blood from passing freely to the lower Parts, and so deluges the Brain. Hence those *Deliriums*, *Coma's*, &c. so frequently threatening at this *Stadium* of the Disease. Further, can we imagine that the putrid Recrement of the now putrid Blood, joined, perhaps, with the Pus of the internal Pox, and having also the Addition of some part of the morbid Matter separated by the Glands of the *Fauces*, which is accidentally swallowed, must not be greatly hurtful, by



remaining in the Intestines? where growing more and more acrimonious, (as is the Nature even of our most balsamic Juices, when they are *extra Aream Circulationis*, and exposed to the constant Heat of the Body) it contaminates the Chyle, or Liquors, that are drunk, is re-absorbed into the Mass of Blood, and becomes a *Pabulum* to the very Fever, which Nature endeavours, even this way, partly at least, to throw off. And, in very deed, what horribly offensive, fetid, large Stools do we observe in this Distemper on the Use of Clysters, and more especially after a Purgative? I mean at the State, or in the Declination: So that this very putrid Matter lying long in the Guts, and growing more and more so, becomes at last so virulent, as to corrode them, and brings on that very *Diarrhæa*, or Dysentery, which, it is so vainly feared, would arise from a gentle Cathartic; seeing we are always able to check it's Force (if need be) with an Opiate, &c. How often do we find feverish hectic Heats proceed from a *Cacochymy* of the first Passages, in Children especially; In which Case, a little Rhubarb, or a few gentle stomachic Purgers, shall do more to remove the feverish Disposition than a Pound of the Cortex. Indeed, it is common enough to find the Bark itself purge gently upon it's first Administration: And I am confident, in some Cases, it hath the better effect. Have not we seen some Intermitents cured by one seasonable Vomit? And that not barely by the Shock and Agitation given to the Blood-Vessels, *Genus Nervosum*, &c. and so acting as an Attenuant; but by throwing off the *Saburra* from the Stomach, which fed the feverish *Paroxysms*: And this is more particularly evident in the Fever frequently supervening a Surfeit. Hence it is, that a small Quantity of the Bark sometimes does more after a Vomit, than a much greater could before it. Why, therefore, when there is a Lodgment of putrid Matter in the *Primæ Viæ*, which, in part, at least, feeds the secondary Fever, should not we attempt to carry it off by either gentle Vomiting or Purging, as may be judged most convenient? It hath, and may be objected to this Practice, that it tends to draw the noxious Humours from the Circumference to the Center; but to this it hath been answered, that the Purging is more especially pleaded for, when the Incrustation is begun, and the Matter too thick to be absorbed. If Nature, neither by her own Effort, nor the Help of Art, is capable of keeping the morbid Matter from falling on the more vital Parts; but by an unfortunate Translation of it, is like to sink under it's Weight: As upon a sudden Retrocession of the Tumour of the Face and Hands; a premature Suppression of the Salivation, or the like: Doth it not seem necessary to endeavour to carry off the offending Matter by some other Outlet? As, in the present Case, by the Guts, which are much more easily sollicitated to a Discharge, than either the Pores of the Skin, the urinary Passes, or the salivary Ducts. Indeed, when the Salivation of course ceases, (in my Opinion) it seems necessary to promote



promote some other Evacuation in it's room. At the same time, Cardiac or Alexipharmic Medicines are in no wise contraindicated by this Method (if judged needful). This way Nature affects in Children, to whom a gentle *Diarrhæa* is commonly of the greatest Service, as proving a happy Substitute to the Salivation in elder Persons. The following History will evince, how necessary it may be sometimes to evacuate an offending acrimonious Matter lodged in the Guts, and that too even in the midst of the Suppuration. I had under my Care a \* Person about 30, ill of the Small-Pox. It happened, that the 4th Day from the Eruption, he was seized with a violent bilious Cholic, to which he had been formerly subject: This threw him into the utmost Agony. His Pox flatted and grew pale, as likewise the *Interstices*: His Pulse was extreme languid, and he had a prodigious *Tremor*, with clammy Sweats. I ordered him two Clysters to be thrown up; one as soon as the other was rendered: These gave him five large bilious Stools: After the third Stool, he was tolerably easy: However, I ordered him *Laudan. Solid. Gr. ʒss. Croc. Anglic. Gr. iv. Theriac. Andromach. ʒss. 4<sup>tis</sup>, vel 6<sup>tis</sup> horis*, to be washed down with a testaceous Julep. He took the *Laudan.* three times, and slept sound all Night. The next Morning, I found the Pustules round, florid and turgid. The Man got over the Distemper, tho' he relapsed into his Colic some Days after the Turn, which upon purging with *Calomel, &c.* and the Use of *Opiates*, soon left him. This Person, before, and at the Eruption, complained of a great Difficulty of Breathing, with a short importunate Cough, and a violent Pain under his *Sternum*; for which Reason I ordered ʒxvj. of Blood to be drawn, which was very fizy.

The major part of the *adult* Persons, that had the Unhappiness to be seized with this Distemper, died; among whom fell an old Gentlewoman of 72; a very uncommon Exit for a Person of her Years!

It was a remarkable Instance of the extraordinary Virulence of these *Small-Pox*, that the Women (tho' they had had the *Small-Pox* before, and some very severely too) who constantly attended those ill of the confluent kind, whether Children, or grown Persons, had generally several Pustules broke out on their Face, Hands and Breast, exactly resembling the pocky Pustules, which undoubtedly arose from the Matter of the crushed Pox infecting the Skin in those Parts. Those Pustules arose, matured, and scabbed off, intirely like the true Pox. † I knew one Woman, that had more than 40 on one side of her Face and Breast; the Child she attended, frequently leaning on those Parts on that Side. I observed, that those, which had the tenderest Skins, and who attended those ill of the worst Sort, had most of these Eruptions. We had abundance of Instances of this Nature.

\* *The. Hodge.*

† *Mr. Hikes's Nurse.*



In the beginning of this Constitution, the *Small Pox* were much more malignant than they have been for this Month or two last past. Indeed, when they raged most severely, some Children had them very favourably, and required no other Physic than to be duly purged after them.

*An Account of the Condition of the Town of Hastings, after it had been visited by the Small-Pox; by Mr T. Frewen. N<sup>o</sup> 419. p. 108.*

14. The following is a true Account of the present \* Condition of the Town of *Hastings*; after it's having been visited with the *Small-Pox*; which continued there about a Year and a half. I should here insert an Account of those inoculated, if any thing remarkable had happened: I can only say this, that they all had the Distemper very favourably, and continue perfectly well.

The Number of those that recovered of the <i>Small-Pox</i> , (including 4 that were inoculated)	_____	_____	} 608
Died of it	_____	_____	97
Escaped it	_____	_____	206
Died of other Illnesses since the <i>Small-Pox</i> raged there	_____	_____	50
The whole Number of Inhabitants in that Town are	_____	_____	1636
			Males— 782
			Females— 854

N. B. *There is, at present, no Small-Pox in that Town.*

*Concerning the Efficacy of Camphire in Maniacal Disorders; by Dr David Kinneir, Coll. Med. Edinb. Soc. N<sup>o</sup> 400. p. 347.*

XIII. A Gentlewoman of 19 Years of Age, from an obstinate fasting for 2 Days, and Aversion to see Company, in a religious Turn before *Easter*, fell into a deep Melancholy, would not talk, nor answer any Question for some time, but moaned and sighed continually, slept very little for 10 Days. This happened in the decline of the Moon. The Night before the Change she spoke, and called for some Water to drink; which being given her, she immediately fell a starting and laughing, and her Eyes got a Briskness in them somewhat uncommon, (as her Relations told me); then she began to talk wildly, and continued so all that Night: She became next Morning very furious; whereupon a Physician was called, who bled her 4 times a Week the first 14 Days, vomited her, purged her, used the Cold Bath, and many other Methods common in such Cases, all to no purpose. In this Condition she continued for 9 Months; then I was applied to.

I first began her with an Antimonial Vomit, which had no other Effect than that of setting her fast asleep for 12 Hours. Next Day I gave her ʒʒ of *Camphire* in a Bolus, and as much at Night. She continued to rest well all that Night, and had a great Moistness all over her Body, and in the Day-time a plentiful Discharge by Urine. Thus for 4 Days I plied her, and afterwards, in the Day-time, I ordered her Pills of *Æthiops*, *Gum-guaiac*, *Cinnab.* *Antim.* & *Pulv. de Gutteta*; and at Night, the Dose of *Camphire*. Sensible Alterations

\* Jan. 28, 1731.

every



every Day for the better, and in three Weeks time she enjoyed the full Use of her Reason, and, tho' 9 Years ago, at this time is in a good State of Health, having no extraordinary Ailing ever since.

A Gentleman of a good Family, aged 17 Years, (from some Disappointment) became very silly and stupid. He continued in that way for a long time, notwithstanding he had the best Advice. He had a great Inclination to chew and eat every thing that came in his way, be it what it would. He rested pretty well a Nights, and was delighted with the Sight of every glaring Object. He hid every thing that he could lay his Hands on, as well in Company as alone, and not any ways ill-natured. Thus for half a Year he continued, when he became so furious, that two Men could hardly hold him from beating every body that came about him. Thus he would continue for 3 or 4 Days together, without sleeping; then he would become calmer, after having slept some time; but was a little mischievous. This was the way from New Moon till the Full; then he became silly and melancholy, speaking little, and looking always down, not caring to look one in the Face. So it was alternately for 14 Months.

When I came to him, I found him full of Complaints of his ill Treatment; and had not I had a watchful Eye upon him, I had suffered from a Blow intended at me; but I got him to take the Medicines as before, and with allowing him a more plentiful Diet, and a great quantity of diluting Drinks, he became perfectly well in 6 Weeks, and has enjoyed a good State of Health and sound Judgment these several Years, and is now in Business.

A Mercer's Wife of 36 Years of Age, having born 4 Children, and who was naturally of a lively, active Disposition, fell so ill all of a sudden, one Day at Sermon, that with much ado they could get her out of Church with common Decency. She tore every thing about her, talked much, and uttered horrid Oaths. In fine, she was as much disordered as you can imagine any one. She had the best Advice, it was thought, that *Edinburgh* could give her. They failed of Success, and left off visiting her. About half a Year thereafter I was consulted about her. I treated her in the foregoing manner, and in 4 Days there was a sensible Alteration for the better, and in 4 more she went abroad. I still continued the Use of Medicines for 14 Days after Recovery, and now she is as well as ever she was in her Life.

A young Man, aged twenty, of a full Habit, was so very bad in the fullen, despairing way, wounding himself with his Teeth and Hands, that there was a necessity of close watching him. I vomited him twice, gave him some other things common in such Cases; then began him with the Camphire, which in 10 Days brought him to Reason. He relapsed after that on the Change of the Moon, was ill for 3 Days, but not so as before. He came out of it again, and stood the Change of the next Moon with only a little Heaviness, as



in the Hypo. At the Height of the same Moon, the Day before, he was very uneasy, and seemed to resemble a Person greatly *hypocondriac*. I still continued to him the *Camphire*, and the other alterative Medicines, for some time, but in a much smaller Dose than what I gave him in his Illness: So in 9 Weeks he was perfectly cured, and continues in good Health.

Concerning the Causes of the Gout, by Sig. Michele Pinelli; translated from the Italian by Joh. James Scheuchzer, M. D. F. R. S. N<sup>o</sup> 403. p. 491.

XIV. I have found by chymical Processes, that the solid Substance of human Bones, and the circumambient Parts, is composed of Phlegm, Oil, an alkaline volatile Salt, and a little Earth. The same Principles I have also constantly discovered in the Blood, and all the other Fluids, which are secreted from it, as well as the other solid Parts, with this difference only, that there is more Phlegm, and less Oil and volatile Salt in the Fluids, than may be extracted from the Solids. Carrying these Experiments still further, and endeavouring to extract *viâ humidâ*, as the Chymists call it, the Salt from the Excrements in the Stomach and Intestines, I have constantly found a Salt not unlike Sea-salt, and appearing upon Examination to be a perfect Acid. And yet, with all possible Art and Carefulness whatever, nothing of this acid Salt could ever be obtained from all the other solid or fluid Parts of the Body. Hence it appears how much those must be mistaken, who have hitherto asserted, that the Cause of the Gout is a coagulating Acid existing in the Blood, since nothing of an Acid is found in any part of the Body, but the Excrements. This put me upon thinking, that the Cause of the Gout may be owing, perhaps, to that other saline Principle which chymical Trials shew us to exist both in the solid and fluid Parts: And I have been confirmed herein by the following Experiments.

A very gouty Person being lately dead at *Rome*, I procured as much as I could of that tophaceous gouty Substance commonly found about the Joints of Persons afflicted with this Distemper: And having got about three Ounces and a half, I took six Glass-bottles, and put ten Grains of it into each. The first of these Bottles I filled with distilled Vinegar, the second with Spirit of Vitriol, the third with Spirit of Salt, the fourth with Spirit of Sal-ammoniac, the fifth with Spirit of Hartshorn, and the sixth with Spirit of Urine. After four and twenty Hours, I found the aforesaid tophaceous Matter totally dissolved in the three first Bottles, which contained the acid Spirits; but in the three others, which I filled with alkaline Spirits, it remained entire and untouched, even for some time after. From hence I concluded this tophaceous Matter to be of an alkaline Nature, forasmuch as it is the Nature of acid Spirits, to dissolve such Substances as are either altogether alkaline, or composed in part of an Alkali. And this also I conceived to be the Reason why the aforesaid tophaceous Substance remained entire in the Bottles filled with alkaline Spirits, both being of the same Nature, and consequently not to be dissolved by each other.

But



But for a farther Satisfaction, I took the remaining part of this tophaceous Matter, being about  $\zeta$ ij, and put it into a small Retort. Then having fixed a Recipient to it, I distilled it, according to the Rules of Art, by a gradual Fire, and obtained a Spirit, with some few Drops of Oil, about  $\zeta$ ij. of a *Caput Mortuum* remaining in the Retort. This Spirit I found to be a perfect volatile Alkali, altogether of the same Nature with that which is extracted from Blood, from Urine, and from Bones. Hence again it is evident, that this tophaceous gouty Substance is composed of the same Principles with the other fluid and solid Parts of the human Body; or, that the Cause of the Gout is nothing else but a volatile, alkaline, corrosive Salt, which by corroding the sensible Membranes about the Joints, occasions those acute Pains, which we call the Gout.

