

next to *Ey Columb Kil.* 'Tis very different from the common *Vitis Idæa sempervirens fructu rubro*; being a larger Plant, much more branched; the Leaves of a crisp'd Surface, and the Berries (which as they told me it retains all the Year) liker unto those of Holly. Going up one of the high Hills of *Mul* we found *Rhodia Radix*; *Pes Cati*; *Cotyledon hirsut.* *Vaccinia rubra*; *Sedum Alp. trifido folio*; and (which I had never seen grow spontaneously) *Alchimilla Alpina quinquefolia.* We found in this Island a curious *Fucus arboreus* with a ruff'd Stalk, whereof we took a Figure.

X. *An Abridgement of a Book intitl'd, A Description of the Plague, which happened in the Royal City of Dantzick, in the Year 1709. Written in High-Dutch by Dr. John Christoph. Gottwald, and Communicated by Dr. Joh. Phil. Breynius, as the best Account of that Distemper there Publish'd. Translated by C. J. Spregnell, M. D.*

PART. I. *Containing an Historical Relation of the Plague.*

THIS dangerous and pernicious Distemper has now reign'd for some Years in many Cities, Towns, and Villages of the Kingdom of *Poland*, where it has swept away a vast Number of Inhabitants, and has even left some Places quite desolate. As I have been credibly inform'd, it first began near *Pinczow* or *Pikzow* in the Year 1702. soon after the unfortunate Battle between the *Saxons* and *Swedes.* The next Year it appear'd here and there towards *Cracow* and *Russia*, and had already caused great Mortality near the *Hungarian Mountains*, called *Crapack*; till it went Eastward to the Upper *Volbinia*, and again Westward to *Lemberg.*

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In 1704. it raged very violently in these two Palatinates; so that *Lemberg*, the Capital City of *Russia*, lost a vast Number of its Inhabitants, and many to save their Lives were forc'd to fly from it. In Autumn it spread in the neighbouring Places that lye to the West and South, beginning in a Village called *Radymno*, on this side *Jarislow*; and afterwards invading other Places seated betwixt the Rivers *San* and *Volodarora*, it spread 'till it came towards the *Samber*.

In 1705. it left *Lemberg*, and went North and West to Great *Poland*, thro' *Jarislow*, *Sieniawe*, *Zamose*, and other adjacent Places; and continued in that part of the Country, as far as *Posen*, all that Year.

In 1707. it enter'd the Royal City of *Warsaw*, where it destroyed that Summer a vast number of Peop'e.

In 1708. it came nearer towards *Polish Prussia*, and broke out the latter end of *August* in *Thorn*; where it continued till the beginning of the next Year, and swept away no small number of Men.

This Approach made us very apprehensive of Danger: Publick Prayers were order'd in our Churches; and our Magistrates at the same time left nothing undone that could tend to our common Safety. Commerce and Communication with the Infected, and even suspected Places, were forbid: No sort of Merchandize or Effects that came from such Places was allowed Entrance, especially such sorts of Goods as might easily receive and retain the Contagion; as Wooll, raw Leather, Furrs, Beds, &c. All Strangers and Travellers were strictly examin'd, and none permitted to enter without sufficient Proofs, that they came from Places healthy and not infected: All our Inhabitants were caution'd neither to hold Correspondence with, nor, on any pretence whatsoever, to harbour those of infected Places, or to go to them.

These and other necessary Precautions were taken, and by publick Edict enjoyned from *July 11. 1708. to February 27. 1709.* Notwithstanding all which, the Distemper gradually insinuated itself: For in the Month of *March, 1709.* there died out of one District of the old Town, called *Raumbaum*, seven Persons: The eight remaining was a young Girl, who by order of the Magistrates was sent to the Hospital, having already some ill Symptoms, as Bubo's, about her; which being yet unknown, one would not have presently taken for Pestilential, but rather Venereal: But they soon shew'd their Epidemick Kind, by seizing upon other Children that were kept in the same Rooms.

In the same Month I had under cure a *Polish* Lady that was come hither from *Jarislaw*, and labour'd under a Chachexy and Tympany. In a Fortnights time she recover'd so well, that soon after she went to Church: But it was not long before she fell ill again, being taken with a slow Fever and a sudden Prostration of Strength, and died within 8 Days. When they came to wash her dead Body, there was found on the lower Belly a brownish red Swelling about the bigness of a small Hen Egg, which I afterwards judg'd to be a *Furunculus*: So much I could then guess, that it was not a common Swelling; for it was surrounded with a Lead-colour'd Circle, from which proceeded several blue Rays in the adjacent Parts.

However, this was not a sufficient Ground to demonstrate or to give publick Notice, that the Contagion was already amongst us; seeing our Magistrates had at this time publish'd an Edict, That no body, by reason of any extraordinary Sicknes, should immediately spread a false Account thereof, to the Prejudice of this Place; which some might do either thro' Malice or Inadvertency, and report it to Foreign Parts; by which the Inhabitants might be terrify'd, and our Trade and Commerce,

merce, which is the Soul of this and other trading Towns, obstructed. But in the mean time Care was taken to prevent, as much as possible, the farther Progress of this Distemper: The Streets, the Waters, and Houses were order'd to be cleansed from all manner of Filth and Nastiness.

On Sunday the 16th, The Governors of the Hospital desired that I would be Physician in Ordinary to their Hospital, or at least that I would give my Help and Assistance at present, by reason of the many sick that were in the Hospital, and which increased daily. Next day I went to the Hospital, and inquiring for the Surgeon in Ordinary, I was informed that he died the Day before; but they knew not of what Disease. In viewing the Patients, I found ten in a Room together, of various Ages, some of which had Bubo's, others Carbuncles, others Gangrenous Ulcers, which one cannot always judge to be Pestilential. In another Room there were above twenty Children, from six to thirteen Years, all which, except four or five, had either Pestilential Bubo's in the Groin, Armpits, and about the Neck, or else Carbuncles on the Arms, Thighs, Legs, and other parts of the Body. After I had perfectly informed my self of the state of the Hospital, I took my leave, having first recommended to the Surgeon, that then attended, such necessary Medicines as I judged proper in these Cases to be given inwardly; the rest I left to his Care and Diligence; but I could not forbear telling him my Opinion, That these were Symptoms, if not of a Plague already insinuated, yet at least of something but little inferior to it, and certain Fore-runners of that destructive Distemper. Upon this I called to mind, what I had observed in my Travels at *Venice*, in those that came from the *Levant*, and had performed their Quarentine who had also had the Plague, of which there were still some Remains upon them. But the Surgeon did not then think
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this to be any Thing so dangerous; but was soon after convinced of his Mistake, the Distemper seizing him and his Family, of which himself, his Wife, and all his Children died.

After I had made this Inquiry into the State of the Hospital, considering the Fatigue the discharge of this Office would oblige me to, and that it was impossible for me to undertake the Care of other Patients, so as to do for both what Necessity might require, I excused myself to the Governors, and declined the Charge. From this time the Malady and Number of Patients daily increased, and mostly in the outer Parts and Suburbs of the Town, which proved very troublesome to the Physicians.

June 26. My Daughter of about six Years and a half old, began to complain of an unusual Head-ach. I presently gave her some Bezoardick Drops, with Volatile Cephalick Spirits. In four Hours after she was much alter'd, her Eyes stared, her Extream Parts were distended, and violent Convulsions ensued, tho' they did not continue long; but afterwards she lay as if she was Paralytick, and could not be made sensible. Whatsoever Medicines we made use of, avail'd nothing; so that she died the third Day following. The same Day also my Wife fell dangerously ill; but in a few Days got past the worst; and tho' she was confined to her Bed a long time, yet with the Assistance of other Physicians, she at last happily recover'd.

This for some time brought an ill Repute upon my House, as if it was infected with the Plague, and was very detrimental to my Practice, every Body being afraid to make use of me; but the Malady increasing, I daily regained my Practice, tho' all the Efforts I could make I found were too weak to resist the violent Progress of such a Distemper: For one might daily perceive how the

Poison got strength, and consequently that the Disease was harder to remedy.

Thus the Distemper grew predominant, and by the end of *August* was spread almost over the whole Town. All possible Care was taken to supply the Poor (which in this Place are very numerous) with Necessaries both of Food and Physick; to have the Streets and Dwelling-Houses kept clean and neat; the Communication of the Sick with the Sound as much as possible prevented; and the Dead buried timely, and in the Place appointed for them; and all this by the Authority and Direction of certain Persons the Magistrates had appointed thereto, called for that Reason, *Provisors of Health*.

Besides, the *Pesthouses* were open'd, and well provided with all manner of Necessaries, as also with Overseers and Servants; to the defraying the Charges of which considerable Sums of Money were collected: Many Persons of Condition hired particular Houses for their Servants; and others made up convenient Apartments in their Gardens, and procured Servants and Nurses to attend them, that in case of Infection they might there be taken Care of. The Pest-Waggons and Chairs went from early in the Morning till late at Night; the former to carry away the Dead to be buried, the other to convey the Sick to the Hospitals. Besides the ordinary Churchyards, there were others made without the Walls of the Town. In short, every thing was ordered with wonderful Convenience, and so well and carefully lock'd after, that without it the Infection would have destroyed a much larger Number of People. And tho' this is a very Populous Town, yet during the Contagion, we did not lose near so many as was maliciously reported, *viz.* Forty thousand Persons; the Falsity of which Account appears plainly from the Bills of Mortality, together with the Number of Christnings and Marriages that were in this Year, as they were carefully taken and published

published by Order of our Magistrates, as you will see in the following Discourse.