XV. *Ufus Frigidæ & Frigidorum in Febris haud recens est, sed apud antiquissimos Medicos minimè infrequens fuit. In Febris enim calidioribus, post Paroxysmi ἀκμὴν, liberaliorem Aquæ, vel cujuspiam refrigerantis liquoris potationem concedebant, quâ defervescente febrili aestu, aeger placidè conquiescens in criticum sæpe-nerò sudorem exsolveretur. Verùm Febres curare solâ nivatâ Aquâ copiosissimè per plures dies exhibitâ, omni subtracto medicamento alimentoque, id quidem omninò novum existimo; atque non solum insolenter, sed, ut verum fatear, audacter nimis, non multis ab hinc annis hîc tentatum, methodo, ut rumor fuit, ab Hispaniâ, rudi & indigesto Commentariolo communicatâ: quâ curandi ratione nonnullos ex ipsis Orci faucibus, præter omnem expectationem, ereptos sub oculis nostris attoniti vidimus. Haesere primùm cauti Medici tantâ Aquæ alluvie perterriti: at frequenti felicissimoque eventu excitati, tentabundi primùm, mox audaciores facti, quod quidam coeco impetu, & nullo morbi, morbique temporum discrimine aggrediebantur, ad cautiorem & securiorem methodum rede gere: ita ut nullus jam apud nos sit Medicus, qui Cleophantus *δοσιψυχος* (ut notat Harduinus in Plinium, lib. 26.) appellari nolit. Hujus Methodi Canones repetitis experimentis confirmatos exponam. Magnum enim remedium est Diaeta Aquea, (hoc nomine appellare libuit) quare in illius administratione, quemadmodùm in omnium magnorum remediorum usu, accuratissimis cautionibus procedendum, ne quod pro Ægrotantis salute instituitur, illius potius necem moliatur.*

Praecipuus Canon est, ut post aliquot horarum à cibo abstinentiam, Ventriculo scilicet omninò vacuo, Aqua nive refrigerata ebibi incipiat, ad libram unam vel duas, pro Ægrotantis aetate, viribus, aut etiam siti. Eadem copia singulis horis, aut secundâ quâque, aut tardius, repetenda, eademque noctu diuque, nullâ factâ intermissione nisi per subrepentem fortassè somnum, exhibeatur. A cibo omninò abstinere debent Ægrotantes: Experimentiâ enim constitit, illum cum Aquâ copiosâ permistum, non solùm in Ventriculo putredinem concipere, verùm etiam ab eodem epotæ Aquæ substantiam infici, eam-  
que

*Of the Use of cold Water in Fevers; by Nicholas Cyrillus, Prim. Med. Prof. Neapol. F. R. S. N° 410. p. 142.*



que minùs aptam reddi, quae facilè exilissima vascula permeare, adeoque in extima simul & intima corporis disjici ac diffundi possit, ad praecipitationem & secretionem noxiorum humorum moliendam. Inedia haec ad plures dies producenda, quousque scilicet Febris vel prorsus intermiserit, vel ad summam remissionem devenerit, atque Æger identidem de fame conqueri incipiat: si enim maturiùs exhibeatur Cibus, statim Febris suis stipata Symptomatibus iterum recrudescet. Quapropter nonnunquam ad septem, imò ad decem & plures dies (dummodò ab Aquâ non abstinenceatur) Ægrotantes ab omni alimento prohibemus. Neque ab hâc abstinentiâ quidquam metuendum: vel quòd ob Aqua frigiditatem, arctioribus redditis cutis spiraculis, Transpiratio insensibilis, adeoque nutritionis necessitas imminuatur; vel quòd Aqua ipsa Nutrimenti Officinas assiduò praeterfluens, si quae inibi sunt alimentorum reliquiae (sunt autem semper impactae) eas secum rapiat, atque per universum corpus diffundens, nutritionis negotio, quoad fieri potest, consulat. Quomodocumque autem se res habeat, illud quotidianâ praxi confirmatum est, Cibus cum copiosâ Aquâ commisceri, absque summo Ægri periculo, non posse: ita ut quamprimùm Cibus Ægrotanti conceditur, ille vel absque Potu, vel cum exiguâ Aquae potatione exhibendus: imò concedendum quoque est aliquot horarum intervallum à Frigidæ potu vacuum, quo commodè Cibus in Ventriculo digeri queat.

Hic seligendus tenuissimus & *εὐπεπτός*, ut Panis purâ Aquâ coctus, Pastilli de micâ Panis, Ovum sorbile, vel vix ferculum aliquod jurulentum. Haec semel primùm & paucissima, hinc bis in die exhibenda, ut sensim ad lautiusculum prandium, servatâ tamen exiguâ coenâ, gradum faciamus: omninò verò, etiam per mensem & ultrâ, carnibus parcendum. Cum hujus generis Cibo vescuntur Ægri, haud Aquae valedicendum, sed peractâ illius assumpti digestionem, ad duas vel tres potationes erunt cogendi: quousque integrè devictò morbo, corporis vires sensim recuperantes, ad diu exoptatam convalescentiam perducantur.

In hujus autem Curationis curriculo quaedam accuratè animadvertenda sunt. Principem locum tenet Observatio, num Aqua assumpta facilem sibi transitum paret, an non. Cum Urinae, saltem post diei intervallum, copiosiores & decolores sensim fieri incipiunt; tunc Aquam viam sibi facere coepisse puta. Nonnunquam primâ statim die vel secundâ tertiâve, Alvus solvitur, cum ejectione primùm faeculentioris saburrae, mox variegatorum humorum: hinc spes major affulget; Febris enim, Alvo solutâ, sensim se remitti, atque symptomata sedari incipiunt. Quod adeò verum est, ut si secundus vel tertius dies excurrat, absque eo quod ventre secedant Ægri, etiamsi universa fortè Aquae quantitas per Urinae vias foras amandetur; Clysteribustamen suppositis, & Oleo Amygdalarum dulcium per os assumpto, lubrici reddendi: crassiores enim humores, qui in primis viis continentur, quique Febrim fovent, vel in Febricitantium corporibus ex

Morbo



Morbo produci solent, haud possunt per caeca Urinae secernicula foras protrudi, sed per amplos Intestinorum tubos sunt eliminandi. Adde, quòd exantlatis primis ductibus, facilè poterit Aqua in ultimos Corporis recessus trajici, atque Sanguini, aliisque secundariis ductis liquoribus medicinam facere.

Si verò accidat (accidit autem saepè) ut Parotides appareant, vel cum ipsis Alvi vel Urinae excrementis purulentum quid intermixtum observetur, quod evidens indicium est maturi & rupti jam Abscessus, haud ab Aquae exhibitione surperfedendum, sed eadem urgendum magis est. Una enim Aqua, quae stagnantes in internis partibus humores ad externas depellere, Collectos ad maturationem perducere potuit, vim quoque habebit eosdem per varia Corporis secernicula integrè deturbandi, atque partes Abscessu prehensas à *necrosi* praeservandi: quemadmodum saepissimè in Praxi vidimus. Praxis tamen eadem nos docuit, abscessus in Cerebro & Thorace factos non adeò facilè Aquaeusu superatos esse: etsi non paucos vidimus, Pure è naribus, auribus, ore, & tussi quoque è pulmonibus educto, integrè sanatos. Solemus proinde cum talium symptomatum signa superveniunt, haud Aquae praesidium respuere; sed si somnolenti evadant Ægri, Vesicantia, vel aliud Phaenigmatum genus applicare: aut si difficultate spirandi exerceantur, Oleum ex Amygdalis dulcibus recens expressum propinare, vel Aquam ipsam ex frigidâ tepidiusculam reddere. Non rarò insuper accidit, ut primis praesertim Aquae diaetae diebus, vomitus, & quidem vehemens, superveniat: quo si heterogenei humores, ut fieri solet, ejiciantur, pro bono habendum; cessat enim cum Ægrotantis levamine, postquam ventriculus omninò exoneratus sit. Quòd si Aqua ipsa vix epota evomatur, ad iteratas & frequentiores potationes Æger cogendus: etenim Aquam vomitu rejectam maligni humores subsequi solent. Constanter item & assiduò Aqua est exhibenda, si Singultus suboritur: hunc enim quemadmodum ab Aquâ excitatum, ita ab Aquâ continenter epotâ compesci observamus. Sudor verò si Frigidam potanti superveniat, solet vires exsolvere, non sine magno vitæ discrimine: Id quidem paradoxon videri poterit iis, qui ex Frigidae in Febribus potu sudorem expectant, in quo magnum D. Hancock Febrifugum consistere scimus. At in diaetae Aquae usu, si sudor superveniat, is cohibendus, Aquâ adhuc frigidiori & copiosiori exhibitâ, Ægrique corpus remotis stragulis, ventilabro, & perflatu conclavis refrigerandum: sunt qui & nive ipsa contritâ conspergere audent.

Maxima porrò in Aquae usu Medicorum crux est, cum Ægri vel delirio, vel Lethargo, vel summâ virium abjectione affecti, ad Aquam justâ copiâ & frequentîâ bibendam impares redduntur. Tunc quidem omnis adhibenda est industria, ut postremum quod illis restat remedium, nempe Aqua, exhibeatur: Quod à delirantibus vi & minis, à valdè debilibus & consopitis Nive in os intrusâ, per fas & nefas, nunquam extorsimus.



Post expositam Aqueae diaetae methodum, & quomodo symptomatibus *επιραινόμεναις* occurrendum sit, reliquum est, ut quibus in Febris, & quo illarum tempore ad hoc praesidium deveniendum sit, exponamus. In principio sanè Universalis Februm haud opportunum est statim Aquam arripere: quum enim tunc temporis cruda & crassa sint omnia, haud jure speres à copiosâ Aquâ peccantes humores posse vel secerni vel exturbari. Secus in Morbi statu cum omnia exacerbata sunt, & *ἢ νόσος ἀνθήει*, ut ait *Hippocrates* cum nempe Æger ad maximum periculum perductus est, Aqueae praesidium opportunum locum habet: tunc enim materia Febrim fovens ex diutinâ ebullitione, particularum contritionem quandam, vel, si mavis, aliqualem coctionis umbram adeptâ, poterit copiosae Aqueae exhibitione, illiusque cum humoribus corporis permissione veluti praecipitari, secerni, atque quâ data porta evacuari. Hinc igitur saepe accidisse vidimus, ut fortunatius evaserint, qui in ipso veluti mortis agone constituti ad hoc extremum praesidium, tanquam ad sacram anchoram confugere. Hoc monitum negligentes audaculi quidam Medici, Aquam in Februm principio, vel incremento exhibentes, in maxima pericula, & mortem ipsam, Ægros deduxere. Non inficias tamen iverim, in Febris Biliofis, seu tenues humores pro causa agnoscentibus, non infelici ausu, Aquam quandoque in ipso principio exhibitam esse: & ratio ex supra dictis evidentissima est.

In Febris igitur Acutis, Malignis, & lethalibus omnis generis, quo tempore opportunum videbitur, quod à maximo Ægri periculo significari solet, ad dietam Aqueam deveniendum. Nam vel Febres tales sunt, ex quibus ad concretionem tendit sanguis; & tunc Aquâ copiosâ cum eo permistâ facilè poterit fluidam naturam ferè amissam iterum recuperare: Vel ex Febre sanguinis massa ad nimiam tenuitatem, cum spirituum exsolutione vergit; atque hoc casu Aqua, praesertim frigida, salia acria sanguinem dissolventia solvere & retundere potis erit. Unde Phaenomeno lux, cur scilicet frigidum jam redditum Febricitantis Corpus ex frigidae potatione veluti miraculo incalcescat. Sive enim sanguis ex pernicioso spirituum effluxu concretere incipiat, sive ex nimia illius dissolutione spiritus evolent; semper frigidae copia cum illo permista (accedente quoque pororum cutis contractione) aequè spirituum dissipationem prohibebit, adeoque Calor amissus revocabitur.

Hinc illud hic inculcandum, quod à principio insinuavimus, Aquam non nisi nivatam Febricitantibus praescribendam: primùm enim frigidâ se eâ copiâ ingurgitant Ægri, quae operi necessaria est, calidam verò respuere post primas potationes solent: praeterea ab Aqueae frigiditate Ventriculi Fibris vis major elastica accedit, quâ propelli in ultiores vias usque ad sanguinem ea facilè possit; contra tepescens fibras easdem ad atoniam disponens, sui mole ventriculum inflat, pondere premit ac anxium reddit.



Haud tamen dissimulabimus, nos quandoque non frigidam, sed calentem Aquam praescribere: cum scilicet Pulmonum & Viscerum Inflammationes & dolores cum Febris copulantur: veriti ne frigidum partes phlogosi prehensas ad *ὑπερπνοίαν* disponat. Verum negare minime possumus in his casibus nonnunquam ad frigidiusculam, etsi non nivatam, transitum fieri: cum nempe, tepentis Aquae fastidio affecti Ægrotantes, illam assiduò bibere renuunt. Satius enim esse reputamus, multam frigidiusculam, quàm paucam tepentem, sed operi impari ministrare.

Juxtà hos canones (quos Experimenta saepiùs instituta, & Ratio postmodum, si non invicta, saltem non omninò infirma suasit) Diaetâ Aqueâ in Febris multoties usi, felices eventus notavimus, ut *ἀπιστοῦ μὲν ὕδαρ* verè fateremur. Nonnunquam tamen praeconceptâ spe frustrati sumus, quod à Medicinae fortunâ praefertim in magnorum Medicamentorum administratione, non abhorret: nil enim adeò certum in illa est, quod fallere etiam accuratissimos Practicos saepè non possit.

Hucusque de Frigidæ usu in Febris locuti sumus: verumtamen sunt & alii Morbi, in quibus Aqueam diaetam, & non sine Ægrotorum emolumento, analogismo quodam ducti tentavimus. Tales sunt Diarrhoea, Dysenteria, imò & Coeliaca, & Lienterica affectio: tales sunt Ischuria Renalis & Dysuria: tales Cardialgia & Cholera Morbus Hypochondriaca & Hysterica affectio: nec caremus exemplis Hydropis (quis credat?) copiosâ Aquâ epotâ curati: referatis nempe coecis Renum & Alvi viis è quibus & Aqua & serosus latex ubertim effluxit. Imò & salutarem Aqueae Diaetae usum experti sumus in Variolis, sed in tertio illarum stadio, ad necem Ægris tendentibus, ex Abscessibus in cerebro & Pectore formatis: quo remedio ingentem puris copiam naribus & ore excerni vidimus. Haud tamen in omnibus his Morbis Aqueam Diaetam, hoc est, Aquam solam, omni interdicto Cibo, adhibemus; sed in Chronicis, largâ frigidæ potatione 4 horis ante parvum prandium, atque altera 8 horis à prandio, contenti esse solemus.

Haec quidem sufficere putavi ad meum propositum: unum tamen postremò animadvertendum apprimè esse duco, quoad Aquae frigidæ exhibendæ copiam; gravius scilicet delinqui, si minori quantitate propinetur, quàm si excedenti. Quum enim eo fine Febricitantibus in valde ancipiti statu constitutis Aqua exhibeatur, ut in omne Corpus diffusa, meatus referet, liquoribus motum & tenuitatem naturalem impertiatur, ac membrorum omnium calorem/roburque foveat; id praestituros nos frustra pollicebimur, modicam propinantes Aquae quantitatem, quae in Ventriculo & primis Visceribus moram trahens, tantum abest ut possit ulterius progredi, ut potius cum noxiis humoribus ibi stagnantibus permista, illorum putrefactionem promoveat, Ægroque perniciem moliatur. Opus igitur est, ut maximâ quantitate & successivè ingeratur, ad hoc ut copiâ viam sibi paret, & veluti



alluvie Corpus universum inundet. Id autem eò audentiùs prosequendum, si post primam transactam diem, transitùs Aquae signa per Urinam vel alvum apparuerint. Eò enim Aquam reliquis Remediis securitate praestare putamus, quòd tametsi nonnulla Medicamenta possent fortassè maximos Morbos debellare si excedenti dosi exhiberentur, veluti stibium Diaphoreticum, Bezoarticum, & sal volatile quodcumque, & ipsum Vinum generosum copiosè epotum; verumtamen quis non videt, ex ipsâ excedenti dosi maximum vitae periculum, debilibus praesertim Ægrotantibus, imminere? sola Aqua innocentissima & tutissima videtur: vix enim Æger est adeò viribus destitutus, qui uberrimam Aquae copiam sustinere non valeat. Hinc haud παρά μίθοσον factum puto, si etiam cùm desperata res est, & jam conclamatum, Medicus factò prognostico, & expositâ quidlibet audenti occasione, Aqueam Diaetam, etsi contraindicatum remedium, si non praecipiat, saltem permittat: nonnunquam enim improvisis Naturae Modis, desperatos jam Ægros ex insperato ad salutem redisse vidimus: ut pro sano consilio illud habendum sit, fatius esse anceps remedium experiri, quàm nullum.

Haec sunt quae apud nostrates de Aquae in Morbis usu experiri usu venit, quo nullum familiarius per vulgi ora nunc fertur Ægreditudinum omnium remedium: ut nostris his temporibus aptari commodè possit Versiculus, quem de *Euripide* à ventris cruciatibus, ope Clysteris maris Aqua parati, liberato, refert *Laërtius*:

Ἡ θάλασσα κλύσει πάντα τῶν ἀνθρώπων κακά.

An simile accidere possit in frigidioribus Regionibus (de quo haud desperem, nam etiam hybernâ tempestate tales per Frigidam Curationes hîc feliciter prosequimur) videant accuratissimi Viri, qui in Boreis Terrae plagis, non sine maxima laude & fortuna faciunt Medicinam.