We were now arrived at the Time when the Plague raged with greatest Violence, which was in the Months of *August* and *September*, in which many Eminent Men, to the great detriment of the Publick, lost their Lives. But, Thanks to God, of our chief Magistrates we lost but two, and as many of our Judges : Of our Divines there died about a third Part : Of the Physicians and Apothecaries none at all : Of the Surgeons in Ordinary only two ; but of their Assistants or Subordinates, especially such as belonged to *Pest-houses*, a vast Number. The principal Citizens suffer'd very little, but the Garrison a great deal, though the Officers escap'd pretty well ; but the Handycraft and common Tradesmen, as well Masters as Journey-men, Apprentices, Porters and Labourers were very much diminished, and died in the Year 1709. to the Number of 24533. in which are likewise included all such as were buried without the Town, and some of another Jurisdiction, of which we have not been able to get a true und exact Account : But as much as we have been able to collect, has lately been published by Dr. *Samuel Shelwig*.

There were two Things remarkable, which I must not omit to take Notice of. The first is, what Dr. *Shelwig* observed, That the Plague decreased in the same proportion as it had increased. For in *June* the Number of the Dead was 319 ; in *July* it rose to 1313 ; in *August* to 6139 ; and in *September* to 8303 : This was the highest degree of Mortality. After this the Numbers again decreased ; so that in *October* they were 4932 ; in *November* 1961 ; in *December* 584 ; and so on gradually lessening. The other Thing remarkable is, That but few of the People of Condition and Quality died of the Contagion in comparison with those of the common and ordinary Sort ; which may be attributed (next to Divine Provi-

dence) to the different Number of Poor and Rich, and the great Care and Precaution the latter made use of to avoid it.

Yet it is to be observed, that we enjoy'd beyond others of our Neighbours, a free and uninterrupted Service of the Church, during the whole time of the Contagion: Our Gates were never shut, but free Passage in and out allowed to all: We had plenty of Provisions, and all manner of Necessaries for the Subsistence of Man and Beasts, by a Communication with all adjacent Places and Countries; nor was our Commerce and Traffick wholly interrupted, but there was a moderate Trade all the while, which was very beneficial to Tradesmen and Labourers towards their necessary Support. Though the Posts did not go, yet our Communication was not wholly cut off; and though our Exchange and Markets were less frequented, yet our Churches were in proportion the fuller.

Having thus observed the Regulation used in the Course of this Disease, it will be necessary to say something more of its Progress, though it did not always keep exact succeeding Periods.

I observed before, that in *March* this Year, the first unusual Mortality happened at the *Raumbaum* in the old Town: From whence it spread immediately into the Hospital, where I saw the first Symptoms of the Plague. Here it lay lurking for some time, so that we could not perceive it made any further Progress. But towards *July* it began to show it self more openly, passing from this Hospital (which is situated North-East) towards the West, and at first seized the Suburbs, which lye beyond the Fortifications, and run out in length above a Quarter of a *German* Mile, and are called *Schidlitz*, besides other Parts that lye Sideways, and have different Names. From the Suburbs it went East and West towards the Town, and seiz'd those People chiefly
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who lived near the Fore and Hind *New-Garden*. It continued this Course, only inclining a little more towards the South, and infecting partly the Places that lye betwixt the Fortifications in the South, and partly those that are in the same Line without the Walls, as *Schottland*, *Obre*, *St. Altrecht*, besides some part of the Town within the Walls, lying towards the *Plaga*, and called the Suburbs also. It spread likewise very much South, East and North, to distant Places, till it came near the open Sea, and ravaged the Lands and Places belonging to the Town, as *Hochte*, *Werden*, and *Nahzung*.

As the Disease had in this manner surrounded the whole Town, and infected every Quarter of it; so we heard that our Neighbours on the Frontiers had likewise received the Infection. But it is to be admired, that in no District of the Town the Number that died was less observed than in that Part which we properly call the City.

Though in the Course of the Infection it spread itself, and run as it were in a Circuit, yet its Motion was not so transient in shifting from Place to Place, but that it continued fast to its first Hold, only with this difference that it did not so severely infect the Places it had at first possess'd as those that it enter'd later. This we could very well perceive and observe, when it was raging the fiercest in the *Pest-house*, *Hinterhibdlitz*, and other Places.

Thus far I thought fit, for the satisfaction of the Curious, to give an Account of the Attack this Distemper made upon *Dantzick*, and the Circumstances attending it, till the conclusion of the Year, in which I my self was a great Sufferer.

PART II. *Containing Physical and Medicinal Observations upon the Plague.*

BEFORE this fatal Distemper reached this Town, many People were possess'd with an inward Fear, that it was impossible for them to escape it, since it had already seiz'd their Neighbours. In the mean time I made it my Business to observe narrowly every particular that happened, in order to find out, if possible, the Natural Source of this Malady, and by what Medicinal Means it might be resisted. Any one cannot want good Information who peruses the Authors that have writ upon this Subject; but as to this particular Point, there is such a Disagreement among them, that one shall never be able to learn from them the true Natural Cause of the Plague; because it often proceeds from different Causes, and oftentimes the same common Cause is attended with such different Circumstances, as render it dubious.

That the Plague is a Poison, or rather carries a Poison along with it, is acknowledged by all Physicians: But of what Kind and Nature it is, and whence it proceeds, but few can agree. It is well known, that it has a twofold Operation, in such a manner, that the Blood of the Infected is sometimes thereby coagulated, and sometimes dissolved, according as the Humours of Human Bodies are disposed; and yet they are both alike pernicious. If it coagulates, the Juices stagnate, and the progressive Motion ceases: If it dissolves, then the Natural Connexion and Cohesion of the Particles become colligative and incoherent, and the Spirits gain a free Exit, and leave the Body motionless.

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That the Air was infected, during the Contagion here, is certain: Not that I mean a general Infection, as if the Air was by a supernatural Power so tainted and corrupted, as to taint and infect all Things breathing; for by this Means no Soul could have escaped, and it would be too gross a piece of Philosophy to advance: But as it is a subtile, moveable, and every where expanded Body, it attracts and receives all *Effluvia* and Exhalations, as a Sponge does Water, and imparts them likewise (by means of its Motion) to other Bodies; so that, as a communicative Medium, by the Entrance of it into our Bodies, we receive whatever it carries along with it. I shall therefore endeavour to explain how the Air comes to be of this or that Disposition or Constitution; by what Means its pure and natural Temper is altered; and how far, and with what Particles it is impregnated; for according to that it must be more or less impure, and so affect accordingly.

It is generally observed, that the Plague commonly ensues after great Battles. The Reasons alledged for it are, that the Exhalations proceeding from the vast Number of Dead Bodies corrupt the Air, by which Mankind are afterwards infected. How much more then must they be infected, when there is an actual Contagion among them, notwithstanding that it ow'd its first Rise to such Corruptions, as by means of the Air are brought from Foreign Parts; an Instance of which we see in Goods and Merchandizes. I say, the Infection of the Air must be still greater in proportion to the actual Increase of the Pestilence, when so many thousands of People die, and many continue to lye putrifying for many Days above Ground, and others are buried without a Coffin, and but a very little way under Ground. Besides the Heat of the Weather (for these Casualties generally happen in Summer) causes the Bodies to cor-
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rupt sooner : And also there is a great difference between those that die in Battle, and those that die of the Plague ; the former being sound Bodies ; but the latter infectious, and a meer Mass of Corruption before they died, and must consequently infect the Air more than the former.

What I have said concerning an infected Air, is confirmed by the Testimony of all who have writ of the Plague by Experience ; and they have likewise observed the Circumstances and Signs to be the same as they appeared to us. *Horatius Lumbifanus* in his Treatise of the Plague, asserts, that there are only two Kinds of it, and that both of them proceed from the Air ; for which he refers to the Authority and Consent of the Ancient Physicians. *Matthæus Ramelovius* in his *Speculum Pestis perpolitum*, pag. 9. likewise mentions impure, poisonous Air, which easily receives Venom from one Man, and imparts it again to another : Not to mention others. But *Paul Sorbait* demonstrates this with singular Instances in his Discourse of the Plague at *Vienna, Anno 1679.* in which he says, “ That a vast Number of People, “ and I my self, among the rest, have sometimes felt in “ the Groins and under the Arm-pits violent Pains, but “ without any Tumour, and these intermixt with Pal- “ pitations of the Heart ; all which went off again in “ time. These I think were certain Signs of an infected Air ; only that it makes not so great an Impression upon some as upon others. And in the same Discourse (*Quest. 51.*) he again repeats his Opinion in these “ Words ; “ That since the Air is infected, it may easily affect the forementioned parts of the Body, especially the Heart ; the Plague being often called *Morb. bus Inguinalis.* With him likewise agrees *Andreas à Keibt* in his *Loimegraphia*, which contains many Things very remarkable.