XVI. We have a Species of the *Scabiosa* at *Algier*, which is of great Virtue in removing intermitting Fevers. I send you a Specimen of it's upper Leaves, for the lower are at present dried up. It is not unlike the Figure which *Morison* gives of his 20th Species, Cap. XXI. Sect. 6. Tab. 14, or of his 25th Species, Cap. XXI. Sect. 6. Tab. 15, of Corymbiferous Plants, only the Head is not round, as there described. I have therefore presumed to call it, *Scabiosa, flore pallido purpureo, capitulo oblongo, foliis superioribus incis, inferioribus integris, serratis*. The Method of preparing it, is to put a handful of it into a Quart of Water, and boil it away to a Pint. A Coffee-Dish full of this Decoction is given Fasting, a little before Dinner, and at Night, to the Patient, no Regard being had to the Interval or Intermission of the Fit, as in giving the Bark; and it operates ordinarily by Stool or Urine. I have only seen this Plant here, at *Oran*, *Gibraltar*, and *Mount Libanus*, where I first was acquainted with it's extraordinary Qualities.



XVII. In reading Dr de Jussieu's Memoir, about the present Disgrace of *Ipecacuanha* in France, and the Method he proposes for redressing it's Defects by *Simarouba*, a Root brought from Cayen in America, I was surprized to find a Remedy almost adored for half a Century, to have fallen into the utmost Contempt ; a *Specific*, a very short and satisfactory Word, totally neglected by it's most zealous Votaries. The learned Professor alledges, that this great Revolution, in the Fame of *Ipecacuanha*, proceeds from it's having been unskilfully administred : Physicians commonly considering the general Appearance of a Looseness only, without penetrating into the particular Causes which support it, and require, on that account, different Methods of curing it. M. de Jussieu, avoiding all Extremes, is an Enemy to the banishing *Ipecacuanha* altogether out of the Practice of Physic, as many of it's disappointed Adorers now do ; because it is not the infallible Specific they vainly imagined it to be.

Concerning the  
Difficulty of  
curing Fluxes,  
by William  
Cockburn,  
M. D. F. R. S.  
No. 425. p.  
385.

This common Misapplication of Medicines, or our Ignorance of the particular Circumstances of a Disease, when it requires a different Method of Cure, is the very Reason why great Numbers of excellent Medicines among ancient Physicians, have been lost, because they were not understood. Take a broken Shin for instance, which has the Skin only rubbed off, observe the Difficulty the best and honestest Surgeons have to cure it. Go to *Aetius*, and others, where you may find a *safe, easy, and speedy* Cure ; which, as the same Author on another Occasion observes, the People make slight of, because they do not know the Danger or Trouble that often attend it.

A *Looseness* is more liable to be mistaken than the greatest Number of other Diseases ; because it is produced by two immediate Causes that are very different, when the rest have one Cause only, however great the Diversity of particular Cases may appear to be. A Fever, viz. has but one Cause, tho' the Variety of Fevers, or the various Appearances of a Fever are infinite, and never can be classed by Observation, I shall therefore consider the different Circumstances of a Looseness observed by Dr de Jussieu, and that occasions the Misapplication of *Ipecacuanha* ; but I shall afterwards endeavour to make his Account more perfect ; for thereby Physicians will be able to have more perfect Intentions and Views of curing than hitherto they have had.

When great Crudities, says the Doctor, and indigested Stuff in the first Passages, or an Obstruction in the Bowels of the lower Belly are the Cause of a Looseness, we may always expect the common good Effects of the *Ipecacuanha* for a Cure. On the contrary, when *Ipecacuanha* is given against a Hepatic Dysentery, or against a great Discharge of Blood upwards or downwards, often occasioned by a purging Medicine that was given for a Cure of the Looseness, no Success can reasonably be expected from the Specific, far less have we any Hopes, when *Ipecacuanha* is given for the Cure of a Looseness that subsists on an Inflammation of the lower Belly ; or when sharp and fixed



*fixed Pains give us a Suspicion that the Dysentery has a cancerous Ulcer for it's Cause.*

As there is no Difficulty that is peculiar to a *Dysentery*, and is not common with the Dangers of a *Diarrhœa*, the Terror of Blood not excepted, it must be acknowledged that any Vomit as well as *Ipecacuanba*, is a proper Cure against ill Digestions and Crudities in the Stomach, as *Hippocrates* anciently observed, and has been believed by all Physicians since his Time: So that there is nothing in the *French Specific* that is not in Salt of Vitriol; which we had held it's Reputation, in curing *Dysenteries*, longer than *Ipecacuanba* is like to do.

It is more wonderful that this way of curing a Looseness by *Ipecacuanba* was not sooner determined. Nothing besides the lazy Talk of a Specific, that excludes all Reasoning and Reflection, could have made Men easy under so gross Ignorance. The very Instance given us by the late excellent Dr *Tournefort*, in the Case of his Tutor *Petrus Sylvanus*, is a sufficient Proof that *Ipecacuanba* is no Charm of a Specific, but that it cures by it's evacuating: For, when the Weakness of *Sylvanus* made them cautious in administering the Specific, the Disease held it's Ground against the Charm, and it's Adorers, till Despair drove the Physician upon larger Doses, the last Resort of the Vanquished, and they produced Evacuations by Vomit and Stool, and thereby his Health in one Night.

It would be superfluous to observe upon what is said about the *Simarouba*, and how far it may remedy the Defects of *Ipecacuanba*, the Trials of it being few, not sufficient to determine the Universality of it's Use. Far less shall I enquire, whether the *West-India* Plant has any Relation to the *Macir* from the *East-Indies*, mentioned by *Pliny*\*; tho' I wish Dr *de Jussieu* had prepared the *Simarouba* with Honey, since the great Cures recorded by *Pliny*, by the *Macir* might be assisted by it's being prepared in that way. I shall then proceed, and make the foregoing Account more perfect, and more obvious, better fitted to fix the Views of Physicians, in the Point they are to pursue. For this Purpose, I shall give a plain Account of the several Species of a Looseness, and in each of them apply the different kind of Remedies employed for the Cure of them. Thus we shall perceive the proper Administration for every Looseness, and how far any of them is left without a Cure.

The Anatomy of the Guts alone informs us, that the *immediate Cause of every Looseness*, whether it be Symptomatic or Essential, must either be a quicker Conveyance of the common Quantity of concocted Food, and of the Liquors that are commonly mixed with it in the Guts. Or the Cause of a Looseness is a greater Secretion than ordinary, of a watery Substance from the Blood into the Guts, and brought into them by the Pancreas, and

\* *Hist. Natur. lib. xii.*



various other Glands. In both which Cases there must needs be a larger Discharge of liquid Excrements, by Stool, than usual, or there must be a Looseness. A Looseness produced by the first of these Causes, admits of great Variety; both on Account of the different Stimuli, and even from the different Degrees of the Stimulus in each of them. The Stimulus, viz. of indigested Food, Fruits, and the like, differs very much from the Stimulus of Gall. The first Sort is confined to the Stomach and Intestines: In which Case, the Disease is often a Cure to itself; whereas the Stimulus of Gall is greater, and the Cause is more permanent and seldom carries off itself. The Degree of the Stimulus may be determined by some other concomitant Symptoms of Slime, Glair, &c. But when the Stimulus is occasioned by the Piles, an Ulcer, or a Stricture in the Guts, it is vastly more violent, and much departs from the common Cure of a Looseness, whereby Physicians are often subjected to fatal Errors, and gross Misapplications of their Medicines. The Watery Looseness produced by the other immediate Cause, is indeed deplorable; because a Method of Curing is not commonly known. It is not only as a Principal, but it is a Second, in the Beginning, at the Ending, and in the intermediate Times of all other Diseases, and even in old Age, when Nature is submitting to the Power of Death; when Physicians call it a *Colliquative Looseness*, because it seems to melt away the Flesh of the Sick. \* *Petrus Salius Diversus*, a most approved Physician, affirms it to be vain for a Physician to attempt the Cure of it. *Carolus Piso*, who endeavours to explain it, and the most sagacious *Laz. Riverius*, after trying all the common Methods, gives us no better Hopes of a Cure.

It is now manifest why a Looseness, that in all outward Appearance is one and the same thing, and promises to submit to the same Remedy, is vastly different in the manner of curing it. Our Experience has contradicted our Belief, and the Remedy that has proved effectual and sufficient in one Case, has proved ineffectual and useless on other Occasions; on which account Remedies are very liable to be misapplied.

To prevent this Misfortune in a great measure for the future, I shall consider the Medicines commonly made use of by Physicians for the Cure of a Looseness; and next how they may most properly be adapted to that End: For thus we must perceive the particular Cases wherein they are like to be useful, and when they are not like to be of any use at all. *Astringents*, or binding Medicines, were the first employed for the Cure of a Looseness, as well as of every other Evacuation: But *Hippocrates* observing that a Looseness was often the easiest cured when it was attended with Vomiting, *Vomiting Medicines* were introduced on that account. On a like Consideration, *Purging Medicines* were admitted by *Celsus*, because he found the

\* Pag. 188, 189. lib. de Peste.



*Purging the Cure* of itself; or that the Looseness went off by going to stool for a few Days: But he advises Physicians to take care that the Looseness does not run longer than seven Days, and that it is not attended with a Fever; for in that case the Looseness is not *critical* and *salutary*, but *symptomatical*, and hastens on the Ruin of the Sick. All these Observations have not been found universally true in many other Countries; for *Cælius Aurelianus*, a most accurate Observer of Diseases, *Rhazes* and *Avicenna* blame this free Use of Purging and Vomiting, and may be justified by what will be shewn in the Progress of this Discourse. But, now that we may apply this Artillery of Physicians against the two general Causes of all Loosenesses, we shall begin with the most ancient of the mentioned Methods, which was practised by *Prodicus Selymbrianus*, whose School was adorned by the divine *Hippocrates*. Binding Medicines, as I lately observed, were employed for the Cure of every Evacuation, and are still the Refuge of Physicians when all other Methods have been baffled, under their own Conduct and Direction; they tacitly have the Preference given to all other Medicines; for instance, *Ipecacuanha* is preferred to any other Vomit, and *Rhubarb* to any other Purge, because they are more astringent than any other of the Tribe. So far do Physicians extol the Power of *Astringents*, that many of them affirm, that by them any Looseness may be repressed, if they did not think it unreasonable or improper. However, it may stand with these Boasters, it is very certain, that these Medicines only affect a Looseness occasioned by a *Stimulus*, and if this is small, the Looseness may be cured by it; but if the Degree of the *Stimulus* is greater, the astringent Medicine is either not able to put a stop to it, or it will tear the Sick with Gripes if it does. It is on the same account of the *Stimulus*, that a Vomit or a Purge is properly premised to other Medicines, if it consists with the Strength of the Sick; but after all, the Storehouse of Physicians seems to be exhausted in curing a Looseness that proceeds from Indigestion, or Gall; but if the *Stimulus* is from the Piles, an Ulcer, or a Stricture in the Guts, Physicians are lost without any Remedy, and too frequently have Recourse to the omnipotent Astringent, without any Success. Here is a real Want, an Inability and Unskilfulness in our Work, and leaves too much room for misapplying Medicines. But if we turn these Engines of Vomiting, Purging and Binding, upon the other general Cause of a Looseness, they either fall very short, or like a little Water thrown upon a great Fire, they rather inflame than extinguish it. *Hippocrates* \* indeed does not mention the *Watery Looseness*, but he says many things that peculiarly concern it; which *Foësius* not understanding, blamed him for Obscurity in this Place. *Piso* † gives a very plain Description of this Looseness, and his Observation is admitted by every succeeding Phy-

\* *Coac. Prænot.* 134. *Prædict.* 81. † *Sect.* IV. *cap.* 1. *Obs.* 54.



scian. The desperate State of the *Watery Looseness* was formerly mentioned from the Confession of Authors of the greatest Knowledge and Veracity; and Physicians shall for ever find that Looseness to become more violent the more you press it with Astringents, Vomits, or purging Medicines. The boasted Omnipotency of putting a Stop to a Looseness at pleasure, must serve another Use with the Sick, tho' it may not be able to put the desired Stop to his Purg- ing. There is even a Singularity in the Cure of this Looseness which I think has not hitherto been observed. In every other kind of Looseness the Stools acquire a Consistence, when they begin to be cured; but in the *Watery Looseness*, the Stools commonly lessen in Quantity, tho' not in their Looseness. I should say something of *Opium*, a Medicine often made use of for the Cure of every kind of Looseness, but as it neither acts as an Astringent, nor in a way observed by Physicians, it must still remain among other *Desiderata*.

XVIII. 1. This short Account of *Mortifications*, &c. which contains 48 Pages in a large 8vo. is divided into three Parts.

In the first, our Author treats of *Mortifications* in general. What he says upon this Head is collected from some of the most experinced Physicians and Surgeons, who all affirm, that a Mortification from an internal Cause is always incurable; and when it proceeds from an external one, it can never be cured but by Amputation, or separating the Part affected from the sound.

In the second Part, he gives a very remarkable Observation of his own, which proves to a Demonstration, that a Gangrene, even from an ill Habit of Body, may be cured, contrary to the hitherto received Opinion.

In the third Part, he makes some Remarks on the present Case, and adds some parallel Observations from Mr *Rushworth*, a Surgeon in *Northampton*, who had the good Fortune of making the first Discovery of the great and surprising Effects of the *Peruvian Bark* in checking the Progress of *Mortifications*, which he says has been likewise confirmed by the repeated Observations of Mr Serjeant *Amyand*, who had often used the same Medicine, in the same Case, and with the same Success with Mr *Rushworth*. Our Author says further in this Place, that it is only by taking off the Fever that the *Bark* produces all these good Effects. But to return to the Observation itself, which he has given us with a great deal of Judgment and Accuracy. He says, that *April 22, 1732*, he was sent for about 15 Miles out of Town to visit a Gentleman near 50 Years of Age. Upon Examination he found the Back of his right Foot mortified, near the middle Toes, about the Breadth of a Shilling; his Pulse quick, and his Tongue dry. There being no Sign of any external Hurt, Bruise or Wound, his Physician, Apothecary, and himself were all of Opinion, that it must proceed from some internal Cause residing in the Mass of Blood. The necessary Dressings being got ready, he scarified the

*An Abstract by James Douglas, M. D. F. R. S. of a Book, entitled, A short Account of Mortifications, and of the surprising Effect of the Bark, in putting a Stop to their Progress, &c. by John Douglas, Surgeon, F. R. S. No 426. p. 429.*



mortified Part, and cut to the very Bones without being felt by the Patient, having afterwards carried his Incisions thro' the Skin as high up as the Knee, before ever he began to complain of the least Pain. His Limb was at the same time stuped with a proper warm Fomentation, and the Wounds dressed up, as usual, with Pledgets dipped in hot Oil of Turpentine, and over all a Poultice, was laid on of *Theriac. Londin.* Oatmeal and Stale-Beer, the Physician prescribing what Alexipharmics he judged most proper upon the Occasion. *April 23*, Serjeant *Dickins* and Mr *Chefelden* being called in, directed the same external Application to be continued as before. *April 24*, The Mortification did not seem to spread. *April 25*, His Fever was high, his Tongue very dry, and the Mortification began to spread a little. He then scarified again, and deeper. *April 26*, The Mortification seemed to be at a Stand. *April 27*, The Mortification spread cross the Toes towards the Ball of the Foot, which he scarified deeper, and dressed as before. The Fever grew higher. *April 28*, He was forced to use the actual Cautery, the Mortification getting ground in spite of all he had done. *April 29*, He found no Benefit from the Cautery, tho' applied wherever the Part was corrupted. *April 30*, The two Surgeons that had been consulted before, the Physician, the Apothecary, and the Author, were all of Opinion, that even the taking off of the Limb could not save him, but that in all probability he must die in 24 Hours, his Symptoms being worse than ever; that is, his Fever was very high, his Tongue dry enough to grate a Nutmeg, his Visage wild, he had a great Drought upon him, was very restless, the Mortification spread as far as the *Tendo Achillis*, and besides, the Patient complained of a Pain and Hardness in the side of his Belly. In this deplorable Condition the *Jesuit's Bark* was proposed by Serjeant *Dickins*, and agreed to by the other Surgeons present, and  $\mathfrak{ss}$ . was ordered to be given that Evening, and repeated every 4 Hours. *May 1*, This Morning he found a very surprising Alteration for the better, with regard to the Fever, and the other Symptoms complained of the Day before; the Patient had a good Night's Rest, and the Mortification had made no further Progress. *May 2*, There was a small Discharge from the Sore. *May 3*, He found two large Abscesses on each Side of the Ankle. The Violence of the Fever being taken off by the Use of the Bark, Nature was unable to form these Abscesses, and from that he concluded, that the Progress of the Mortification was effectually stopped. He observed upon giving the *Bark* but once in 6 Hours a small Return of the Fever, with a worse Digestion, which obliged him to give it every 4 Hours as before, and continued in that Dose for 28 Days in all; and then every 6 Hours for 5 or 6 Days longer, tho' the Fever had quite left him all that time. The whole Quantity of the *Bark* given to this Gentleman amounted to  $\mathfrak{xx}$ . *May 5*, His Pulse was regular, and the Digestion plentiful and laudable. The Muscles and Tendons



on the Sole of the Foot being all mortified, before the *Bark* was given, separated in Process of Time, and fell off very kindly, leaving the Bones of the Toes, *Metatarsus* and *Tarsus* bare and carious, which he afterwards cut off one after another, as he found occasion, and could be done with Safety. About the middle of *November* following, the Ends of the *Tibia* and *Fibula* were almost covered with a firm *Cicatrix*; the Patient at this time was well in all other respects, and was able to walk about by the Help of a wooden Leg, and from that time has continued in perfect Health.

2. D. Rushworth, Chirugus Northamptoniensis, literis ad Societatem Chirurgorum Londinensium datis, Oct. 18, 1731, se ad virum vocatum fuisse narrat, cui sphaelus pedis ex interna causa cum febre vehementi & pulsu inordinato ad ossa usque progressus fuerat: atque huic primo ope scarificationum profundarum & usitatorum remediorum sphaelum cohibitum, febre leniore facta, pulsu quietiore, & pure ad margines ulceris apparente; deinde iterum & tertio recrudescentem & latius serpentem eadem methodo restrictum fuisse; tandem Cortice Peruviano in usum, dum febris remitteret, vocato, febrem & sphaelum extincta penitus fuisse, aegrumque crure abscisso sanum & valentem multis annis vixisse testatur; idemque se aliquoties ab eo tempore expertum esse confirmat. Literis hisce D. Amyand, respondit, Jul. 29, 1732, se jam ad exemplum Rushworthi Cortice Peruviano septies cum successu in spacelo usum fuisse, & speciatim in viro 78 annorum, cui sphaelus pedis ex phlegmone obvenerat, isque dum quotidie procederet latius, post 24 horas à cortice exhibito partes emortuae separari, pusque laudabile apparere incipiebant: in alio item, cui sphaelus opem remediorum vulgarium per tres septimanas repudiabat; ut & in tertio, ubi sphaelus puncturis crurum propter hydropem factis superveniens corticis vires sensit, malo intra diem unum cohibito, licet aeger immedicabili ictero obsessus, morboque & remediis exinanientibus exhaustus, gangraena crus alterum occupante, fato cessit: exque his omnibus corticem Peruvianum non minus certum esse remedium ad sphaelum ex causa interna quacunque sanandum, vel certe ad eundem cohibendum, quam ad febres intermittentes profligandas, satis constare arbitrari se profitetur.

Praeter ista notari etiam merentur literae D. Joan. Douglas Chirurgi ad eundem D. Rushworth, Jul. 5, 1732, missae (quod etiam postea peculiari scripto ad id edito fusius prosequitur) quibus se ad virum quinquagenarium, sphaelo pedis ab interna causa laborantem vocatum, fuisse refert: ubi postquam scarificationes, alexipharmaca intus & extra adhibita, aliaque usitata praesidia per aliquod tempus frustranea fuissent, morbo quotidie serpente, usu tandem corticis Peruviani, quem D. Dickins Chirug. Reg. cum D. Cheselden Chirurgo in consilium adhibitus persuaserat experiri, sphaeli progressus statim repressus est, febris mitior facta, brevique putridae

*Of the Use of  
the Peruvian  
Bark in Mor-  
tifications; by  
Mr John Ship-  
ton, Surgeon,  
No 426. p.  
434.*



omnes partes, tendines scil. ligamenta, & ossa omnia pedis, metatarsi & tarsi sponte abscefferunt, aegro convalescente.

Haec omnia Anglice scripta & in unum congesta pro benevolo ad publica commoda promovenda animo libello minusculo inclusit, ediditque D. Rushworth: quae ne intercidant, & in oblivionem veniant, ut contingere iis, quae brevibus chartis descripta circumferuntur, vulgo solet, utque exteri, qui Corticis Peruviani usum in Febribus intermittentibus ob, nescio quae, obventura vel subventura mala formidant, hoc saltem casu, quo nihil gravius accidere potest, ad eum experiendum animentur; paucis eadem complecti, & Latine exhibere, eaque quae mihi nuper in ejusdem remedii usu obtigerunt, subjungere placuit.

Ante annum fere ad virum quinquagenarium, cui ex liberaliori Bacchi usu, indeque orta cachexia phlegmone pedis in sphacelum digitorum & metatarsi mutata erat, vocatus sum. Is, licet plurima alexipharmaca, aliaque ad id malum facientia, interna & externa, per plures dies a D. Dod, M. D. & Chirurgis Holloway & Green adhibita fuerant, quotidie latius & profundius serpserrat, cum febre potius lenta quam ullo modo vehementi & diabete spurio, seu copiosiori urinae limpidioris profluvio. Hisce omnibus evincendis, cum praesertim urinae quantitas aucta astrictorias Corticis Peruviani vires exposcere videretur, & experimenta DD. Rushworth & Amyand successum pollicerentur, ejus usum Medico & Chirurgis tentandum proposui: qui cum membri exstirpationem nihil valituram fatis scirent, abunde ex pluribus tentaminibus infeliciter factis edocti, aliaque frustra usurpassent, facile manus dederunt. Is vero cum ad ℞ij. quarta quaque hora per aliquot dies datus fuisset, nihil aut ad diabetem, aut ad sphacelum conferre visus est; sed per illum humido vitali exhausto, per hunc carne continue latius absumta, aegrotus intra duas fere septimanas mortem obiit.

Feliciores eventum nuper habuit corticis usus in viro 35 circiter annorum, temperamenti melancholico-scorbutici; qui, dum ex sclopeto aucupatorio pulverem pyrium eximeret, idque cum manus dextrae vola incautius ori ejus apposita esset, disploderetur, vulnus per mediam palmam indicisque & pollicis intercapedinem porrectum, amplum & profundum, cum vasorum & tendinum laceratione passus est, quod statim in pago urbi propinquo, ubi tum erat, haemorrhagia largiore cohibita deligatum erat. Per aliquot dies gravis dolor cum tumore magno & inflammatione digitos omnes praeter pollicem, totamque manum & brachium obsedit, neque quicquam ex vulnere praeter ichoris copiam, primo sanguinolenti, deinde fusci coloris cum foetore aliquali prodiit; vulnus etiam ipsum subnigrum latius indies patebat, tumorque & inflammatio cum dolore vix diminutus est, licet usitata ad ejusmodi vulnera remedia usurpata fuissent. Undecimo autem die sanguis ad uncias aliquot intra spatium nycthemeti quater sponte sua fluxit, qui bis sponte etiam stetit, his autem adhibito Sp. terebinthinae manusque pressione restrictus est,

& margines.



& margines vulneris sphacelo conspicuè occupari videbantur. Cum igitur nihil jam restare videretur praeter usum ferri igniti ad haemorrhagiam sistendam, simulque sphaceli progressum cohibendum, quando illa fomenta & cataplasmata, hic fasciarum stricturam repudiaret, fin autem cauterium nihil proficeret, ad manus amputationem deveniendum esset, quae quam anceps in hujusmodi corporis temperamento remedium foret, experientia satis testatur; ad utrumque pariter inhibendum Corticis Peruviani vires, cujus feliciter exhibiti testimonia plura tum audiveram, experiri hic etiam placuit. Duodecimo igitur die  $\text{Eii}$ . Corticis mane exhibiti sunt; & quarta quaque hora repetiti; ex quo, sequenti mane, cum jam ejus unciae dimidium hausisset, dolorem plurimum mitigatum, tumoremque manus valde imminutum inveni, puris etiam aliquantum circa vulneris margines & intra fascias conspectum, limbusque undique, qui pridie ex sphacelo niger erat, jam separari incipere visus est: Febris quoque, quae toto prius tempore minime gravis, satis tamen sensibilis, cum haemorrhagia incrementum sumserat, in totum quieverat, urina sedimentum paucam, quod lutosi potius aut albo flavescens quam lateritii vel rosacei coloris erat, deponente. Corticis usus eodem modo per duos dies continuatus erat, deinde per duos amplius dies ter quotidie sumptus, tum per tres alios dies bis duntaxat in die, adeo ut intra septimanam unam duae ejus unciae datae fuerant. Interea tumor & inflammatio omnis evanuerunt, pus purum manabat, caro succrescebat, & dolor, qui tamen inter movendum satis gravis in carpo adhuc restabat, plurimum imminutus fuit. Per tres deinde septimanas omnia bene se habebant, excepto quod rheumatico-arthriticus affectus, quo alias hyeme laborare solebat, nunc pedem, nunc acromion & scapulam unam vel ambas, cum tumore, invasit; febre interim vacuus erat, & appetitu ad ea, quae permessa erant, valens. Deinde vero, Dec. 19, stomachus imbecillior fieri, dolor metacarpi cum tumore major quae cum sequenti die augmentum sumere visa essent, tertio die pulsus aliquantum celerior factus est, & tumor metacarpi cum inflammatione abscessum minabatur, vulnere interim palmae pus album & aequale, ut antea, fundente. Quarto autem die vulneris orae vesiculis tumidae, ad gangraenam tendere, cum copioso saniei sine ullo pure effluxu, manusque tota & carpus tumore inflammatorio & gravissimo dolore obsideri. Cortice igitur eodem, ut prius, modo exhibito, intra octo horas, cum vix tres ejus doses hausisset, dolor, qui antea acerbissimus erat, quasi incantamento lenitus est, & sequenti deligatione tumor manus dimidio subsedisse, & pus laudabile manare videbatur. Urina primo satis intensi erat ruboris, deinde paulatim dilutior evasit, nullo, vel paucissimo sedimento. Deinceps, ut praecaveretur recidiva, corticis unciam dimidiam singulis septimanis ad sextam usque exhibui, scrupulis duobus per triduum bis quotidie datis, finemque quarto demum mense laboriosae huic curationi, qua tendines omnes musculorum perforati & perforantis, praeter eos, qui



qui minimo digito inserviunt, abscesserant, os etiam unum ex iis, quae metacarpum, aliud eorum, quae carpum constituunt, nudatum erat, abscessusque unus & alter dorso manus orti, finem imposui.

Ex historiis hisce, & praesertim, ex ultima, satis constare existimo, nihil hic sociatis aliorum medicamentorum virtutibus, nihil peculiari humorum diathesi, aut incognitae cuidam idiosyncrasiae, nihil spontaneae symptomatum remissioni, nihil fortuitae Crisi, & salutari per alias secretionis expurgationi, casui denique nihil imputandum, sed successum omnem corticis solius viribus unice tribuendum esse.

Licet autem in historiis memoratis corticis pulverem duntaxat se in usum duxisse omnes referant, si quis tamen aut stomacho imbecilli consulturus, aut ex alia ratione, ipsum ea forma exhibere refugit, vix dubitarem resinam ejusdem aut extractum dimidia quantitate datum eundem effectum praestitutum, cum ad febres intermittentes, ubi praecipua ejus virtus enitescit, praeparata ejusmodi corticis idem cum ipso valere quotidie videamus.

Quod si quis ex historia prima a D. Rushworth memorata, qui corticem, dum febris aderat continua, exhibere timuit, & remissionem exspectavit, febrem intermittentem in omnibus, qui citantur, aegrotis, latuisse contendat, adeoque nihil esse miri, si cortex ab hoste intra pomaeria sua deprehenso victoriam reportaverit; huic reponere liceat, nihil ejusmodi in pluribus, imo contrarium plane in quibusdam, observatum, ut testantur satis idonei talium symptomatum judices; in ultima autem historia, ubi ipse, ut potui, ad omnia attentus eram, nihil me notasse latentis alicujus typi, aut febris praeter solitum, eumque lentum, tenorem obsidentis, quodque vel ad continentem aliquam, multo minus ad intermittentem pertineret, nihil febrilis in urina sedimenti, nihil insoliti caloris, aut fitis, aut rigoris in una praecipue diei parte, nihil ariditatis vel nigritiei linguae confirmare possum; & si rem vere reputemus, febrem, quaecunque aderat, solum fuisse symptomaticam inveniemus, quae secundum veterum medicorum placita (nec recentiores abnuunt, & ex re ipsa patet) intermittens esse nullo modo potest. Et quod ad hoc argumentum praecipue spectat, vires scilicet corticis in sphacelo sistendo non ex febre quadam intermittente, & latente profliganda in actum duci, dum haec scribo, ad manus effertur scriptum nuper editum D. Bradley Chirurgi Londinensis, qui eundem felicem eventum habuisse corticis usum narrat in foemina cachectica & leucophlegmatica; cui cum vulnus amplum & transversum superiore cruris parte ex casu contigisset, tertioque die febris vehemens cum pulsu frequenti & intermittente, lingua arida & nigra, aspectu torvo, & mente aliquatenus emota, supervenisset, gangraenaque interea totum fere crus occupasset, usu corticis quarta quoque hora exhibitum intra nycthemeri spatium gangraenam cohibitam, aliaque symptomata evanuisse; quinto autem die, corticis usu intermisso, omnia iterum reversa eodemque rursus sumpto sedata fuisse, & aegrotam convaluisse memorat.

Ex



Ex hac historia, ut & quibusdam è supra memoratis, apparet, non solum corticem, dum febris adest, exhiberi tuto & cum successu posse interdum, sed etiam febrem fortasse hujusmodi symptomaticam non esse è genere putridarum vulgariarum, quae etiam ideo à quibusdam scriptoribus medicis ad suum peculiare genus refertur, vel earum, quae in intermittentes facessere sperantur; cum ad eas omnes usum corticis plerumque noxium, interdum lethalem observant medici, in hac autem salutarem fuisse evincunt facta à pluribus experimenta: sed haec a Medicis ulterius expendenda.

Praeterea ex historiis allatis notari meretur, quod licet in quibusdam proximam gangraenae causam vulnera dederint, in omnibus tamen primam & praecipuam ex statu & conditione humorum desumendam videri; adeoque remedia intus exhibita quam ea, quae extra applicari solent, citius & securius scopum attigisse.

Istae, quas supra exhibui, sunt, quantum novi, omnes, quotquot de usu corticis ad hujusmodi morbos haecenus editae fuerunt, observationes; quibus plures sine dubio quotidie ex praxi Chirurgorum hujus Urbis (quasdam ipse nuper ab aliis accepi) addi poterunt; quas si eodem successu probari plerumque contigerit, quid obstat, quo minus hunc ejusdem usum ad periculosissimum & fere immedicabilem affectum ambabus ulnis amplectamur, ejusque repertorem omni laude & praeconio dignum judicemus?