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What *Sorbait* asserts, I found to be true by Experience: Otherwise I know not to what Cause to impute my having felt, during this Contagion, the very same Pains which he did, several times, one after another, inso-much that sometimes I was not able to stir. Besides, when I have come from Places where People lay as yet unburied, or from infected Houses, I have frequently found a palpitation at my Heart, a pain in my Head, and Anxiety, with a reaching to Vomit, but without bringing any thing up.

In the beginning of *October* I fell ill of a violent *Catarrh*, which obliged me to keep my Bed. On the third Day it turned to a Salivation, which continued for three Hours so violent, that my Gums and Mouth swell'd as if I had taken *Mercury*; but the next Day I recovered and was well again. I was never affected in like manner - either before or since. From whence I conclude, that I received it from the Poison in the Air; only it had not Power enough over me, otherwise it might have suffocated me. I had once like to have died of the Venom of a Viper; for in the Year 1703. (*April 27.*) I was bit by one in the fore Finger of my left Hand; of which in a Moment after I grew out of order, and at last fell into Convulsions. Having immediately after the Bite suck'd my Finger, my Face swelled, and my Mouth almost closed up. Being in this Condition, few expected my Life; but notwithstanding, in three Hours after, the Convulsions began to cease, and I gradually recovered. But to return to my present Subject. That the Air was actually infected, appears from this, that many of our Inhabitants, though they took never so great Care to prevent being infected, kept continually at Home, used all manner of Preservatives both inward and outward, suffered none of the Infected to approach either them or their Servants, yet nevertheless they caught the Infection. Besides, others that convers'd

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with People that were healthy and well, and without the Town, in an open free Air, and well situated Places (but perhaps by chance looked out to see some Body or other carried by to be buried) took the Infection, fell ill and died. So that I cannot in the least doubt, but that the Air is infected; and that by means of some Morbid *Effluvia*, wherewith it is impregnated, it does also infect and destroy Mankind: Concerning which you may read the learned Dr. *Laurentius Eichstadius*, in his *Disputat. Physiolog. de Peste*. There were several other Indications of the Disorder of the Air, as many unusual Signs that were seen in it, the State of the Creatures that live mostly in it, &c. which would be too prolix to mention here.

Authors generally make a Distinction betwixt the Signs of a future and of a present Plague. Concerning the former, the famous Historian *Casper Hedio*, in his *Chronica*, has related several wonderful Accidents that happened in the Stars, the Air, the Earth, and the Waters, in *Germany, Italy, France, Poland, &c.* as certain Signs of an approaching Plague, which soon after did ensue.

I cannot disprove the Consequences drawn from these and such like Relations, since the Event confirms the Truth of them: Yet they are but uncertain Signs, and as such are esteemed by *Pet. Sybillinus*, and others of the Learned. However, I think it not amiss to relate some of the unusual Signs that happened here before the Plague came among us. Of this kind was the extraordinary Number of Spiders, which were found in such abundance the Year before, (*viz.* 1708.) towards the East, that a Country Gentleman assured me, when one Day he happened to be looking after his Workmen, he was cover'd all over with them. The same is likewise observed as a forerunner of the Plague by the Learned Dr. *A. Q. Rivinus* in his *Tr. de Peste*. The same sort of Spiders I have also my self observ'd near my House. The Winter follow-
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ing, which was the Winter before the Plague, we had such a Frost, as never happened within the Memory of Man. It began on the second Day of *Christmasts*, and continued till *Easter*; during which time there fell such vast quantities of Snow, that we were twice obliged to be at the Expence of employing a great number of Carts to carry it out of the Streets, otherwise it would have done great Damage. Notwithstanding, I cannot think these sufficient Indications of an approaching Plague; because this Distemper very often follows upon a mild as well as a hard Frost; many Examples of which may be produc'd from Mr. *Reinhold Carike's* Account of the Plagues which happened at *Dantzick* in the Years 1352, 1427, &c.

But the Signs that are observed in the Air, at the time when the Plague rages, are more evident; and especially those that are observed in Mankind themselves, will easily evince the Infection of the Air. On *August* the 11th, at Twelve of the Clock, I first observed a stinking Mist, like a thick Cloud, but of short duration; but at Four a Clock it returned from the North West, so very thick, that it perfectly darkned the Air, and hinder'd the Sight. It was neither blue nor grey, as other common Mists; but of a blackish yellow, like the Vapours that rise from the Effervescence of Oil of Vitriol with Oil of Tartar. After it had reach'd the middle of the Town towards the South East, it inclin'd Westward, and there emitted a violent Stench; as many can witness. The second Sign of a Corruption (in the Air) as Dr. *de Sorbait* calls it, appear'd to us, if I mistake not, in the beginning of *October*. This was a blue fiery Globe, which came from the North West, about Eleven a Clock at Night, and shot towards the Town as swift as an Arrow out of a Bow, and seem'd to fall over against the Town towards the South. In its flight it gave a great Light all over the Town; which I my

self and many more saw, and was also attested upon Examination before the Magistrates by the Soldiers that were upon Watch that Night. The third Sign of an infected Air was not, as may perhaps be thought, only the Fancy of People, but the careful Observation of the learned Dr. *Samuel Sabelwig* in his Treatise beforementioned; viz. That in the Month of *July* the Crows, Daws, Sparrows and other Birds, which at other times are to be seen here in the Town and about the Gardens in vast Numbers, were all fled, and none of them to be seen till *November*. The same was observed of the Storks and Swallows likewise; and I can positively affirm, that I saw none of those Birds all those four Months.

I must confess these Things happening at this time, made me often inquisitive about the Reasons of them: Yet I should hardly have been persuaded that they had any Dependance upon the Plague, since they may, and sometimes do happen without it, if there had not other more dangerous and certain Signs of a Plague appeared in Mankind itself. These indeed were very many; some External, some Internal. The former are never without the latter; and the latter but seldom observed without the former; only that sometimes the External Signs do not appear till the Patient is dead. Both have been often taken for Diagnosticks, as also for Prognosticks; Experience confirming, that upon such and such Signs and Symptoms nothing but Death could ensue.

But great Regard ought to be had, first to the Signs themselves, and then to the Symptoms; for they may be Spurious, and without Malignancy, tho' by the Diagnosticks you might take them for Pestilential. And especially the time must be diligently observed; for many Signs that in the Increase and at the Height of the Distemper appear'd dangerous, in the Beginning and Decrease of it were mild and without any danger. For the Distemper began and increased gradually, and lessened in
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like manner; but the middle was the worst, and most violent. For at first the *Bubo's* were more common than the *Furuncles*, *Carbuncles* and *Vibices*: Afterwards again the *Petechieæ* were more common than these; though during the whole time of the Contagion, they were never wholly seperated, so as to appear sometimes one without the other. At last the *Petechieæ* and *Carbuncles* went off; but the *Bubo's* continued last of all.

The *Bubo's*, which are to be reckon'd the first of the External Signs, lye very deep in the Skin, and are at the beginning hard, unmoveable and round; afterwards they grow longer, and may be moved. Outwardly they do not look red, till they are drawn and brought to maturity. They are generally found in the Groins, Armpits, and about the Neck. Most of them come with a very violent, cutting and pricking Pain, accompanied with heavy Symptoms, (which I call Internal Signs) as Pain in the Head and Back, shivering Colds interchang'd with Heat, Anxieties, Faintness, and frequently also bilious Vomitings. According as there is more or less Malignity, the Symptoms are proportionably more or less violent: Sometimes they are very mild, and the *Bubo* proceeds without any great Pain.

Furuncles differ from the common *Bubo's* in this, That they appear mostly in the fleshy Parts, to the Number of five, seven, or nine on one Body. They are sometimes red, and swell to a greater Height than the *Bubo's*: Their Pain is very violent, and therefore disturbs the Patient's Rest. The other Symptoms are much the same as in *Bubo's*; and tho' they are not always alike, yet they are never without a Fever, and are attended with Pain in the Back and Belly.

Carbuncles and *Anthraxes* are much more pernicious, and of various kinds: And I dare affirm, that if they had been rightly taken Notice of, one might have observed amongst them many strange Figures and Species. I shall only

only mention four Sorts of them. The *First* shews itself somewhat eminent and rising, of a dark brown, the uppermost Skin appearing somewhat dry, as if it was burnt, and has withal a Lead-coloured Circle. In the beginning it is frequently no bigger than a Pea, but if not prevented increases in a short time to the bigness of a Crown-piece. Inwardly it is moister than the following *Species*, and may be easier separated. Its Seat is generally in the fleshy Parts, and is to be found on the Shoulders, Sides, Hips, Neck, and also on the Arms and Legs.