Si ultra progredi vellem, & ad plures, quas in se cortex continet, virtutes digitum intendere liceret (quamvis ex eorum numero esse me minime optarem, qui cogitata sua susque deque per omnia versant, & quae vigilantes somniant, in experimenta de vita & valetudine aliorum perducere cupiunt) cum quantum ad haemorrhagias narium, pulmonum, caeterarumque partium, per quas sanguis è corpore eliminari potest, valeat, abunde Medicis notum sit; ejusdem etiam vires ad sanguinis fluxum in externis vulneribus sistendum, ubi ex nimia illius tenuitate aut acredine vasa coire respuunt, Chirurgis ex propria experientia commendare possum; nec minus ad nimias excrementitiorum, vel etiam aliorum praeter sanguinem utilium succorum evacuationes eundem plurimum valere saepius deprehendi.

Qualem effectum praestare poterit mirabilis huius cortex in ulceribus quibusdam pessimi moris, quae Nomae & Phagedaenae Chirurgis appellantur, & fortasse in herpetibus malignis, experientia destitutus nihil affirmare audeo; hoc tantum monuisse contentus, argumento ab analogia ducto, cum gangraena & sphacelus ulcera sint putrida & depascentia, illum non minus interdum fortasse efficere posse in aliis ejus generis affectibus: quod tamen non sine praevia corporis totius cura, re & tempore plerumque id in hisce concedente, quod in sphacelo secus est, & respectu ad universum corpus habito, nec sine Medici docti & prudentis consilio aggrediendum autumarem. Atque hoc modo memorando illi Hipp. l. de Arte initio, monito obtemperare, juvabit. “ Mihi vero invenire aliquid eorum, quae nondum

“ inventa



“ inventa sunt, quod ipsum notum, quam occultum esse praestet,  
 “ scientiae votum ac opus esse videtur: similiterque & semiperfecta  
 “ ad finem perducere & absolvere. At vero verborum inhonesto-  
 “ rum arte ad ea, quae ab aliis inventa sunt, confundenda promptum  
 “ esse, nihil quidem corrigendo, eorum vero, qui aliquid sciunt, in-  
 “ venta apud ignaros calumniando; non sane scientiae votum aut  
 “ opus esse videtur, sed proditio magis naturae suae, & ignorantia  
 “ artis.

Ut paucis igitur absolvam, quas supra attuli, historiae non otioso-  
 rum cerebrorum sunt figmenta, non anicularum deliramenta, non ru-  
 dis plebeculae jactationes, non ex hypothese aliqua structae narrati-  
 tiones, neque etiam Empiricorum de arcanis suis Venditationes;  
 sed plurimum in arte magistrorum fidelis experientia; quae ab uno  
 uno vel forte, vel industria, vel ingenio & sagacitate primum excogi-  
 tata, aliisque in communem utilitatem transmissa, a quamplurimis  
 ore consentientibus minime fallax comprobata est: adeo ut quod  
 hoc pacto in varia aetate, sexu, corporis temperamento, & vitae con-  
 ditione, valere repertum est, in posterum eodem, modo valiturum  
 vix dubitandum sit, secundum verissimum illud Ciceronis effatum;

*The Antiquity  
 of the Venere-  
 al Disease. By  
 Mr. Will.  
 Becket, F. R.  
 S. No. 365.  
 p. 47.*

“ Opinionum commenta delet dies, naturae judicia confirmat.”  
 XIX. 1. Before I engage in the principal Design of this Letter,  
 which will be to prove, that the *Venereal Disease*, when it came to be  
 confirmed, was frequently known among us some Hundreds of Years  
 before the Siege of *Naples*: I shall endeavour to refute the Opinion  
 of those who believe it to have had it's Rise there, if any such shall  
 remain, who have read over my former Letter \*. True indeed it is,  
 that there have not been wanting several Modern Authors, who have  
 asserted it; but I determine to make it appear to be an Error as in-  
 considerately, and hastily received, as started by some Chimerical  
 Author; who, because several Writers, about that time, observing  
 the Disease to begin in the *Pudenda*, separated it from another, with  
 which it was before confounded, must likewise take upon him to as-  
 sert it's being a new Distemper, and to assign a certain Time and  
 Place for it's Rise. Now one might with all the reason in the World  
 expect, that, if the Disease had it's Original there, it must have  
 been so certainly and infallibly known, that there could have been no  
 uncertain Opinions about it, but that the Physicians, who resided in  
 or near the Place, and those more especially, who interested them-  
 selves so far as to write of it, must have all of them, to a Man, a-  
 greed upon the certainty of a Thing, the Knowledge of the Truth  
 of which was so easily attainable. But on the contrary, *Nicholas Leo-  
 nicenus*, who was the first *Italian* Physician that wrote of this Disease,  
 and who lived at the very time when *Naples* was besieged, is so far  
 from acknowledging it to have had it's Rise there, from the *French*  
 Soldiers Conversation with the *Italian* Women, and so little did he  
 know

\* *Philos. Transf.* No. 357.



know of it's true Cause, that he does not allow it to be the consequence of impure Embraces. About this time it was likewise, that Pope *Alexander VI.* engaged *Jasper Torella* to write of this Distemper. This Pope was in League with *Alphonfus* King of *Naples*, against *Charles VIII.* King of *France*, to prevent his passing thro' *Italy*, when he went to besiege *Naples*; yet this Author is so far from allowing it to have had it's Original there; that he tells us, the Astrologers were of Opinion, that it proceeded from I know not what particular Constellations. Nor does *Sebastianus Aquilanus*, who lived at that time, allow it to be any other than an ancient Disease; or *Antonius Scanarolius*, who wrote in 1498, which was but 4 or 5 Years after the before-mentioned Siege. Nor do several other Authors, then living, say one Word about this *Neapolitan* Story. But it seems *Ulricus de Hutten*, a *German* Knight, who was no Physician, positively affirms this Disease to have had it's Rise there; but how he should come to know this, who lived at such a Distance from the Place, and they, who were Physicians, residing as it were upon the Spot, be ignorant of it, will be as much credited, as his following inconsistent Relation, which will sufficiently prove how little Care he took to be apprised of the Truth of what he wrote. This very Author tells us, this Disease was unknown till the Year 1493, or thereabouts, that he himself had it, when he was a Child, and so consequently that it was Hereditary, or from the Nurse. He wrote his Book of this Distemper at *Mentz*, where it was printed by *John Scheffer* in 4to, in the Year 1519. Now if we allow him to be but 27 Years of Age, when he wrote, (for he cannot be supposed to be less, who before this, took upon him to cure his Father of the *Venereal Disease*, without the assistance of any Physician or Surgeon) he must have had the Distemper upon him, according to his own Account, before ever it was in Being. Thus we may see, how Persons may be imposed upon by a hasty and inconsistent Writer, no way qualified for such an Undertaking, and greedily receive in Falshoods instead of Truths, if they will not be at the pains of consulting the Original Writings of our Predecessors, the only sure Method of overthrowing such chimerical and imaginary Notions.

If I have in my former sufficiently proved, that the first Degree of the *Venereal Disease* was very common among us some hundreds of Years, before it is commonly said to have been known in *Europe*, there will be no reason for any body to conceive we were at that time in any measure Strangers to it, when it came to be confirmed on them. Now when it was in this confirmed State, the Writers of those early Times looked upon it as an entirely new Disease, and not a Consequent of any Evil before contracted, because they were not apprised, that the first Symptoms being removed, and the Disease to Appearance cured, it should afterwards discover itself in such a Manner, as should not seem to have the least Analogy with the Symptoms



that first attacked a Part, which had been for a considerable time free from any Misfortune. But because the Symptoms are the only true Characteristics, whereby we are infallibly able to know one Disease from another, it may be expected, that I produce sufficient Authorities, to demonstrate they were all of them known and described by ancient Physical and Chirurgical Writers, just as they appear to be in the *Venereal Disease* at this Day, if I would prove that Disease to be of a much more ancient date, than is generally thought; and if I do this, I cannot but think it will be satisfactory, since we can have no other way of coming to a Knowledge of any one Distemper, than by it's Symptoms. The Method of laying down the exact Succession of them, will be impossible to be reduced to any certain and infallible Rule, there being so great a Variety of Causes, that obstruct such a Regularity; for which reason, I shall take notice of them in such order as they most generally appear, which was upon no Account to be expected from our ancient Writers, for as much as they mention every particular Symptom by itself, not knowing but they were independant of each other, and that each of them was a distinct Disease. However, the proving those Symptoms were in being in these early Times, will be as strong an Argument to prove the Antiquity of this Distemper, as if they had been registered in the most exact Order of Succession, because we shall, upon the strictest Examination find they are peculiar to the Venereal Malady only. I have, I hope, sufficiently made it appear in my former Letter, that the first Degree of this Disease was anciently known among us by the Name of the *Brenning*, or *Burning*; and that it was the same Thing with what we now call a *Clap*. The Symptoms, which are usually it's Concomitants, are the *Phymosis*, and *Paraphymosis*, both which are accurately described, and proper Remedies for them set down, by the before-mentioned *John Arden Esq*; in another Manuscript of his, curiously written upon Vellum, and beautifully illuminated. The imprudent Method of Cure of this first Degree of the Venereal Malady, is sometimes attended with a Caruncle in the *Urethra*, which was a Disease very common among us anciently: For not to mention other early Writers, our before-mentioned Author gives us the Case of a certain Rector, that had such a Substance, like a Wart, growing in the *Penis*, which in another Place, he says, frequently happens; and of another, which had such an Excrescence as big as a small Strawberry, which (says he) proceeded from the corrupted Matter, which remained in the *Urethra*.

And indeed there is not any Symptom of the Venereal Disease, that I find so often mentioned as this of the Caruncle, insomuch that it seems to have been more common in those early Times, than at this Day. But this must be certainly owing to the smooth and oily Remedies they were continually injecting; which, by their relaxing and softning the Fibres of the Part, must necessarily dispose the Con-  
texture



texture of small Blood-Vessels, lodged at the bottom of the little Ulcerations, to fill with nutritious Juices, and to extend themselves so, as to form such fungous Excrescencies; and so sollicitous were they to remove these Inconveniencies, that they made use of several Ways by Corrosives, and other Methods, to accomplish this End; and a very early Writer among us, has given us a very methodical and curious Tract on this Subject, wherein he recommends the removing them by the medicated Candle, which we use at this Day, and lays down divers other Instructions, in relation to it, which makes it probably the best Discourse on this Subject, that was ever yet written. The same Author takes Notice of those contumacious Ulcers which happen upon the Glans, and the neighbouring Parts, which we now call Shankers; and the great Trouble our ancient Authors found in attempting their Cure, sufficiently discover them to have had their Original from a Venereal Infection. These several Symptoms of the Venereal Malady our early Writers are very full in their Accounts of, and others, when the Disease was in a more confirmed State, to which they appropriated particular Names, perhaps more significant and expressive than those imposed by modern Authors. Thus, for instance, the Bubo's in the Groins they called *Dorsers*, which I have given a Reason for before; and the Venereal Nodes on the Shin-bones they termed the *Boonhaw*, which gives us a perfect Idea, not only of the Part affected, but after what manner it was diseased; for the old *English* Word *Hawe*, signified a Swelling of any Part. Thus for instance, a little Swelling upon the *Cornea*, was anciently called the *Hawe* in the Eye; and the Swelling that frequently happens on the Finger, on one side the Nail, was called the *white Hawe*, and afterwards *Whitflaw*. The Process our last mentioned Author recommends, for the Cure of the *Boon* or *Bone-Hawe*, is by making use of a Plaister which had a Hole cut in the midst, to circumscribe it; and applying a Caustic of unslacked Lime and black Soap incorporated together, which, with Plaister and Bandage, was to be secured on the Part 4 Hours, and longer, if that was not found sufficient; after this, he proceeds to the separating the Slough, &c. This Practice of his seems to have been found out by accident: For he tells us, when he was a young Practitioner, he having applied both the natural and artificial Arsenic to the Leg of a Man, that was his Patient, it so mortified the Flesh, as surprized him; but by proper Digestives, the Eschar coming off, and leaving the Bone bare, he scraped it with an Instrument for several Days, and dressed it with Incarnatives, designing to have ingendred Flesh on it; but this proving unsuccessful, he continued to scrape it, till he observed it move under the Instrument; after which, having separated it, he found the Sore covered with new Flesh, and that the Bone was 4 Inches in length, 2 in breadth, and very thick; upon the Removal of which, the Patient was soon cured. Thus 'tis probable, this Ob-



servation of this great Man led our Predecessors to practise the very same Method; and we do at this day, in our Hospitals, treat the Venereal Nodes on the Shins exactly as it is here described, where we observe the same Appearances, he so long before took notice of; and it is not in the least to be doubted, but the Boon-Haw and our Venereal Nodes are the same Disease. By the Appearance of some of the last of the above-mentioned Symptoms, we infallibly judge the Patient has had the Infection upon him a considerable time, and that the Disease is making it's gradual Advances, to the corrupting and destroying the whole Frame of the Body. That this was the Conclusion of the Miseries of those Persons, that gave themselves up to the deceitful Delights and Entertainments of lewd Women, in those early Times as well as now, I cannot better prove than from a *MS.* in *Lincoln College*, in *Oxon.* They are as follow; *Novi enim ego Magister Thomas Gascoigne, licet indignus, sacrae Theologiae Doctor, qui haec scripsi & collegi, diversos viros, qui mortui fuerunt ex putrefactione membrorum suorum genitalium & corporis sui; quae corruptio & putrefactio, ut ipsi dixerunt, causata fuit per exercitium copulae carnalis cum mulieribus. Magnus enim dux in Anglia, scil. J. de Gaunt, mortuus est ex tali putrefactione membrorum genitalium, & corporis sui, causatâ per frequentationem mulierum. Magnus enim fornicator fuit, ut in toto regno Angliae divulgabatur, & ante mortem suam jacens sic infirmus in lecto, eandem putrefactionem Regi Angliae Ricardo secundo ostendit, cum idem Rex eundem Ducem in sua infirmitate visitavit; & dixit mihi qui ista novit unus fidelis sacrae Theologiae Baccalaureus. Willus etiam longae vir maturae aetatis & de civitat. Lond. mortuus est ex tali putrefactione membrorum suorum genitalium & corporis sui, causatâ per copulam carnalem cum mulieribus, ut ipsemet pluries confessus est ante mortem suam, quum manu sua propria eleemosynas distribuit ut ego novi An. Dni. 1430.* Now what those Instances mentioned from *Arden*, or those from *Gascoigne*, who was then Chancellor of *Oxford*, could possibly be but Venereal Cases, I would be obliged to any body to inform me. Certain it is, no Disease was ever known to be gotten by the carnal Conversation of Women, which first attacked the *Genitals*, causing a Corruption and Putrefaction of them, and afterwards of the whole Frame of the Body, but that which is Venereal. For nothing is more commonly known at this Day, than that after the Venereal Engagement with an impure Woman, the *Penis* is the Part where the Scene is first laid for the succeeding tragical Appearances, and there, and in the neighbouring Parts, do the Symptoms of the Disease, as it's Retainers, always first assemble, till the malignant Poison taints the Blood and other Juices; which being conveyed over the whole Frame of the human Fabric, if not checked, soon brings about it's total Corruption.

What I have further to add in relation to this, is, because we do not find the Disease mentioned by *Gascoigne*, was distinguished by any particular



particular Name, and that great Numbers must unavoidably die of the Venereal Malady at that Time, from the imperfect Knowledge of those who had the Treatment of the first Degrees of it, it must necessarily follow, that when the whole Frame of the Body had received a Taint from the Venereal Poison, so as to occasion it's breaking out in Scabs and Ulcers, almost all over it's Surface, it must generally be called by the Name of some particular Disease, whose Appearances had somewhat of an Affinity to it. Now if we examine the Nature of all the Diseases that attack the human Body, we shall not find the Venereal Malady, when it arrives at this State, to bear a greater Similitude to any than the Leprosy, as it is described by the Ancients: Nay, so great was the Analogy betwixt these Diseases supposed to be, that *Sebastianus Aquilanus* has endeavoured to prove from *Galen*, *Avicen*, *Pliny*, &c. that the Pox is only one Species of the Leprosy; and *Jacobus Cataneus*, a Writer almost as early as the Rise of the Name of the Pox, tells us, it is not only possible there may be a Transition, from one of these Diseases into the other; but that he saw 2 Persons in whom the Pox was changed into the Leprosy; that is, from having great Pockes or Pustules on the Surface of their Bodies, from whence the Pox is denominated, to have become ulcerous or scabby. This particular State of the Disease anciently put the Surgeons to a great deal of Trouble; for they finding that these Ulcers were of a very contumacious and rebellious Nature, were obliged to make use of great Numbers of Remedies, in order to conquer the evil Disposition of them: But they observed that all of them were useless, unless *Mercury* were joined with them. Now the dressing each particular Ulcer being so very tedious, they ordered the Patients to daub the Ointments over the Parts which were ulcerated; which done, they were wrapt in Linnen-cloaths till the next Dressing: But after a few Days they were extremely surprized to find their Mouths began to be sore, and that they spit very profusely; but they tell us, to their Astonishment, that in a little time their Sores became healed, and the Patients cured. And by this Accident the Method of salivating by Unction was first discovered, which is in so much Use among us at this Day. From these and some other Instances I have given of the Industry and Application of our Predecessors, and with what Sagacity they applied every accidental Hint, to the relieving their distressed Fellow-creatures from the Misfortunes they laboured under; we ought to be led to the highest Esteem and Veneration of them, (and so much the more most certainly) forasmuch as they were principally our own Countrymen, who I can prove not only from several Persons, coming from foreign Parts to be cured of their Diseases here in *England*, but for other Reasons that they excelled most of their Contemporaries in the divine Art of healing. Now altho' those foreign Authorities, I before mentioned, might be looked upon as sufficient to convince any

one,



one, how our Ancestors blended these two Diseases together: Yet shall I pursue my designed Method, and prove from our own Writers, long before those, that altho' the *Pox* was not only among us, but in distant Nations anciently confounded with the Leprosy; yet so exact were our Writers in their Observations of the infectious Nature of one Species of that Disease, and describing the Symptoms, as was sufficient to lead any Person to the distinguishing between them, so as to separate one Disease from the other; I shall therefore first enquire into the Manner how the Leprosy was sometimes said to be gotten in those early Times, and then examine the Symptoms of the Disease, that attacked the Patient. *John Gadisden*, a very learned and famous *English* Physician, who flourished about the Year 1340, in an excellent Work of his, he entitles, *Rosa Anglica*, speaking, *de Infectione ex coitu Leprosi, vel Leprosae*, says as follows, *Primo notandum quod ille qui timet de excoriatione & arsure Virgae post coitum statim lavet Virgam cum aqua mixta aceto, vel cum urina propria & nihil mali habebit*; and in another Place speaking, *de ulcere Virgae*, he says, *Sed si quis vult membrum ab omni corruptione servare, cum à muliere recedit, quem forte habet suspectam de immunditie, lavet illud cum aqua frigida mixta cum aceto, vel urina propria intra vel extra praeputium*. He likewise speaking of the Leprosy, recommends a Decoction of *Plantain* and *Roses* in Wine, to be made use of by the Woman, immediately after the Venereal Encounter; upon which he tells us she will be secure. From hence it is evident, some of their Leprous Women (as they called them) were capable of communicating an infectious Malady to those that had carnal Conversation with them, which proves, the *Pudenda* of the Women must be diseased, forasmuch as we are absolutely insured Infections of that Nature only happen when a sound Part comes to an immediate Contact with a diseased one, for the Symptoms always first display themselves in those Parts through which the Virulency is first conveyed. Now in a true Leprosy we never meet with the Mention of any Disorder in those Parts; which, if there be not, must absolutely secure the Person from having that Disease communicated to him by Coition with Leprous Women; but it proves there was a Disease among them, which was not the Leprosy, altho' it went by that Name; and that this could be no other than Venereal because it was infectious; for there is no other Disease that is capable of being communicated this way but the Venereal Disease, seeing the *Pudenda* are only in that Distemper so diseased as to become capable of communicating their Contagion. I find the learned *Gilbertus Anglicus*, who flourished about the Year 1360, reasoning concerning the Manner how it is possible a Man should be infected by a Leprous Woman; where if we allow him to call the malignant Matter, which is lodged in the *Vagina*, [*the Woman's Seed*] we shall find he accurately describes the very first Venereal Infection, by part of the virulent Matters being received into the *Urethra*;

from



from whence by the Communication of the Veins and Arteries, it is conveyed into the whole Body, after which (says he) ensues it's total Corruption. Let us now examine the Symptoms of one sort of their Leprosy, for it must be necessarily divided into different Species, when another Distemper was blended with it, in which we observe such a Diversity of Appearances; and this I shall the rather do in this Place, because it will furnish us with the next Succession of Symptoms after those already mentioned, as the Venereal *Ozænas*, the Ulcers of the Throat, the Hoarseness, the Proof of it's being communicable from the Nurse to the Child by hereditary Succession. All which we find to be true in the Venereal Disease at this Day. Our Countryman *Bartholomew Glanville*, who flourished about the Year 1360, in his Book, *de Proprietatibus Rerum*, translated by *John Trevisa*, Vicar of *Barkley* in 1398, tells us, *Some Leprous Persons have redde Pymples and Whelkes in the Face, out of whome ostenne runne Blood and Matter: In such the Noses swell and ben grete, the Vertue of smellynge falyth, and the Bretbe stynkyth ryght fowle.* In another Place the same Author speaks of *unclene spotyd glemy and quyttory, the Nofethbrilles ben stopyl, the Wasen of the Voys is rough, and the Voyce is horse, and the Heere falls.* Among the Causes of this sort of Leprosy, he reckons lying in the Sheets after them, easing Nature after them; and others which the first Writers on the Pox looked upon to be capable of communicating that Contagion: Also, says he, *It comyth of fleshly lyking by a Woman, after that a Leprous Man hathe laye by her; also it comyth of Fader and Moder; and so thys Contagyon passyth into the Chylde, as it ware by Lawe of Herytage. And also when a Chylde is fedde with corrupte Mylke of a Leprouse Nouryce.* He adds, *by whatever Cause it comes, you are not to hope for Cure if it be confyrmyd; but it may be somewhat hidde and lett that it distroye so soone.* Thus we see how our Author under the Name of one Species of the Leprosy, gives a Summary of the Symptoms of the Pox, and the several Ways whereby it is at this time communicated. Now when these two Diseases were anciently blended together, and passed under the Name of Leprosy only, it must be the real Cause why that Disease seemed to be so rife formerly; for two Distempers passing under one Name must necessarily make it more taken notice of, and much more frequent; not but that much the greater Number of those who were formerly said to be Leprous were really Venereal, seems to be very evident; for since that Disease has been separated from the Leprosy, it has drawn off such vast Numbers, that the Leprosy is become, as it were, a perfect Stranger to us. Those that are acquainted with our *English* History, well know the great Provision that was anciently made throughout all *England* for leproous Persons, insomuch that there was scarce a considerable Town among us but had a Lazar-house for such diseased. In a Register which belonged to one of the Houses, I find there were in *Henry VIII's* Time 6 of them near *London*, (*viz.*) at *Knightsbridge, Hammer-smith, Highgate, Kingsland,*



*Kingsland*, the *Lock*, and at *Mile-end*, but about 40 Years before I find but 4 mentioned; and in 1452, in the Will of *Ralph Holland*, Merchant-Taylor, registred in the Prerogative-Office, mention is made but of 3, which, with his Legacies to them, are as follow: *Item lego Leprosis de Lokes, extra Barram Sti Georgii 20s. Item Lego Leprosis de Hackenay (which is that at Kingsland) 20s. Item lego Leprosis Sti Egidii extra Barram de Holborn 40s.* From which it is worth while to note, that the *Lock* beyond *St George's Church*, and that at *Kingsland*, are at this time applied to no other Use than for the Entertainment and Cure of such as have the Venereal Malady. Some of our learned Antiquaries have been much concerned to know the Cause why the Leprosy should be so common in those early Times, and so little known among us now: But I believe the Reason will be impossible to be assigned, unless we allow, according to the Proofs which I have already brought, that the Venereal Disease was so blended with it, as to make up the Number of the diseased. It seems to have been the same thing with them in *France* as with us: For the Author of the History of that *Kingdom*, which was lately published here in 2 Vols 8vo, tells us, that the House of the Fathers of the Mission of *St Lazarus*, was formerly an *Hospital* for leprous People; but that Disease being ceased in this last Age, (since the Pox has been separated from it) these Lazar-Houses have been converted to other Uses; and may not perhaps be foreign to my purpose to take notice, that the Writ *de Leproso amovendo* contained in the Register of Writs, was (according to *Coke upon Littleton*) to prevent leprous Persons associating themselves with their Neighbours, who appear to be so by their Voice and their Sores, and the Putrefaction of their Flesh, and by the Smell of them. Well, then, let us examine what Method must be taken to prevent this noisome and filthy Distemper, the Leprosy: Why, truly, that which would infallibly prevent their getting the *Pox* after the usual Method, and that was *Castration*. It is certain, that *Eunuchs* are rarely or never troubled with the Leprosy, according to *M. le Prestre*, a Counsellor in the Parliament of *Paris*, who has these Words, \* *Antipathia vero Elephantiasis veneno resistit: Hinc Eunuchi & quicumque sunt mollis, frigidae & effeminatae naturae nunquam aut raro Lepra corripuntur, & quidem quibus imminet Leprae periculum de consilio medicorum sibi virilia amputare permittitur.* And *Mezeray* says, he has read in the Life of *Philip the August*, that some Men had such Apprehensions of the Leprosy, (that shameful and nasty Distemper) that to preserve themselves from it, they made themselves *Eunuchs*. Now it is highly probable, that these Persons that submitted to such a painful Operation, having before observed, that those that gave themselves up to a free and unrestrained Use of Women, fell at length under such unhappy Circumstances; and so found the only Measures

\* Centur. 1. Cap. 6. de separatione ex causa Luis Venereæ.



to preserve themselves from it, was to be disabled for such Engagements, which sufficiently proves this Species of the Leprosy was infectious; and for the Reasons before assigned, could be no other than Venereal; for how the true Leprosy should be prevented by such Means, will be, I believe, impossible for any Person to determine. There yet remains one very considerable Symptom of the Venereal Malady for me to take Notice of, because it is looked upon to be the most remarkable in that Disease, which is, the falling of the Nose; but since it has been already proved, that the Disease when it had arrived to such a Pitch, as to discover itself by those direful Symptoms as are the immediate Forerunners of this, was by the Ancients confounded with the Leprosy, and called by that Name, it must be among the Symptoms of that Disease we are the most likely to meet with it, if any such thing as the falling of the Nose was known among them. Now the most likely Method of coming to a certain Knowledge of the infallible Symptoms of the Leprosy of the Ancients in it's more confirmed States, is to consult the Examinations those unhappy Persons were obliged to undergo, before they were debarred the Conversation of human Society, and committed to close Confinement: But this being a thing some Ages since laid aside, no Author that I know of having the particular History of it, and somewhat of it being absolutely necessary in this Design, I shall do it as briefly as I can from what Remains I have met with in Records and scattered Papers. First then, After the Persons appointed to examine the diseased, had comforted them, by telling them this Distemper might prove a spiritual Advantage; and if they were found to be leprous, it was to be looked upon as their Purgatory in this World; and altho' they were denied the World, they were chosen of God: The Person was then to swear to answer truly to all such Questions as should be asked; but the Examiners were very cautious in their Enquiries, lest a Person that was not really leprous should be committed, which they looked upon to be an almost unpardonable Crime: They considered the Signs as univocal, which properly belonged to that Disease, or equivocal, which might belong to another, and did not, upon the Appearance of 1 or 2 Signs, determine the Person to be a Lazar; and this I find to be the Case of the Wife of *John Nightingale*, Esq; of *Burntwood* in *Essex*, who, in the Reign of *Edward IV*, An. 1468, being reported to be a *Lazere*, and that she did converse and communicate with Persons in public and private Places, and not (according to Custom) retire herself, but refused so to do, was accordingly examined by *William Hatteclif*, *Roger Marcall* and *Dominicus de Serezo*, the King's Physicians; but they, upon strict Enquiry, adjudged her not to be leprous, by reason the Appearances of the Disease were not sufficient: Some of the Questions put to the leprous Persons (as they called them) which will more fully confirm what I have before advanced, I shall now give as I transcribed them from an ancient Book of



Surgery : If there were any of his Lygnage that he knew to be Lazares, and especially their Faders and Moders, for by any other of their Kynred they ought not to be Lazares, then ought ye to enquire yf he hath had the Company of any lepress Woman, and yf any Lazere had medled with her afore hym; and lately, because of the infect Matter and contagious Filth, that sh<sup>e</sup> had received of hym. Also yf his Nostrills be wyde outward, narrow within and gnawn. Also yf his Lips and Gummes are fowle, stynking and coroded; also yf his Voice be horse, and as he speaketh in the Nose. Now the Signs which are here mentioned, were looked upon to be univocal; and these were they that made the Examiners principally determine the Persons to be leprous: but what Determinations any one would immediately give from such Symptoms now, no Person is surely ignorant of. But even these certain Appearances would not always satisfy some Persons, if we may believe *Fælix Platerus* in his Medicinal and Chirurgical Observations, *Lib. 3.* who tells us, some did not look upon them to be so, till they had a horrible Aspect, were hoarse and Noses fell. Likewise in the *Examen Leprosorum*, printed in the *de Chirurgia Scriptores optimi*, the Author speaking of the Signs of the Leprosy relating to the Nose, begins thus; *Si nares exterius secundum exteriorem partem ingrossentur, & interius constringantur, & coarctentur. Secundo si appareat cartilaginis in medio corrosio, & casus ejus significat Lepram incurabilem.* And the before-mentioned *John Gadisden*, in his Chapter *de Lepra*, says as follows, *Signa confirmationis etiam incurabiliter sunt corrosio cartilaginis quae est inter foramina & casus ejusdem.* Thus I have proved we had a Distemper among us some hundreds of Years before the Venereal Disease is said to have been known in *Europe*, which was called the Burning; that this Burning was infectious, and that it was the first Degree of the Venereal Disease; that this being common at that time, from their Method of Treatment, the *Pox* must be unavoidable: That it had exactly the same Appearances it has now, altho' they were generally called by different Names, that the Ancients confounded it with the Leprosy; that the vast Numbers of leprous Persons among us, before the Venereal Disease was separated from it; and the small Number we observe at this time, is a flagrant Proof of the former; that in describing the Symptoms of the Leprosy, they give us those of the Venereal Malady; and, by mentioning how it is communicated, they describe the Ways by which the *Pox* is gotten at this Day; that such Remedies were by them recommended to prevent the first Attack of the Leprosy, as are at this time in use to prevent the first Symptoms of the *Pox*; and that the falling of the Nose, which has been looked upon to be the most remarkable Symptom of the Venereal Disease, was commonly observed in what they called the Leprosy in former Ages.