But the *second Sort* lies somewhat deeper, and seems a little more depressed. The *Escar* is in the middle of it, which is wholly Dark and Ash-coloured, full of small Cuts, as it were burst by too great a Dryness, and has a strong Lead-coloured Circle, behind which the sound Flesh looks red and shining. It very much eats the Flesh about it, and fixes its Roots very deep. In its Separation it feels dryer than the former, and may be taken out by pieces. It is fixed generally where the Flesh is thickest, as on the Buttocks, the Calf of the Legs, and under the short Ribs towards the Back. These two *Species* burn violently strong beyond the rest, insomuch that a red-hot Iron can hardly occasion more Pain; and indeed the Patients (not to mention other Symptoms that accompany them) are almost killed by the meer Pain of them.

The *third Sort* is not very big, nor of a very large Circumference. At first it appears like a Blood swelling, not so black as the former, the Skin being also somewhat wrinkled. In its Increase small Blisters arise on the middle of it, and form an *Escar* in small Clusters, which, as an Ingenious Physician observed, were small Carbuncles. They are commonly situated in Membranous and Tendinous Parts, as towards the Knees, behind the Ears, upon the Toes, &c.

The *fourth Species* is the most Curious, but very deceitful, as *Purman* in his Treatise of the Plague has well observed. *Job. Bapt. Sisonius in Miscel. Med. Curios. Tr. I.* calls them *Papula livida, ulcerosa, & pallida*. It appears with a high Blister, which is yellowish, as if it contain'd Corruption. About it first is a red, afterwards an Ash or Lead-coloured Circle: The Blister soon falls, and within you see the Carbuncle hardly of the bigness of a Pepper Corn, which continually eats deeper and wider. These are seated upon the Cartilaginous Parts: I have found them near the Pit of the Stomach upon the *Cartilago ensiformis*, and upon the short Ribs.

All these four *Species* of *Carbuncles* take deep Root, and in the beginning burn very violently, but the two former more than the latter. The Symptoms attending them are violent, though not always sensible, but so much the more dangerous; as generally Restlessness, *Delirium's*, sudden loss of Strength, Pain in the Head and Back, Anxieties, inward burning Heat, Thirst, &c. The first Onset is frequently attended with a Shivering, bilious Vomiting, &c. According to the greater or less Power of the latent *Miasma*, the Symptoms are always more or less violent.

The *Petechie* or Malignant Spots, which are at all times, as is well known, very dangerous, did especially in this Contagion rage violently. I have observed of them also four distinct *Species*. The *first* look like Flea-bites, and therefore have been called by some Authors *Pulicares*. They break forth reddish, and soon changing their Colour, grow brown, and at last black. They are round, and spread all over the Body, excepting the Face, where they are not always found,

The *second Species* appears in the Figure of Lentils, and therefore they are called *Lenticulares*, and are likewise at first ruddy, but in about Twenty four Hours

Hours change Colour, and grow Dark and Ash-colour'd: They spread, as the former, all over the Body.

The *third Sort* appears in large round Spots, of the same Colour as the former, only they are found but here and there upon the Body: Sometimes they are also intermixed with the Lentil kind.

The *Fourth Species* is not unlike the Measles, and spreads all over the Body. After two or three Days you find them shoot into little Blisters rising to a Head, but containing no Matter. They dry away the fifth Day, at which time the Patients Death is not far off. After they are dried away, the Skin is rough, and much like that of a smoked Goose, only not quite of the same Colour.

To these we might add a fifth *Species*, mentioned by Dr. A. *Q. Rivinus* in his Treatise *de Peste* (pag. 51.) These appear not till after Death, either in Points, or Spots. But seeing they differ in nothing from the aforementioned, except that they first appear after Death, they can scarce be made another Species. They show themselves mostly on the Back and Breast, and give plain Indication that there was a Malignity which killed the Patient.

Many sad and pernicious Symptoms appear also at the breaking forth of these several *Petechiæ*; as Pain in the Head and Loins, Vomiting, *Diarrhæa's*, Palpitations of the Heart, great Anxieties, Faintings, shivering in all Parts of the Body, which are frequently succeeded by Heat or Sweat, Deliria, Epileptick Fits, Lethargy, a dismal Hippocratick Face, staring Eyes, Bleeding at the Nose, inordinate Menstrual Fluxes. In short the Symptoms are so many and various, that it is impossible to observe them all.

Next are the Plague-Stripes or Rays, called, by *Job. Bapt. Sisonius*, *Vibices*, and by others, *Molopes*. They are not seen before the latter End, for Death itself attends them: And this used to happen very unexpectedly,
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tho' the Symptoms were tolerable, and at the same time Hopes of Recovery: Yet like Lightning they shot upwards from the Breast to the Face, all in Strokes of various Colours, blue, green, brown, and yellow; first covering the Face as high as the Nose, and from thence spreading farther to the Forehead. This so disfigured the Patient, that he was frightful to look upon: His Eyes grew stiff, his Tongue trembled, his Speech gradually ceased, and inwardly there was great Anxiety and Confusion; from all which the struggle betwixt Life and Death might well be observed.

I shall now last of all mention the *Fire-Bladders*, which I have only observed in two Patients, and that in the beginning of the Contagion, both which recovered; and therefore I do not think them so very dangerous, as Mr. *Purman* describes them to be, unless we mistake the Species and Property of them. To me they appeared as broad as a Shilling, of an irregular Height and Figure, with a clear wrinkled Skin, as if shriveled by Fire: They at last emitted a small Moisture, and vanish'd in a few Days. I have observed them only upon the Belly, Thighs, and Legs. They came forth with a small Cold and succeeding Heat, and with Pains in the Head and Back, and Weariness.

These were the External Signs, as they appeared to us, and as far as I was capable of describing them. As for the Symptoms, seeing they appeared very various, tho' the *Exanthemata* were one and the same, it is impossible to describe them so nicely as might be wished; yet by reason of the Prognosticks I have divided them into several Classes for my own Practise, that I might judge the better of the Event. In the first Class I placed all those that were in themselves not dangerous: In the second those that were doubtfull, and had various Events, both good and bad: In the third, those that were wholly dangerous.

The Symptoms in themselves not dangerous, were Pain in the Head, a small Shivering or Cold, a tollerable Heat, nauſeating of Victuals, Thirſt, the Belly diſtended with *Flatus's*, Anxieties, Dejectedneſs, Pains and Stitches behind the Ears, in the Temples, and on the Shoulders, Heavineſs in all the Limbs.

The dubious Symptoms were Palpitations of the Heart, ſhortneſs of Breath, Anxieties of Heart and Faintneſs, Loofneſs, Vomiting, Dryneſs of the Throat, Reſtleſneſs, a continual Fever, Delirium, &c.

The Symptoms altogether dangerous, were Sleepineſs and Lethargy, Paſſie, Epileptick Fits, Cramp, Bleeding at Noſe, irregular Menſtrual Fluxes, Miſcarriages in Childbearing Women, ſudden loſs of Strength, Rigour and Shivering through all the Limbs, burning Heat, ſtaring and watering Eyes, continual Inquietude, with great Anxieties, external Coldneſs of the Limbs and inward Heat, with Dryneſs of the Tongue and the Throat.

But it is to be Noted, that no one of theſe Symptoms ſingly by itſelf can abſolutely determine either good or bad: Yet I can truly affirm, that if any one of thoſe of the laſt Claſſe, as for Inſtance, the Lethargy, or an unuſual Shivering through all the Limbs, happened to any at the firſt Onſet, I ſeldom failed in my Prognoflication. I ſhall therefore add to this Part ſome further Obſervations, which may ſerve inſtead of Aphoriſms in Practice, and have been uſeful to me in Prognoflicating the Event of this Diſtemper.

But firſt I ſhall mention a remarkable Thing, that was very common at the time when the Plague raged, and is not to be reckoned among thoſe Signs that happen by Accident.

Several People, not excepting the Stouteſt, were frequently ſtruck with a Fear, Horrour and Anxiety, inſomuch, that they perceived a violent Trembling and beating

beating of the Heart, and Pain in the Back. Many of them would presently fall into Despair, and thought no other but that the Plague had already seized them. This was especially more frequently observed in the Months of *July, August, and September*. It seemed strange to me at first, but I found that it had also its Natural Causes, which were stirred up by some Secret Passions of the Mind, and therefore might also be remedied by Natural Means. Cheerful and encouraging Discourse, to rouse and comfort the Spirits, went a great way in the Cure; but there were a great many upon whom this availed nothing, but remained inconsolable and melancholly, so far, that at last they died. At length this Fear got the upper hand so much, that even the Physicians themselves (though generally reckon'd Men of Understanding and Experience) left the Town and fled. The nearest Relations would not venture so much as to visit those that were so possessed, or give them any Assistance: And we have Instances enough of Parents that in this Case would not visit their own Children, though they lived in the same House with them.

The particular Accidents, as far as I could observe in my Practice, and from thence Prognosticate, are as follows.

The *Bubo's* were in the Beginning of the Contagion much more dangerous than afterwards; and those which happened on the left Side were more pernicious than those on the right: Which very well agrees with what *Dr. Rivinus* (p. 54.) has observed.

Bubo's did not always need to be drawn and extracted, nor would they sometimes be drawn or forced outward, but were divided by good Emollient Medicines.

It was better not to lay Plaisters presently upon the *Bubo's*, but to stay till the fifth Day, and then it might be done with Safety.

Carbuncles seated on the Nervous Parts proved more dangerous than on the fleshy Parts.

Where *Carbuncles* came not quickly to Separation, the Case was dangerous.

Carbuncles without the Patient's being particularly sensible of them, without Heat and great Lassitude, were followed by Death the fifth Day.

Carbuncles generally after the fifth or ninth Day well permitted a Cure, but required great-Care, especially that the Patient might not catch Cold.

If a *Bubo* happened near a *Carbuncle*, it was a good Sign, and less dangerous than if the *Carbuncle* was alone.

Carbuncles beside *Petechiæ*, or Spots, were mostly mortal.

The *Petechiæ*, or Spots like Flea-bites, were mildest and best of all; nay, some Patients went abroad with them, but seldom with any Benefit to themselves.

Petechiæ, that did not break forth before the fifth Day, prognosticated Death.

Such *Petechiæ*, as are called *lenticulares* and *purpuratæ*, were at this time all Mortal.

Occult *Petechiæ* brought nothing but Death.

Vibices, or Plague-Stripes, were infallible Signs of Death.

As soon as a Shivering, with Pain in the Head and Back, bilious Vomiting, and great Lassitude happened, then was the Patient taken with the Plague.

If the Shivering was violently strong over the whole Body, and a trembling in all the Limbs, the Pulse without weak, then on the third Day infallibly Death ensued.

Hæmorrhagies, or Bleeding at Nose, or irregular Menstrual Fluxes, whether they happened the 1st, 2d, or 5th Day, or even the 7th or 9th, were always dangerous and mortal.

All Evacuations generally, if they came with sudden Loss of Strength, and an unequal trembling Pulse, were not Critical, but Colliquative, and occasioned Death.

Ordinary Menstrual Fluxes, if there was no *Bubo* or Furuncle, were not dangerous:

Generally all Beginnings of this Distemper, which affected the Senses or nervous Parts, were dangerous, and signified Death.

Great Inclination to Sleep, or Lethargy at the first Invasion, was a dangerous Sign; and tho' the Patient bore up under it the second or third Day, yet he rarely escaped Death

All Relapses were dangerous: If they happened soon after the 5th Day, the 7th was the last; if after the 9th, then the Patient fell into an Hectick Fever, and died some Weeks after.

If the Patient the third Day after the Invasion of the Distemper, appeared strong, and talked much, yet had an inward Fearfulness, then he died the third Day following.

If the Patient was taken with a Shivering, not succeeded by Heat, but great Weakness, and without any visible Sweat, had a dry Throat, a dry Breast, and a tickling Cough, the Case was very dangerous.

It is to be observed, that in this Distemper no Critical Signs did appear; yet many Accidents had their certain Days, in which they determined.

All which Observations I could confirm by many undeniable Instances, were it necessary.

Before I conclude this Part I shall take notice of the Signs of the Urine, which many Learned Men give little Credit to: Neither do I think that they are infallible as to the Diagnosticks and Prognosticks of the Distemper; but being compared with the rest they give great Light to the Physician, so that he may be able to form a more certain Judgment of the State and Event of the Disease.

Disease. For Instance, a clear and pale Urine, which we otherwise call raw and unconcocted, if it does not soon change and give a Sediment, is dangerous. A bloody and putrid Urine, let it look otherwise as it will, if it had on the Surface round about the Glass a pale red Circle, was at this time generally a Sign of Malignancy ; nay, tho' the Urine was not stirred, and only this Circle was seen, it never signified any good, but was at least a Sign of great Weakness. Lixivious Urine, without Sediment, and half concocted, and also in small quantity, shewed a Defect in the Strength, and a lamentable Event.

PART III. *Containing Indications for Practice.*

WE were very careful to enquire after and procure whatever might tend to the Preservation and Cure of the People. We recommended to them a good Diet, that the superfluous and luxurious Abuse of Victuals might not add Fuel to the Plague: But it was difficult to bring them to a regular Diet ; for the common People wanted necessary Means to observe it, and rather chose to spend what little Money they could get in strong Liquors, to divert their Cares, and make themselves insensible of their Misery : And the Rich would not be confined to live by Rule, and so long as they did did not live debauched, thought nothing would hurt them.

Common Brandy (the *Panacea* of the Vulgar) was advised against and forbidden ; and in its stead the Moderate use of *French* Brandy was allowed, and not without great Benefit ; for thereby the Spirits were cherished, and Fear and Anxiety banished ; all violent Passions of the Mind proving destructive to Health.

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Pot-Herbs, Garden-Fruits, and the like, which are generally flatulent, as also very Salt and high season'd Meats, were not allowed; yet the People had no great Regard to it, but used them as they were wont, excepting some few, who were more careful than the rest, and abstain'd from such Diet and avoided Company also: And there were many that chose for the sake of the Air to live rather in the Country than in the Town.

The Medicines in Pharmacy, which were made use of, were many; besides those that were published by Order of the Magistrates, and were written by the Physicians in Ordinary for the Preservation of the People, in which they recommended their Specifick Prescriptions. As to what concerns the Preparations, among which I reckon also such as are Universal, as Purges and Vomits, I shall treat of them hereafter.

Of Simple Internal Medicines, which were in greatest Esteem, were *Radix Angelica*, *Calamus Aromaticus*, *Myrrha rubra*, *Sulphur*, *Nitrum*, *Ruta*, and the like. Of Compounds, the chief were *Machandel-Chalk*, *Theriac*, *Mithridate*, various Preparations of Pestilential Vinegars, Morsels, Troches, all manner of prepared Powders, also Gun-powder, &c. Some were pleased to make use of the *Medicina Stercoraria*, and those very diligently drank their own Urine; how it pleased them, and what Benefit they found by it, they know best. Among other Preservatives, the following sent from *Thorn*, being in great Esteem, I shall here give the Prescription of it.

Rx *Aloes Hepat.* ʒvj. *Terræ sigillat.* ʒss. *Theriac. Venet.* ʒvj. *Rhabarb. opt.* ʒij. *Croci orient.* ʒiss. *Zedoar.* ʒij. *Myrrh. rubr.* ʒiij. *Agarici* ʒj. *Gentian.* *Dictamn.* *Rad. Tormentill.* *Camphor.* *Castor.* *Rad. Angelic. a.* ʒiss. *Miscee.* Stamp these Species small, and pour upon them a Pint and half of good *French Brandy*; then set it in a warm place in a well closed Bottle, and extract the Tincture; of which Tincture take twelve Drops as a Preservative: But those that

that are already seiz'd with the Plague or any Malignant Fever, must take a Spoonful of it, and sweat upon it.

What the Benefit of this *Arcanum* may be, any judicious Physician may judge for himself. For my part, I can neither commend the Composition nor the Operation of it, not having found that in the Disease it performed any thing extraordinary ; nor was it so beneficial as much Simpler Medicines.

Those who made use of their own Physicians, and conformed themselves to their Prescriptions, fared without doubt much the better for it ; as having their Bodies seasonably prepared with *Alexipharmacks*, *Bezoardicks*, *Antiscorbuticks*, *Diaphoreticks*, *Diureticks*, gentle *Laxatives*, &c.

My Preservative was an Essence, which was prepared of the Species of the Essence of *Woods*, *Saffron*, *Aloes*, and *red Myrrh*, extracted with Spirit of Wine, and adding to it the *Mixtura Simplex*: Which I found very Beneficial, not only towards Preservation, but likewise in the Cure, as I shall have farther occasion to shew. Dr. *Godfrey Stuve*, an Ingenious Physician of this Town, made use of this Medicine with a great deal of Benefit. Dr. *Achatius Muller*, at the very time when the Plague was at the Height, had great Success with his *Acetum Antimonij ex Minera*, which without doubt was mixed with *Bezoardicks*. Besides my *Essentia preservativa*, I gave sometimes a *Bezoardick Powder* at Night, consisting of the *Bezoardicum Senn.* *Bezoardicum compositum Wagneri*, or else this *Bezoar mixt* with *Specificum cephalicum Michaelis*. And if there was the least appearance of the Distemper, I ordered my *Sulphur minerale confortans*, mixed with a *Bezoardick* or *Digestive*.

Among the various Compositions of *Bezoardick Powders*, the following was none of the least ; of which I ordered very frequently to be taken as much as would
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Iye upon the Point of a Knife, especially if my Patients had a Terror upon them, or by reason of Melancholy found any Alteration about them. To others I ordered it as a Preservative, to be taken in a Morning mixed with Beer. Rx. Rad. Tormentill. Scorzonere, Petasitid. Sympht. Aristol. rot. Lign. Guaiac. Colubrin. a. ʒij. Rad. Curcum. Zedoar. a. ʒʒs. Myrrh. rubr. ʒj. Corall. alb. Concb. mar. a. ʒʒs. Succin. flav. Terr. sigillat. rubr. & alb. Carnis Viper. Oculor. Canc. Bol. Armen. Corn. Cerv. ust. a. ʒʒs. Antim. diaphor. ʒvi. Nitr. Anodin. min. ʒij. M. Dosis ʒj. ad ʒj.