2. I was of Opinion that what I had said in my two former Letters, had been so full and satisfactory, that I should have had no Occasion to have given any farther Trouble upon this Head. But forasmuch as I find there have been 2 Objections made against what I have advanced, by 1 or 2 learned Gentlemen, I shall take upon me to answer them, and endeavour to prove they do not in the least invalidate the Authorities I before produced. The first is, the *Venereal Disease* so well known among us now, and the *Leprosy* of former Ages, could not be the same Disease, because the *Leprosy* is not to be conquered by Salivation, which the other generally very readily yields to. In answer to this, I am to observe, that the *Leprosy*, which we have among us at this time, affects only the Surface of the Body, the Skin generally appears scaly, with a certain deep red Colour, or small Sores upon removing the Scales, and sometimes a Scabbiness, with a Redness of the Skin, which affects different Parts of the Body. I have known both the Cheeks only affected, both the Arms for the breadth of the Palm of the Hand, sometimes the Breast, the Legs, and other Parts; but this may continue upon the Patient during his Life, as it frequently does, and never make any farther Progress, which shews it to be a cuticular Disease: In these Cases upon salivating the Patients, the Scales generally fall off, the Redness disappears, and the Cure shall seem to be compleated; but in a Month or two, the same Inconveniencies generally attend them as before. But one ought not to conclude, that because our *Leprosy* will but rarely be cured by Salivation, and the *Pox* generally will, that many of those Persons the Ancients judged to be *leprous*, were not really *venereal*; for their *Leprosy*, as they called it, was a quite different Disease from ours. Had there been any Proof brought that Persons had been salivated in their *Leprosy* and failed of Cure, it would have determined the Case; but on the contrary we are assured by Dr *Pitcairn*, in his Dissertation concerning the Ingress of the *Lues Venerea*, that the *Leprosy*, before the *Neapolitan* Disease was talked of, was cured by *Mercury*, and now since it changed it's Name, it is no longer heard of. Thus we find that their *Leprosy* and our *Venereal Disease* would be cured by the same Method, but their *Leprosy* and ours being absolutely different Diseases, we by no means ought to expect the Success, from the same Process of Cure, should be the same. I dare be positive that no body ever observed our *Leprosy* to be attended with falling of the Hair, hoarseness of the Voice, speaking as tho' he spake thro' the Nose, Consumption of the Flesh, Ulcers all over the Body, corruption of the fleshy Parts, and of the Bones themselves, filthy Ulcers of the Throat, corrosion and falling of the Nose, all which are reckoned as Symptoms of their *Leprosy*; on the contrary, ours is a mild and almost inoffensive Disease, which a Person may be affected with during his Life, and never become worse; whereas the other by displaying itself under the Symptoms be-

Continued by  
the same, N<sup>o</sup>  
366. p. 108.



fore enumerated, brings the Patient to the most miserable End; besides this, their Disease was got by Coition, as their Authors assure us, but in our *Leprosy*, a diseased Husband may cohabit with his Wife, as long as he lives, and he shall never be able either by Coition, or the immediate Contact of the diseased Parts with those that are found to communicate any Evil. Had what our Predecessors called the *Leprosy* been the same Disease we call by that Name now, they had not been so solicitous of making such large Provision for them, or shutting them up from human Society; for one of our *leprous* persons might have been among them, and no body have known he laboured under any Infirmity at all. From hence it is evident the Disease so common among them, was entirely different from our *Leprosy*, the Appearances of which bear no manner of Analogy with the former. It is from the Symptoms of a Disease, and the manner of it's being received, that we generally know one Disease from another; but the Symptoms of most of their *leprous* Persons, and the Manner whereby the Disease was gotten, will be found in no other Disease that attacks the human Body, but in the *Venereal Disease* only; for here they so exactly agree, that we must in a manner do Violence to our own Reason, if we deny them to be the same. I proceed now to answer the second Objection, which indeed was long ago falsely asserted by Dr *Fuller* the Historian; which is, that the *Leprosy* was brought into *England* from the holy War, by some of our Countrymen, and the Disease was altogether unknown among us before. This, as I take it, does not so immediately concern me, since all I take upon me to prove is, that what *They* called the *Leprosy* is not the same Disease we call by that Name now, but another. However I shall in a few Words make it appear, that this Objection is likewise groundless, by observing that the first *Englishmen* that went over to the holy War, made their first Voyage in 1096, as our Historians generally agree, and that some of them returned in 1098, 2 Years after that Expedition; but most certain it is, we had the *Leprosy* among us before; for *Wharton, de Episcopis Lond.* and other Historians assure us, that *Hugo de Orivalle*, one of the Bishops of *London*, died here of the *Leprosy* in the Year 1084; which proves, our Countrymen did not bring that Disease first from the holy War, because we had it among us before. The Account *William* of *Malmesbury* gives us of this Bishop's Disease is as follows: *Is post paucos ordinationis annos in morbum incurabilem incidit. Si quidem regia valetudo totum corpus ejus purulentis ulceribus occupans ad pudendum remedium transmisit. Nam credens asserentibus unicum fore subsidium si vasa humorum receptacula, verenda scilicet, excruciantur, non abnuit. Itaque & opprobrium spadonis tulit Episcopus, & nullum invenit remedium, quoad vixit leprosus.* Now it's highly probable, had this been a new Disease the Bishop died of, the Mention of it as such, would not have escaped our Historian; but on the contrary it seems to have been anciently known among us, because the Remedy made



made use of for it was so, it having been recommended by *Ætius*, and other Physical Writers several hundred Years before this time; and I think 'tis very plain that the cutting off the *Testicles*, and with them the Vessels formed for the receiving the Humours as expressed in the former Case, was by them looked upon to be of peculiar Service, because 'tis probable, that observing the Disease to begin in those and the neighbouring Parts, they thought the very *Minera morbi* would be by this Means destroyed, and the Disease either cured, or the spreading of it prevented.

XX. *John Henry Oizmann* aged 31 Years, and born at *Barum*, fifteen Years of Age, when the following Misfortune befel him.

He felt a *Spasmus*, or Cramp, in his left Hip, and the inferior Part of his Leg; as this Pain seized him pretty often, he consulted Mr *Raek*, a Surgeon at *Ulzen*, who applied several Plaisters to the Place where the Pain was, but without any Relief to the Patient. After all those fruitless Efforts, the Surgeon, to see whether *Oizmann* had still a feeling in his Leg (which to outward Appearances was become very brown) made about 37 Incisions over the whole Leg of which the Patient was not at all sensible, except at such times when the Instrument happened to grate upon the Bone, the *Periosteum* being as yet sound, and not infected by the Disease of the Flesh. The Leg however did daily grow blacker, and the Pain continued both in the *Periosteum*, and in all the Bodies of the superior and inferior Part of the Leg. At last a black Circle was seen round about the Muscles of the Hip, as an Indication of an approaching Putrefaction. This Circle appeared so visibly, as if it had been cut off with a Knife from the other Part. It has ever since spread itself and come to such a Head, that without any other Help and Cure, the Flesh began gradually to rot away from the Bones, and at last quite fall away from the superior Part of the Leg which has preserved it's Soundness. After this, nothing was seen but the bare Tendons or Sinews hanging down like so many Strings or Cords. There remained also one Piece of the inferior Muscles of the Hip fastened to the superior Part. At last the Tendons being grown dry, consumed away, and after all, the Leg itself, I mean the *Os Femoris*, did wholly drop off in such a manner, that there remained about 4 Inches betwixt the Bones and the Flesh loosely hanging down from them. The Flesh is at last grown up to the Bones, and without the Help of any Man has fastened itself to them. And in this sound Part the Patient feels a great Pain, when ever the Weather proves tempestuous. It is remarkable, that at the same time he perceives also a Swelling in *Tarso pedis dextri*, the Matter whereof discharged itself through the Toes, and is of so corrosive a Nature, that it had consumed all the Toes but the little one. The Surgeon has at last healed up this Wound; but after all there is yet but little feeling or warmth in the Foot.

An extraordinary Cramp.

By Dr Steigertahl, F. R. S.

No. 365. p.

79.



An extraordinary  
Fistula, by  
the same, N<sup>o</sup>.  
365. p. 80.

XXI. A Woman who is now in her 41<sup>st</sup> Year, in her Youth had the Misfortune to be goared by a wild Boar under the short Ribs of the left side. Of this Wound, she has still a Fistula to this Day; what Food she eats discharges itself half concocted through this opening, and she is obliged to clean this Wound often for that purpose, however she has notwithstanding this, her daily Evacuation *per Anum*. It is remarkable, that the Viſuals thus discharged by the Wound are still distinctly known what kind they have been of.

Uncommon Tu-  
mours. By  
Mr. Joseph  
Atkinson, Sen.  
Surgeon.  
No. 389. p.  
340.

XXII. A Maiden about 20 Years of Age, was brought to me about *Christmas* 1723, who had a Tumour on the inside of her right Thigh, extending from the Groin to the Knee, which was so large, that I judged it contained at least a Gallon; the *Cutis* was exceedingly distended, but of the natural Colour, only the capillary Veins appeared varicous, and very numerous; she had also a large Tumour on the Buttock of the same Side, of the bigness of a Quartern Loaf; but when the Tumour on the Thigh was pressed, the Tumour above very much encreased, which shewed a Communication, and proved afterwards so to be: She had also another Tumour on her right Side, stretching from the left Side of the *Vertebrae* of the Back to the *Hypochondrium*, about the bigness of a Penny Loaf; her Body was very much emaciated, and she could hardly breathe, and the little Viſuals she eat, very difficultly passed out of the Stomach. She had had the *Menses* but twice or thrice, about 12 Months before the beginning of those Tumours, and it is to be marked, that the Tumour of her Thigh began first, and increased to near the Magnitude I first saw it, before the Tumour of the Buttock and Hip began; after that, the Tumour of her Back began, which, as it increased, brought on great Difficulty in Breathing. She had been with several other Persons, who advised against opening the Tumour of her Thigh, most of them being of the Opinion it was from Blood, and that her Case was incurable: I confess, I was of a contrary Opinion; but being told what so many others had said, I declined meddling with it at that Time, though her Parents and herself were willing to it: At this Time I dismissed her, saying, that if she lived, a little Time would discover more of her Case. About two Months after I was desired to visit her again, which I did, but the Tumours were so monstrously increased, and her Body so wasted, that I wondered she could live under such Circumstances; the Tumour of the Thigh was every Way yielding to the Pressure of the Finger, nor was there the least Hardness about the Extremities of it, so that it might be easily mistaken for an *Aneurism*, had it not wanted the grand Characteristic, Pulsation, which some say, is not to be felt when those are very large, the Middle of this then looked a little red, and shining, and seemed to point a little; I told them, I believe it would break with a small Orifice, and shew what was contained, willing them to notify it to me if such a Thing happened: Three Days after they called me in haite, say-  
ing,



ing, the Swelling of her Thigh was broke; when I came, I found there had been discharged a small Quantity of matterish Substance, much like what is contained in a *Meliceris*, but the Opening was so small or closed, that I could not enter my Probe; however, though she seemed to be ready to expire, yet, at the Desire of her Parents, I opened this Tumour with my Launcet, making an Incision about an Inch and an half long, through which poured three Quart Basons full of Matter, besides several smaller, which together contained about five Quarts; it was very foetid and bloody towards the latter end of this Discharge; upon this, the Tumour wholly subsided, insomuch that the Thigh instantly became as small as the other; I put my Finger into the Wound, and found the *Fascia lata* quite consumed, the Muscles lay all loose, so that I fairly touched the Thigh-Bone between them as I would. Immediately upon the Discharge of this Humour, the Tumour on the Buttock was considerably abated, but there followed about two or three Spoonfuls of florid Blood; I dressed it up for this time with a proper Digestive, and a suitable Bandage; the Day following I visited her again, and found she had slept pretty well, and was much refreshed, and not the least Faintness had attended her during my Absence, which shews the imaginary *Syncope*, that is feared to follow such Evacuations, to be groundless; the Day following, taking off my Dressings, I found the Limb in it's Figure, but little bigger than the other: At the third Dressing there appeared a small hard Swelling a little below the Orifice, which was made by some grumous Blood that lay there, which I turned out with my Finger, in Quantity about 4 Ounces: This was followed by a florid Blood, which much surprized me; I then judged this proceeded from some Hypogastric Vessel that supplied this Tumour, and I despaired of Success, unless I could meet with this Spring; so, in order to it, I laid open the Sinus to the Groin, and though I could not discover the Vessel, yet I so successfully applied my Astringent, that from that time it bled no more; however, there was for a Week, a great Flowing of a serous Matter, which wholly sunk the Tumour of the Buttock and Hip, and by bolstering and compressing with suitable Bandage, the so long separated *Cutis* closed with the Muscles, and all Things in about a Fortnight seemed to be in a fair Way of healing, yet, it was near three Months before this Cure was compleated.

But still (that is, a Fortnight after the opening of the Thigh) the Tumour on her Back continued, and she much straitened for Breath; saying, if that was opened, she should be presently relieved; this Tumour I then opened (which was, I said, as big as a Penny white Loaf) and there issued out about two Quarts of Matter, or rather more: I was again greatly surprized that such a Quantity, so much more than what possibly this visible Tumour could contain, should run out of this Orifice; I entered my Probe, and found it penetrate into the Cavity of the *Thorax*, between the second and third spurious Rib, reckon-



reckoning from beneath, on which she respired with all Freedom, but there was a *Halitus* at this Wound: I continued to dress this, and believe, before this tended towards healing, not less (at times) than a Gallon, or rather 5 Quarts of Matter, was discharged; but, when I thought all was over, it filled again, the external Tumour became almost as big as before, and her Breathing as difficult as ever, so that I now thought all my Labour had been in vain; yet I opened it again with a larger Orifice, and from that Time dressed it successfully, to the perfect Healing: The *Menses* are returned, the Patient continuing well to this Day, and in a good State of Health.

*A Copy of an Affidavit made in Scotland, concerning a Boy's living a considerable time without Food. Communicated by Patrick Blair, M. D. F. R. S. N<sup>o</sup> 364. p. 28.*

XXIII. Court of the Barony of *Erroll*, holden at *Erroll*, upon the 26th Day of *December*, 1719 Year. By Mr *Charles Brown*, Bailly to the Right Honourable *David Earle of Northesk*, Lord *Roesbill*, &c. *Gilbert Anthone*, Clerk; *Charles Gill*, Officer.

Court lawfully fenced and affirmed.

The whilk Day compeared before the said Bailly sitting in Judgment, *James Jackson* fewart in *Carse Crange*, and *Eliz. Bell* his Spouse, who being purged of partial Council, solemnly sworne and interrogat, depons, That *Gilbert Jackson*, their sixth Son, being about 15 Years of Age, fell sick, and complained of Pains over all his Body, upon the 3d Day of *February*, 1716, when King *George* his Army was marching by their Dwelling-house from *Perth* to *Dundee*; and toward the end of the said Month, was seized with a violent Fever, in which he continued for 3 Weeks, and then recovered.

2. That he fell in a Fever again the beginning of *April* thereafter, wherein he also continued for the space of 3 Weeks; and during that Fever, he had a shaking in his Body, as if he had been paralytic.

3. Upon the 10th Day of *June* following, he fell in a great Fever again, when he became dumb, lost his Stomach entirely, and the Use of his Limbs, and continued without eating or drinking any kind of thing, tho' all Means were used to make him do both; but recovered of his Fever upon the 17th Day of *May*, 1717, but continued still dumb, without eating or drinking, or having the Use of his Limbs, till the 10th Day of *June* the said Year, when he was again seized with an extraordinary Fever, and the next Day recovered his Speech, but continued in the Fever, without eating or drinking any thing at all, or having the Use of any of his Limbs, till the 11th Day of *November* following; when he recovered his Health pretty well, and the Strength of one of his Legs. And thus he continued without eating or drinking, only washed his Mouth sometimes with Water; and always, when he saw the rest of the Family going to take any kind of Food, the sight of it being altogether uneasy to him, he retired.

Upon the 10th Day of *June*, 1718 Year, he fell in a Fever again, which continued till the beginning of *September* thereafter, when he recovered of the said Fever, tho' he never could be induced to take any

any



any kind of Meat or Drink ; and thus he continued in pretty good Health, and fresh coloured, till the 9th Day of June, 1719, when he was seized again with a severe Fever ; and upon the 10th at Night, his Father pressed him extremely to take a little Milk boiled with Oat-meal, which at length he agreed to ; and he took a Spoonful of it, which stuck so long in his Throat, that his Parents thought he had been choaked ; and ever since he has taken a little Food, but so very little, that a Halfpenny-loaf serves him eight Days. That all the time he fasted, he never had any Evacuation either by Stool or Urine ; and it was 14 or 15 Days after he began to eat, that he got any Benefit that way ; and that he is now in pretty good Health, but still wants the Use of one of his Limbs. And this is the Truth, as we shall answer to God.

James Jackson,  
Elizabeth Bell,  
Charles Browne, Bailly.  
Gilbert Anthon, Clerk.