Those who were obliged to be frequently or constantly with their Patients, made use of a Vinegar prepared for that purpose (of which there are many Compositions) which they took inwardly, and which they likewise smelled to. Others made use of *Rotula sublinguales*, of which also there are many Preparations. I prefer'd to them the *Placentula senecūtis*, which Dr. *Sylvius Bocco* in his curious Observations has described (pag. 402.) These, when I visited my Patients, I generally held in my Mouth, having brought with me long time ago a good quantity of them from *Italy*. To take away the ill Scent, which was very frequent in the Patients Chambers, we smoak'd the Rooms with Juniper, Vinegar, Powders, Candles, and especially with Gunpowder: But this last must be carefully made use of. I generally had red Myrrh and Salt-Petre boiled in Vinegar, and ordered it to be poured upon a hot Tyle, to smoak the Room with: And this was done with very little Charge and great Benefit.

Evacuations were likewise by some reckoned among the Preservatives. But as that common Proverb, *Vis vi est repellenda*, is not always allowable, but often hurtful and dangerous in the Practice of Physick; so likewise these violent Means occasioned in the time of the Plague here a great deal of Harm.

A gentle Laxative taken once in a Fortnight, or three or four Weeks, according to the Disposition of the Body, could not be amiss; but it must be done with great Care, and keeping within Doors. I generally for that purpose made use of the *Essentia Laxativa*, which is now constantly prepared and sold by the Apothecaries, but was first found out by my Father, who practised in this Town 36 Years, and at first kept it as a Secret, but afterwards communicated it to others. It consists of the *Extract. Pulpæ Colocynthidis cum Spiritu vini parat. part. 2.* and the *Solutio Resinæ jalappæ & scammonij aa pariter cum Spiritu vini rectific. fact. part. 1.* These must stand to digest in *Balneo vaporis* for some Days. Other Laxatives have been likewise successfully made use of, if but ordered at a right time, and the Patient took care of himself.

But much more Consideration and Regard ought to be had in respect to Vomiting and Bleeding. If we have Regard to the Indications, we can not resolve upon either of these without Danger. Bleeding is indeed generally allowed, if the Patient is Plethorick, and there is Blood enough; which may be easily by a different and foreign Matter brought to an Ebullition, and so is rarified, and consequently requires a larger space; and then there is an Indication that it wants Vent. But here during the Contagion, we very seldom perceived any such Commotion in the Blood, but rather observed a Concentration of the Spirits, and a Defect of the Natural Heat; to prevent which we were forced to consider more the Preservation than the Diminution of the Mass of Blood. Besides, these can be no Indications how to preserve Health, considering what I have observed as a mortal Sign in this Distemper; to wit, *Hæmorrhages*. If the *Hæmorrhages* had happened critically, and not symptomatically, which presently indicated a Colliquation, and commonly threatned Death,

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then we might have judged from thence, that Bleeding might contribute somewhat towards Preservation.

I have been obliged to accept such Signs as Nature offered, who of herself sufficiently shews what is most beneficial, and also what most hurtful; because succeeding Experience confirms, that the Indications, according to the External Signs, have been contrary to one another, and therefore cou'd not instruct us either how to preserve or cure.

Sometimes Bleeding in the Plague has been reckoned a thing indifferent, which neither cou'd do Harm nor Good: But then the Indications were very obscure, or wholly fallacious; yet I think it were better omitted than ordered. Sometimes one cannot know, whether the Patient has a Disposition to receive the Venom or not; if he has, Bleeding is absolutely dangerous; if not, it signifies nothing. Nor is it any consequence, that all those that receive the Pestilential Venom, must be overpowered and killed by it.

The Poison no doubt continues its Strength to operate; but it finds something that resists its Operation, according to the Disposition and Nature of the Body; which Resistance Physicians place in the natural Heat, and a free Operation of the Spirits, which by Bleeding cannot well be preserved, tho' they may not always be thereby disturbed.

Notwithstanding, the Question is not, whether Bleeding be generally pernicious, but whether it can be allowed to be a Preservative in Time of a Contagion; because, as I have said before, it is absolutely dangerous and pernicious to such as are infected, or disposed to Infection.

As for Vomiting, it is not only of less use than Bleeding, but much more dangerous. I only speak here of Vomits, when the Contagion is at the height. For it is observed, that the contagious Venom is not to be

searched for in the Stomach; because it finds other ways, thro' which it may insinuate itself into the Body. And tho' some Persons should receive some of this Venom with their Aliment into their Stomach; yet by reason of its Subtilty, it does not long stay there, but presently seizes and attacks some more noble Part: For it is well known, that the effect of the Venom is presently to be observed in the Blood, which it disturbs and alters either in the Crasis or Motion, and so disorders all the Functions of the whole Body: Whence it is, that the Onset may not so easily be observed, but its Progress may. But if Vomiting is only designed to cleanse the first Passages, then you must know, that the Disease seldom or never has its Rise in the inferior Parts of the *Abdomen*, but commonly affects first the nervous Parts, by which means the inferiour Parts are drawn into Consent, and causes many ill Symptoms and convulsive Motions; whereby indeed the first Passages are sufficiently cleansed, but it is to the great Prejudice and Ruin of the Patient. From whence it may be concluded, that Evacuations without great Necessity are absolutely uselefs.

Secondly, we must take heed of such Preservatives, as produce Indications, not for the better, but for the worse. We know that the Commotions caused by Vomiting, are not Natural, but brought about with Force and Violence: For which Reason *Galen* observed, even in his Time, *Vomitoria habentia locum, ubi morbus vectibus est expellendus*. Whereby in a great Measure the more noble Parts may be weakened; nay even the Spirits (in which consists the Vital Essence) are dissipated and diminished, which yet are the greatest Preservation of the Body; and if these are disturbed, as they certainly are by Vomiting, than the Body is rendred the more disposed to receive the contagious Venom.

Thirdly,

Thirdly it is the Judgment of the most learned and experienced Practitioners, that Vomits in their Nature and Power differ little from ordinary Poison. How is it then possible that one Poison should qualify the other? Lastly, if they be considered as Auxiliary Remedies, then let them be administered with the greatest Caution that can be, especially at a Time when they choke and kill so many Symptomatically. If an Argument *a Posteriori* may be allowed conclusive, then, as we said before of Bleeding, we may also of Vomits, that they prognosticate an unhappy Event to the Disease, and that they have not the least Use imaginable in preserving from Contagion. It happens sometimes that a Man overcharges and distends himself with Victuals and Drink, and that Crudities lye in the Stomach; in which Case there are plain Indications for the Use of Vomiting, to prevent Crudities fouling the Blood; and at such a time it is not dangerous.

Some may say, that intemperate Persons may happen to be at the Time of a Plague as well as at other Times. This is undeniable; but it is certain that such Crudities in the Body can neither increase nor promote the contagious *Miasma*, seeing, as I have observed above, it immediately seizes the Nerves, and so occasions Convulsions and Spasms, which frequently scour and cleanse the first Passages more than is necessary; insomuch, that when nothing more can be expelled out of the Stomach, the Gall itself is brought up sometimes with such Violence, that the very *Viscera* are ready to be torn to Pieces.

From whence it appears, that no Remedy can be more dangerous than Vomits. What is it then that can prevail upon a Physician to recommend them, and that without any Caution, especially to such as do not know how to take Care of themselves? And every ordinary Person is so easily perswaded to them, that if but the meanest

meanest Quack gives him any such Thing, he makes no scruple of taking it, let it be what it will : As we have an instance in the famous *Italian Cheat*, *Francis Burrin*, who with his *Tinctura auri* cheated many Thousands of People, if not of their Health, yet of their Money, the last of which is indeed more excusable.

Therefore great Care ought to be had in giving Vomits, and Consideration that they be well administered, otherwise you will soon send the Patient out of the World.

Since we have spoken of Evacuations, which are otherwise called Universal Medicines, it will not be amiss to resolve a Question, *viz.* Whether the *Ptyalismus*, or Spitting, can and ought to be considered as a Preservative in the Plague? For *Jacobus Johannes Wenceslaus Dotzrenski* has wonderfully extolled it in a particular Treatise, and commends it as the greatest Preservative.

I must confess, that I am my self of a Phlegmatick Constitution, and very inclinable to such an Excretion ; and if at any time I smell or tast any thing nauseous, I am forced to void Spittle in great quantities ; which very often happened to me during this Plague, when I had been in Places where the Smell was far from being agreeable. But yet I cannot say, that this Spitting (which in me proceeds naturally, in others must be excited by Medicines,) was any ways profitable to me to prevent my being infected ; by Reason that the Pestilential Venom does more infect the Spirits and Mass of Blood, than the Lymph from which the *Saliva* is separated. Besides, Persons infected did not swallow the Venom, or convey it to the Stomach by the Throat, but rather received it through the *aspera arteria* and Lungs.

In the mean time I cannot say that Spitting is so much injurious ; but in my Opinion it is unnecessary to force it by peculiar Medicines. For there is a great difference

ference betwixt a Venereal and a Pestilential Venom: This presently attacks the Spirits, and if it does not quickly overcome them, it may enter likewise the *Lymphs*, and then a Salivation may be a Remedy towards curing the Distemper; but the other, *viz.* the Venereal Venom is not reckon'd at all dangerous in this Age, nor does it want any Preservative, provided you avoid the Occasion of it.

Having thus declar'd my Opinion about Preservation, and what is to be observed therein, I shall now proceed to the Cure, and relate the Remedies which I found good in this Disease. It is certain that at the Time of the Contagion a Physician could not always exactly observe every Indication. Many Prognostick Signs appeared very often at the first Onset, which so infallibly came to pass, that we needed not to attend to the Diagnosticks; and though necessary Means were not for that Reason neglected, yet we found that the Distemper despised and scorn'd all our Care and Remedies.

If we should have treated the Patient according as is usual in other Distempers, then it would have been necessary to have consider'd what was most proper in the threefold Fountain, of Dyet, Pharmacy and Chirurgery. But the Case was such, that the Patients would frequently abstain from those Things which might be injurious to them, and that of their own accord, by a meer Natural dislike, so that there was no need to give them Caution against them. Notwithstanding, some would venture too soon, (when they were in a good way of Recovery) into the Air, which presently occasioned a Relapse that cost them their Lives.

Many in the beginning abstained from Eating and Drinking; and when at last they desired to have a Glass of Wine, or the like, we could not refuse it. Commonly a small and well brewed Beer agreed with the Infected the best. As to Sleeping and Waking, seeing they came
Symp-

Symptomatically, the Patients could not by all our Perswasions either hinder or procure them. As for much Motion, I never advised my Patients to it, but rather to keep in Bed and at Quiet; unless when out of Fear they would unseasonably give themselves up to too much Rest, and then it was best to make them stir about a little; that being the way to prevent Melancholy affecting their Minds: For a brisk and easy Mind is very good, but a dissolute, passionate, fearful and uneasy Temper very pernicious.

As soon as ever we were satisfied our Patients had the Plague, we absolutely avoided Purging, Vomiting and Bleeding; for generally those to whom they were administered, though they seemed never so robust, did not escape Death; as many Physicians can testify, who at first made use of them to their Patients.

A certain Chirurgion, who attended many during this Contagion, and was a healthy, strong, lusty Man to look at, sent for me and desired my Advice. He told me he was somewhat faint and anxious, and had such like easy Symptoms, by which I judged him to be in no danger; but as soon as I felt his Pulse to be very heavy and feeble, and heard that he had been let Blood, I could make no other than a lamentable Prognostication. And he according died the third Day of his Illness; and after his Death the Spots appeared. Of such Instances I could name a great many, but my design is to be as brief as possible.

In my Practice I took this Method in curing my Patients: First to extinguish the Pestilential Venom: Secondly, to mitigate and assuage the violent Symptoms; and Thirdly, to preserve as much as possible the Natural Strength. My first Intention was undertaken with *Bezoardicks* and *Sudorificks*; as *Tinctura Bezoardica Michaelis*, *Mixtura simplex*, *Spiritus digestivus Schroderi*. *Spirit. Bezoard. Busij*, *Essentia Theriacalis cum & sine Camph.*
Essentia

Essentia Lignor. Electuar. Diascord. Fracast. Pulvis Bezoard. Wagner. Pulv. Bezoard. Senn. Bezoard. Mineral. Antibeet. Poteri, Antim. diaph. Specific. Cephal. Michaelis, and the like.

The before mentioned *Essentia Præservativa* I ordered in the beginning of the Distemper to be given six Times in Twenty four Hours, from Twenty five to Seventy five Drops, according to the Strength and Age of the Patient; and every twelfth Hour the Patient took one of the Bezoardick Powders; which were taken with a great deal of Benefit. I likewise found great Benefit in using the *Bezoardicum Senn.* with the *Bezoard. Wagneri*; or else this, or the former, intermixed with the *Specific. Cephalic. Mich.* or *Bezoard. Mineral. Antibeet. Pot.* with the Addition of *Succin. alb.* and *Myrrha rubra, flor. Sulph. lac Sulph. Nitrum Antimon. Sulphur Mineral.* and according to the Circumstances I added sometimes *Crocus orient.* The *Electuarium Diascord. Fracastor.* dissolved in *Aqua destill. Millefol. Sambuci, Tormentill. Scorzonera, Scordij, Cardui bened. Angelice, Pimpinelle, Ruta, Galega, &c.* with the Addition of the *Essentia Citri liquida*, and made pleasant with a Syrup of that kind, makes a good Sudorifick and Alexipharmick Potion. The following Mixture I have prescribed with great Benefit to my Patients.

R. *Aq. Scorzon. Scordij, Tormentilla, Millefol. aa. ʒj. Aceti Bezoard. ʒss. Essent. Lignor. ʒij. Mixtur. simpl. ʒj. Elixir. proprietat. ʒss. Syr. de Symphit. Fernel. ʒij. f. Mixtura.* for three Doses.

Upon the taking of this Mixture the Patient was forc'd to sweat, and not to drink any Thing cold; and after the Sweat he took a Cordial Powder, prepared much in the same manner as the *Species cordiales & solares Alexipharmacæ Zwelferi*, or my *Sulphur minerale* mixed with *Magister. Margar. Lap. Hyacinth. Smaragd. Bezoard. orient.* and other Cordials.

Whenever my Patients were very much inclined to be sleepy and doze much, I then added to the former Medicines Volatile Salts. But if on the contrary I perceived any Colliquations, then I used to add *Crocus orient. Theriaca Cœlestis*, and other Paregoricks, but with Caution. If Convulsions and Spasms happened, then Cinnabarine Medicines were successfully applied. In Hæmorrhages the *Martialia* and the *Tinctura Antimonij* were very Beneficial.

As I did not intend to communicate the whole Catalogue of internal Medicines that have been made use of in the Plague, but only such as were found truly good, and by Experience well approved, which I think I have done; so I shall next give you likewise such as were made use of externally, and were capable of mitigating the extravagant Symptoms. As when the Patient first is taken, his Limbs are quite stiff, and as it were benumm'd with Cold by the violent Attack of a cold Ague-like Fit; in which Case we presently apply'd hot Bags fill'd with Oats, or rubbed him well with warm Cloaths, to bring him to Warmth again. Against Restlessness and *Deliriums*, Anodynes signified nothing; but we took the *Fol. Rutæ, Salicis, Plantaginis, Scordij, Serpilli*, and the like, mixed with Salt and moistned with Rose-Vinegar, which being clapped warm about the Head did good to a great many. *Vertigo's* and Pain in the Head were often mitigated with the ordinary *Species pro cucupha Disp. Berol.* of which one Part, mix'd with a quarter part of *Nitrum Antimoniale*, and *fol. Rutæ. Portulacæ & Endivie*, of each half a Part; is to be tyed about the Head. Against Dozing and Sleepiness, a Blister was apply'd in the Neck, and Snuff blow'd up the Nose, especially some quickning Salts or Spirits rubbed in the Nostrils. Violent *Diarrhæas* were Indications of outward Convulsions, and were frequently stopped with a Topick Medicine of *Theriaca, Mithridate, or Orvietan*, mixed

mixed with Vinegar, and spread upon Leather or Linnen, and apply'd warm to the Navel. Bleeding at Nose was one of the most dangerous Symptoms of any, and could not by any meer outward Application be stopped; and if it was stopped, it signified nothing, especially if it happened the third Day. Yet I found it sometimes very useful, to put Lint moistened with Vinegar of Roses into the Nostrils, and to tye a small Bolster with the *Lapis hematibus* moistened with Vinegar upon the hollow part just above the Nose betwixt the Eyebrows; or to put *Rue* and red Roses, stamped and sprinkled with Raspberry-Vinegar, betwixt a double Linnen, and to apply it to the Neck.

When the Throat was very dry, we used Barley Water, and sometimes added *Sal Prunell.* and sweetened it with Syrup of *Mulberries, Granats,* or the like, and sometimes also used it without any Syrup.

In such as suddenly lost their Strength, and had their Spirits dejected, we used all manner of Cephalicks and Cardiacks, and whatever we thought wou'd strengthen the Patient; and if he desired a Glass of good Rhenish, we never deny'd it him: But this Appetite seldom happen'd till the Patient was past Recovery. Otherwise we used to give him Cordial Juleps, which were mixed with Bezoardicks, if the Circumstances of the Disease so required: Or the *Confectio de Hyacintho & Alkermes* mixed with *Aqua Cerasor. nigr. flor. Boragin's, Lilior. convall. Rubi Idæi,* &c. To which were sometimes added the *Elix. Citri, Granator. Acetostatis Citri, Cydoniorum, Mororum,* &c. Also Ptisanes and Milk-Whey: As also Emulsions made of Almonds, and *Semen Paoniae, Cardui benedicti, Aquilegiae,* &c. Hartshorn Jellies made with Barley-Water, French or Rhenish Wine, with the Addition of *Syrup. Acetostatis Citri, Diamori, Ribium,* &c. All which do very much refresh the Patient. Among the Powders the following are likewise of use; *Lapides pretiosi,*

pretioſi, *Coralla rubra*, *Unicornu verum*, *Lapis Bezoard. orient.* *Margarit. orient.* *Magiſterium Margarit. orient.* *Magiſt. Corallorum*, &c: And, what is more than all the reſt, the *Sulphur Minerale*, if well prepared, as it has been by the famous *Baſilius Valentinus* and *Franciſcus de la Boe Sylvius*, and was communicated to my Father as a particular *Arcanum*.