XXIV. In 1704, Peter Coffin, Esq; of Exeter in New-England, being then 74 Years of Age, had taken a great Surfeit, as it was thought, by drinking cold Water, in a very hot Day, after having heated himself in the Woods. This Surfeit settled principally in his right Side, but gave him a racking Pain all over his Body, and particularly deprived him of the Use of his right Arm: In this Condition he kept his House and Bed for 9 Weeks, and his Recovery, considering his Age, was despaired of ; when a Son of his, from whom I had the Relation, proposed the sweating of him in Turf: The Father readily agreed to it, having used many Medicines, without any Effect. Immediately Orders were given to cut a large Oven full of Turf ; the Pieces might be to 18 Inches square. The Turf itself was of *English* Grass, and only the Swerd, or top of the Earth, with the Grass. Before the Turf was put into the Oven, the Doctor rubbed the grassy side of the Turf with some Spirit or Oil, and then doubled the Grass-sides together, and so set them in. When they were well baked, which was in about 2 Hours, he took them out, and made a Bed of them upon the Floor, (the Place for the Head raised) ; as soon as that was done, he ordered his Father to be taken out of his Bed without his Shirt, but wrapped up in a Sheet, and laid upon the hot Turf, and then proceeded to cover him over with the rest of the Turf, more especially on his Side, where the Seat of his Pain was, but they laid none on his Breast or Head ; then they covered him with Blankets to keep the Heat in : While the Father was in this Bath, the Son gave him warm Cordials, to prevent fainting, which he was in great danger of: After he had lain thus about  $\frac{1}{4}$  of an Hour, which was as long as he could bear it, he was put naked into the Bed very well warmed, where, in a few Minutes he fell

*An extraordinary Cure by sweating in hot Turf; with a Description of the Indian Hot-bouses; by the Hon. Paul Dudley, Esq; F. R. S. No. 384. p. 129.*



asleep, and sweated to that degree, that it run thro' his Pillow and Bed, upon the Floor. After about 2 Hours Sleep they dried him, and put him on warm Cloaths, and he found himself much eased and refreshed: This was in the Morning; and before Night he walked about the House comfortably, his Pain being in a manner all gone: The next Day the Doctor repeated his Cordials, and the fourth Day he sweated him a second time, in the same manner as above; and next, viz. the fifth Day he went abroad about his Business, and lived 21 Years after in perfect Health, and free from Pain. The Doctor tells me, great Care must be taken that the Patient do not lie too long in the Turf, and even a  $\frac{1}{4}$  of an Hour may be sufficient for some Persons; and whenever the Patient begins to fetch his Breath short, or faint, he must be put to Bed immediately, and the Physician, or Operator, must by no means omit his Cordials. I should have been glad to have made this Account yet more perfect, by acquainting you, what the Specific was the Doctor put upon the Turf, before he set them into the Oven; but I could not possibly prevail upon him to tell me.

Houses, to sweat in, were common among the *Aborigines*, when the *English* first came into *New-England*, tho' now but little used. A Gentleman of the Island of *Nantucket*, where the *Indians* sometimes practise it, even at this Day, or very lately, gives me the following Relation. The Cave was usually 4 Feet high, and 8 Feet Diameter; the Roof supported with Sticks or Boards, covered with Earth, and they dug it in the Side of a Hill, and as near as could be to some River, Pond, or Place of Water: The Entrance into this Cave was small, and the Door (when any Person was sweating) was covered with a Blanket or Skin; near the Cave they made a good large Fire, and heat a parcel of Stones, to the Quantity of 500 Weight, and roll them in red hot, piling them up in the middle of the Cave; when this is done, the *Indians* go in naked, and set round the heated Stones as many as please; as soon as they begin to grow faint, which may be in  $\frac{1}{4}$  of an Hour, they come out, and plunge themselves all over in the Water for a Minute or two, and then in again, as long as they can well bear it, and so into the Water a second time, and then dress themselves. This has been used with Success for Colds, Surfeits, Sciatica's, and Pains fixed in the Limbs; and even the *English* have found many times Relief by it. I do not understand, but that it may be practised at any time of the Year, without Hazard or Inconvenience. The *Indians* often used it before, and after long Journies, Hunting or Voyages, to strengthen and refresh themselves.

July 21.



Statistical Experiments on the Effects of warm bathing, by John Martyn, F. R. S. No. 407. P. 26.

		Weight.		After bathing		Urine.	
		lb.	3.	12 Minutes.			
July 21. 1728. h. 10 ½ at Night.	A.	137	12	137	11 ½	3	3
	B.	134	15 ½	134	13 ½		
	C.	169	15	170	---		
	D.	119	6 ½	119	7	4	3
				Urine.	Weight.	after bath.	
				3.	after 1 h.	20 Min.	
22 h. 8 ½ Morning.	A.	136	9	9 ½	135	15	136 ---
	B.	134	1	7	133	7	133 11
	C.	168	13	13	167	11	167 14
	D.	118		15	117	---	117 ---
h. 11 after eat. Cloaths changed.	A.	137	5	} After h. 1 ½ Exercise chiefly under Ground in Pool's Hole.			10 ½ 3
	B.	140	7				13 3
	C.	170	4 ½				1 --- lb
	D.	117	8				8 ½ 3
Aft. Din. Cloaths changed.	A.	136	14	3	Perpiration in 1 ½ h. where note, that all used moderate Exer- cise, walking about, except D, who fate still reading the whole time.		
	B.	142	6 ½	7 ½			
	C.	170	15	3			
	D.	119	1	6 ½			
Servant who at- tended the Bath.		Weight.		Aft. 1 h. bath.		Aft. 1. h. Persp.	
		lb.	3.	lb.	3.	lb.	3.
		173	4	173	6	172	15

From these Experiments may be concluded, 1. That warm bathing increases the Weight of the Body for the present ; tho' it causes a plentiful Perspiration afterwards : Which I do not remember that any one has hitherto observed. 2. That the Perspiration after this Exercise is nothing near so large as Dr Keill \* has delivered ; it amounting, by his Account, to 1 ½ Pound in 1 Hour's time. By our Observation it is but 5 Ounces in 1 Hour, and from 8 ½ Ounces to one Pound, in 1 ½ Hour, tho' assisted by Motion ; which might

\* Med. Stat. p. 16.



have caused us to perspire (by Dr Keill's Computation \*) from 3 to 6 Ounces.

An Account of  
a Book, entitled,  
Adversariorum-Ana-  
tomico-Medico-Chirurgi-  
corum Decas  
tertia. Auctore  
Fred. Ruysch,  
M. D. Anat.  
& Bot. Prof.  
Amstel. R. S. S.  
No. 379. p.  
428.

XXVI. In § I. The learned Author, who has so long improved the World by his curious Searches into the nicest Secrets of the Animal-Machine, and illustrated them by his admirable Preparations, gives an Account of preternatural Things found in Tumours, of that Sort which we call *Atheroma*, ordinarily a *Cyst* filled with a thick Matter like Pult; such are Bones, Flesh, Hair, Teeth, and other Things very surprizing and unaccountable.

In § III, he tells us a remarkable Story of a Girl, who had frequent Eruptions of Blood from the Skin of her Head, Ears, Mouth, Navel, and the Nipples of her Breast: For 14 Weeks she eat no Meat, nor had any Excretion by Siege or Urine; and many other odd Symptoms.

In § VII, he says, very often, upon dissection of Bodies of old Women, he has found the mesenteric Glands, that minister to the Conveyance of the Chyle, perfectly wasted away; so that he judges it not improbable, that, in such Cases, the mesaraic Vessels absorb the Chyle from the Guts, and carry it into the Blood, at least in part, according to the Notion of the Antients, who knew not the lacteal Vessels: This he thinks not a little confirmed by the like wasting of the glandular Part of the Breasts in old Women, which tho' formerly very large, shall have nothing but the Nipples left.

\* Calore, motu & exercitio uncia 2 vel 3 interdum 4 perspiratione unius horæ expelluntur. *Med. Stat.* p. 15.

## C H A P. VII.

### *The Bones, Joints and Muscles.*

Observations  
upon the Bones  
and the Periosteum;  
by Mr  
Lewenhoeck,  
F. R. S. No.  
366. p. 91.

I. I HAVE lately found that the superficial Part of the Bones consists of an inconceivable Number of small Vessels, and some few of a larger Size; which last, when they came to the Surface of the Bone, appeared to me to be cloathed either with a Membrane or a bony Substance, that was perfectly transparent. I once happened to discover in a small Portion of a Shin-bone, 4 or 5 Vessels of such a Size,



Size, that a single Filament of Silk might have been drawn through their Aperture. One of these appeared to me to consist of 2 Openings, each of which seemed to be provided with a Valve, which was disposed in such a manner, as to let out what was contained in the Vessel, but to suffer nothing to go in. In all my Observations upon the Surface of the Bones, I never, but this one time, discovered so many of these Vessels in so small a Compass.

As for that Matter, which issues from the Bones, and is carried into the *Periosteum*, I have discovered the Source of it to be the spongy or cellular Substance on the inside of the Bone, which is the Repository for this Marrow. This spongy Substance consists of long Particles closely united and linked together, which Particles are composed of an infinite Number of small Vessels, some running lengthwise, and others taking their Course towards the Sides of the bony Particles. These bony Particles, notwithstanding their great Number of Apertures, are yet exceeding hard, and lie some of them parallel, and others perpendicular, to the Length of the Bone. Those Particles, that lie perpendicular to the length of the Bone, have Vessels proceeding from their Ends; and from their Sides, where they do not lie close together, proceed other Vessels, that compose the *Cortex*, or superficial Part of the Bone. And those long Particles that lie parallel to the Length of the Bone, send out Vessels from their Sides, that issue out thro' the Side of the Bone. It is impossible for those, who have not seen this, to conceive the prodigious Number of small Vessels, of which the cortical Part of the Bone consists; which in some Places lies no thicker upon the spongy part of the Bone than a thick Hair of a Man's Head, tho' in other Places it has 3 or 4 times that thickness.

To the Cortex of the Bone, the *Periosteum* is united, not only on the outside, but even by entering in many places into the very Substance of the Bone, and is joined to it by the Vessels, which issue from the Bone, in such a manner, that sometimes one cannot determine which is the Bone, and which belongs to the Membrane investing it, they both appear in the Microscope to consist alike of exceeding small Vessels.

To make this be the better understood, I have given in *Fig. 120*, a *Fig. 120*. Representation of a small part of the Bone, with the *Periosteum* adhering to it, in which A B C D E F represents the bony Part, whether taken from an Ox, or Sheep, I do not now remember. The *Periosteum* is marked B G H I E, the Thickness of which is designed by B G, or I E, tho' in other Places of the Bone, and even at no greater Distance than 2 or 3 Hairs Breadth, it is twice or thrice as thick. We see here, that all the small Vessels in the *Periosteum* are represented by so many Dots or Points; but in other Places, where I had several times seen the Membrane of twice this Thickness, the upper Part of it has appeared to be of a different make from the under Part, for as much as in the upper Part I could discover



Fig. 121.

discover not only those Vessels that had been cut transversly, and which consequently were represented by so many Points, but likewise a great number of other Vessels running lengthwise along the Membrane, as is represented in Fig. 121, by L O P Q N M.

I am fully persuaded, that the Part represented by B G H I E, Fig. 120, is not entirely membranous, but that some part of it is really bony. If we cut thro' the *Periosteum* so deep as to divide the part of the Bone marked A B C D E F, in the same Figure, we find the same Appearance of Pores in the bony Substance, which are no other than the transverse Sections of small Vessels; and besides these, there are other Vessels running longways in the Bone. And we find just the same in those transparent Parts, that lie between the bony Particles, which are represented thicker between B C D E, than they appeared to me. It is my Opinion, that the Use of these bony Particles is, to convey an oleaginous Liquor into the *Periosteum*; and that from the *Periosteum* it is carried by the Intervention of the other Membranes into all Parts of the Body, when in a healthful Condition. In another Place, I saw a great Number of Vessels arising from a greater Depth within the Bone, which drew closer together, so as to compose small *Fasciculi* before they entred the *Periosteum*, in which they separated from one another, and dispersed themselves again. It is difficult to determine, whether these Vessels bring any Liquor into the Bone, or carry it out, but I rather think they serve to carry it out. Having placed another piece of Bone before the Microscope, with the *Periosteum* adhering to it, I could discover a great Number of Vessels that I had cut thro' lengthways, as they ran along the *Periosteum*, and others that were cut thro' transversly, and appeared as so many Points, as is represented in Fig. 121. by K L O P Q N A, where the bony Part is marked K L M N A, in which, tho' no Pores, or Vessels, are here represented, yet it is full of Openings. That Part which is designed by L O P Q N M, we must not take to be entirely membranous, for I am of Opinion, that that part of it, which lies next the Bone, and which is represented by L M N, is of a bony Substance.

Fig. 122.

I had another small piece of Bone lying before a Microscope, of which I caused a Part to be represented by R S W X T U, Fig. 122, in which R S T U is the Bone, and S W X T the *Periosteum*, which in this Place was no thicker than a thick Hair of a Man's Beard, but in another Part of the same Bone, at a small distance, it was full four times that thickness.

Fig. 123.

I placed another piece of Bone before a Microscope in such a manner, as that the Bone did not appear, but only the *Periosteum* and the Muscular Fibres, which were cut thro' transversly, and appeared to be surrounded by the *Fibrillæ* of the *Periosteum*, as in Fig. 123, where Y Z A B is the *Periosteum*, and Z C D A are the fleshy Fibres cut thro' transversly. This piece of Bone was taken from one of the Ribs of a fat Ox, and I was surprized to find, that in this Place, as I cut long-



longways through the Rib, I could not discover any Particles of the Marrow, whereas in other Parts the Rib abounded with them.

I had kept four pieces of Ribs of a fat Ox full two Months, which were now grown very dry. I cut off a very thin slice, and placed it before a Microscope. It is presented by A B K C, *Fig. 124*, having been cut off transversly and as thin as possible from the Rib, with part of the Periosteum, as from K to C, still adhering to the Bone, and another part of it torn off from the Bone, as designed by B K D, except that in some places the Bone, and the Membrane are still united by Vessels torn out of their places, that run from one to the other. In this Figure D E F C represents the Periosteum, and the Part designed by E G H I F, is something lying upon it, which I could not tell what to make of, tho' it appeared to me to be membranous.

I had likewise some very thin slices shaven off from the Rib, both of an Ox, and of a Calf, from which I tore off the Periosteum entirely, or at least as much of it as possibly as I could; after which I caused the edge of the Bone it had stuck to, to be represented by the crooked Line, L M N, *Fig. 125*.

In *Fig. 126*. O P Q represents the edge of another small slice of Bone, from which the Periosteum has been torn off, by which appearance it should seem, that the Union of the Periosteum with the Bone is so firm and strong, that in separating it, some of the superficial Particles of the Bone are torn off with it. I have likewise discovered some Vessels running along within the Marrow-bone of the Shank of an Ox that seemed to be Blood-Vessels.

Since now it appears from our Observations, which have been made with great Diligence and Care upon Bones of all Kinds, that for the most part they consist of exceeding small Vessels which arise from the inner, hollow, or spongy part of the Bone, and passing thro' the superficial or cortical Substance, enter the *Periosteum*, and are from thence continued even unto the utmost parts of the Body; we may from hence reasonably conclude, that, in a healthful Body, as there is a constant Supply of an oily Substance carried into the Bones, so this is again constantly carried out from the Bones, by means of these Vessels, into all parts of the Body, even to the extremities of the Fingers. To give an evident Proof of this, let any man lay the ends of his Fingers upon a clean and bright Pewter-Plate, and he shall find the Pewter appear soiled in the Place where he has touched it; for in reality this soil is nothing else, but some oleaginous Particles discharged from the ends of his Fingers. There is indeed something of a watery Substance mixed with the oily Particles, but this evaporates in a little time, and leaves the oily Particles lying upon the Plate.

II. Nov. 5. 1713, *John Fletcher*, on board the *Neptune* of *Liverpool*, Of the coming had the Misfortune to break the *Radius* and *Ulna* (of his left Arm) off of the Scapula and Head of the Os Humeri, upon a Mortification came