Besides theſe, *Epithemata* were applied to the Head, Heart, and Pulse. I muſt confeſs the Common People aſcribed wonderful Effects to theſe Medicines, and they were therefore often allowed more than Neceſſity required, meerly for their Satisfaction. Neither yet can I ſay that they were of no Efficacy; but that by the Pleaſantneſs of their Smell they had a great Power to reſreſh and recreate the Spirits, and ſo retrieved the Patient. Heating and cooling Applications had both their Uſe, and were applied as the Phyſicians thought proper, and the Symptoms would permit. As the *Aqua Carbu- culi*, *Cephalica Carol. V.* *Apopleſtica*, *Odoriſera Regine Hungarie*, *Lilior. conwall.* &c. mixed wiew the *Confeſtio Alchermes*, *Species Cordial. Eſſent. Citri ſicca*, *Eſſent. Ambra ſicca*; and the *Acetum Bezoardicum*, *rubi Idæi*, *Sam- buci*, *Calendulae*, with red Roſes, white Lillies, *Pæony*, white Muſtard, *Saffron*, *Theriaca*, and *Mithridate*, *Species Diamargarit. frigid.* *Diatragacanth. frigid.* &c. And be- cauſe in compoſing ſuch Topick Medicines, one can hardly be much out of the Way, as to their Quantity and Form, therefore Nurſes may as well mix them as an Apothe- cary, if they have but the Medicines. The common People made uſe of *Theriaca*, *Bay-berries*, bitter *Almonds*, *Thyme*, *Pepperwort*, *Water-Germander*, *Vipers-Graſs*, or the like, mixed with Crumbs of Bread and Salt, a little *Camphire*, or *Vinegar*; in which was ſtamped *Rue*, *Plantain*, *Hoſeleek*, *Parsley Roots*; as alſo *Leven*, and the like. But I do not remember, nor have I heard, that any of my Patients made uſe of *Amulets*; neither did I adviſe

advise them thereto; tho' some, to please their Fancy, may probably have used them.

The third Fountain of Healing, *viz.* Chirurgery, remains yet to be spoken of, being that which afforded us a great deal of Relief. The Necessity of the Disease, in the Absence of the Physician, often caused the Chyrurgeon to employ his utmost Skill; and indeed we had no want of faithful and skilful Chirurgeons, who perform'd very successful Cures; but many, after their Labour and Pains, lost their Lives. However, it is wonderful what Success many of the common People, that had *Bubo's* and *Carbuncles*, and even *Furuncles*, had in curing themselves; some by the Advice of Physicians, as having nothing wherewith to reward a Chyrurgeon; and others according to what they themselves thought most convenient.

To mollifie the *Bubo's* some made use of Cakes of black Pepper, mixed with Vinegar and Oil of Roses, or of white Lillies; or they mixed these Cakes with Honey, Figs and Wheat-flower, and applied them warm in manner of a Poultice: Others took Camomile Flowers, fresh Butter and Linseed. To draw the *Bubo's* it was very common to apply roasted Onions, roasted Figs, or Leaven, mixed with Vinegar, white Mustard-feed, and Powder of Spanish Flies; and then after that, they used a Plaster of Oyl of Turpentine, Tar, and yellow Wax.

But as soon as a Chirurgeon came, they left the Cure to him, who himself had the Precaution to take likewise the Advice of a Physician in it. Some very much recommended the *Emplastrum manus Dei le Mort*; others, the *Emplastrum diachylon cum gummis Vigonis*, by it self, or mixed with the *Oxyrocœum*, to mollifie the *Bubo's*. Some, by means of Cupping Glasses, or Blisters, or even by Incisions, happily took them out, and afterwards cured themselves. But the *Carbuncles* required more Pains, Care, and Caution. In the beginning an *Emplastrum de-*
fensivum,

fensivum, applied about the *Carbuncle* to prevent its further Progress, did much good; afterwards, to ease the Pain, and to bring it to a Separation, they pursued it with *Cautericks*, *Scarifications*, *Unguentum Ægyptiacum*, *Unguentum Basiliconis simplex*. &c. or what else the Surgeon thought convenient. At last they applied *Digestives* to cleanse it, and a healing Plaster.

I shall now shew how I instructed those, who either out of Poverty could not, or a foolish Fear would not make use of a Surgeon, to cure themselves with success, not only of *Bubo's*, but of *Carbuncles* also. I have already taken Notice that *Plasters* need not be applied to *Bubo's* till 4 or 5 Days after their appearing. I ordered the *Emplastrum Dyachyl. composi. Oxycroceum*, and *Melilot*, of each a like quantity well mixt; or else the Plaster, which is here called *Voegedingianum*, consisting of *Lithargyrium*, *Oyl* and *Wax*: Others took *Lithargyrium*, *Minium*, &c. as it is described by *Monconys* in his *Travels*, p. 119. If it happened that the *Bubo* dissolved and went away, we let it pass without more ado; but if it grew bigger, then I ordered them to apply a *Blister* of *Leven*, *Vinegar*, and *Spanish Flies*; upon which the *Bubo* gradually came to break; and then with a *Digestive* made of the *Yolk* of an *Egg*, *Turpentine*, *Mastick*, *Peruvian Balsam*, and a little *Saffron*, with the Addition of *Lapis medicinalis Crollij*, it was brought to cleanse. After the putrid Matter was well discharged, the *Ulcer* soon heal'd by means of the aforesaid Plaster.

Carbuncles were soon cured by the following Method. I ordered the Part round the *Carbuncle*, as yet untouched, to be well washed with *Aqua calcis*; and then put the *Emplastrum Apostolicum Zwelferi* over the *Carbuncle*; and over that again a *Pultes* clapp'd between two *Linnen Rags*, and applied three times a Day, made of *Camomit-Flowers*, *Linseed*, *Flower of Beans* and *Barley*, boil'd in *Milk* to a proper Consistence. This draw'd forth

forth the *Carbuncle* admirably well; so that the *Eschar* softened and began to sweat, and also came soon to Separation: At last the Ointment or Degeffive only, with a defensive Plaster, cleansed it, and the Cure was perfected with *Emplastrum Voegedingianum*. As easy as this Method may appear, it had wonderful Success. In the mean time, both the Physician and Surgeon ought to join their Assistance; to which must be added the Concurrence of the Almighty, that the Cure may perfectly succeed.

The Conclusion.

SIT *Philosophia res summa, ad paucos pertinet: Sit eloquentia res admirabilis; non pluribus tam prodest, quam nocet: Sola est Medicina, qua opus est omnibus;* said the famous *Quintilian*, to the Praise and high Esteem of Physick: Yet we ought not to imagin, that thereby he meant to separate Philosophy from the Art of Eloquence, and to exclude both from the Art of Physick; but rather that all three ought to be united together; or that, if any Separation should be made, the Medical Art, as being the most necessary Knowledge, ought to be preserved and maintained.

According to this Expression of so wise a Man, I should have shew'd my Eloquence in the first Part of this Treatise, and my Philosophy in the second. But indeed my only Endeavour, as being a Physician and Practitioner in these dangerous Times, was carefully to remark and observe such Things, as might be of Service to Posterity. I did not intend to publish this Memorial, till I had bestowed some further Consideration upon it, had not some learned Men of my Profession, and my very honoured Friends, perswaded me to it.

In the mean time, I have purposely omitted several Occurrences, that might have been mentioned in the first Part of this Treatise, as not knowing whether what I have already truly and faithfully described, may be acceptable.

acceptable to the Reader. Besides, this is by no means a grateful Subject; and it had been happy if no body had ever had occasion to write upon it. But since it has pleased God to afflict Mankind with this Distemper, it is necessary to advise and acquaint them with what Observation and Experience has demonstrated for their Good and Benefit. I have some Thoughts of treating upon this Subject more fully hereafter, if God grants me Life and Health: For we cannot observe without Grief, that there is still an opportunity for farther Observations, by the Plague's continuing to rage in the Neighbouring Countries with great Violence; and I doubt not but there are diligent and attentive Persons there, who will communicate to me their Observations. Those that labour'd here with me the last Year, will, I hope, do me the Favour to furnish me with what Observations they made. I shall my self add several things now omitted, among which will be some curious Observations, *viz.* How it happened that Women with Child, being infected, came to be happily delivered, and the Child safe and well, tho' the Mother died: Again, how the Mother has been safely delivered of a live Child, and yet both in a few Days snatch'd away. How Nurses and Women that gave Suck have been infected, and yet as long as they gave Suck perceived little of the Distemper; but upon the Child's dying, have followed it in a few Days after. Of these and such like Observations, I have carefully set down a great many.

To the third Part of this third Memorial I should have added, why Issues (of the serviceableness of which many Learned Men have given singular Instances) are reckon'd among the Preservatives in the Plague; and whether Clysters, which yet in the Cure are seldom or not at all mentioned, are of any use to the infected. All which shall, God willing, be explained and fully demonstrated hereafter.