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Contributors

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A PRACTICAL ESSAY ON THE SMALL-POX:

WHEREIN

A METHOD of preparing the Body before the Diſeaſe comes on, and of deriving the *Variolous Matter* from the *Vital* to the *Remote* Parts of the Body after the Acceſſion, in order to prevent the fatal Conſequences which too often attend it, is propoſed; a Method of curing the *Small-Pox* by *Reſolution*, or taking off the Inflammation, is recommended. Together with an Inquiry into the Riſe and Progreſs of this Diſeaſe.

The SECOND EDITION, with Additions.

To which is added,

An ACCOUNT of the principal Variations of the WEATHER, and the concomitant Epidemic Diſeaſes, as they appeared at *Rippon*, and the circumjacent Parts of *Yorkſhire*, from the Year 1726, to the End of 1734.

By WILLIAM HILLARY, M.D. at *Bath*.

Rationalem quidem puto medicinam eſſe debere: inſtrui verò ab evidentibus cauſis. Celſ. in Præfat. lib. 1.

LONDON:

Printed for C. HITCH, at the *Red-Lion* in *Paternoſter Row*; and J. LEAKE, at *Bath*. 1740.

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PREFACE.

HE chief Materials of the following Treatise were collected, when the Small-Pox *was epidemical at* Rippon, *and the circumjacent Parts of* Yorkshire, *several Years since. I was then furnished with Opportunities of considering and examining this Disease, and of seeing for myself most of the Symptoms, and various Appearances, which the Writers on this Subject have mentioned; likewise of observing the Result of what the most celebrated Physicians have deem'd to be rational Practice.*

The frequent fatal Effects of this Diſeaſe in our Iſland, and particularly to ſeveral Families of the firſt Rank in it, induced me at that Time to attempt ſome more ſucceſsful Method of treating this Diſtemper; and ſeveral Returns of it, into the ſame Parts of the Country, afforded frequent Opportunities of putting it in Practice, and augmenting my Collection of Obſervations; and repeated Experience confirmed me in the Opinion of the Reaſonableneſs of the Method, which is here preſented to the Public.

The Ideas which I have of the Small-Pox, *are not borrow'd from one Perſon alone, or from the Writings of others; I have been cautious in adopting the moſt received Opinions, without endeavouring to conſider their Fitneſs, not as they ſtood related to ſome preconceived Sentiments of my own, but as they appeared by the beſt Examination I was capable of making, to be juſt in themſelves, and conſiſtent with the Nature of the Diſeaſe.*

I am

I am ſenſible how much Theory is generally deſpiſed, and that it is conſtrued by many as a Weakneſs in a Writer on ſuch Subjects to meddle with it: And perhaps it is not without ſome Reaſon, that the Authors of Theories in Phyſic have met with this Treatment; ſince their Hypotheſes *are too often no more than ſpecious Appearances, the Produce of falſe Suppoſitions, or imaginary* Data, *inſtead of real Facts; whence, if they eſcape the Penetration of the preſent, they rarely ſurvive that of the ſucceeding Age. But this does not prove the Impoſſibility of obtaining a juſt Theory of any Diſeaſe, tho' the Failure of ſo many in the Attempt may leſſen our Hopes of Succeſs.*

But ſo long as Men are of Opinion, that Diſeaſes in general, are Changes produced in a Syſtem of Matter, *by* material Cauſes, *is it unreaſonable to inveſtigate what thoſe Cauſes are, how they operate, and produce their Effects? The* Agent *and* Patient *both being* Matter,

are ſubject to the ſame unalterable Laws which Matter *in general is. Few have denied the abſolute Poſſibility of applying theſe Laws to the Purpoſes mentioned; tho' moſt have confeſſed the Difficulty of performing it juſtly; and the Fate of many of the moſt celebrated Theories hitherto invented, too much confirms it. But as our Knowledge is acquired by Senſation and Reflection, to which, Experiments and inductive Reaſoning are analogous in phyſical Matters, has not all our Knowledge of the Cauſes, Natures, Effects, and the Cure of Diſeaſes, been obtained, by Obſervation and Experience; and our Knowledge therein been improved by inductive Reaſoning, the Concluſions being again confirmed by Obſervations and real Facts? Therefore muſt not all our future Improvements in the Profeſſion, be made by the ſame Methods, and carried on by the ſame Steps? It would be highly obliging to Mankind in general, if thoſe Gentlemen who declaim ſo much againſt Theories, would*

ſhew

ſhew us ſome more effectual Methods (if ſuch there are) of improving our Knowledge in Phyſic and Diſeaſes, ſo as to obtain theſe laudable Ends.

But it cannot be conducive to the Advancement of Medicinal Knowledge, to diſcourage this Method of Procedure; for if Phyſic is ever to be improved, ſo as to be made a real Science founded on ſcientific Principles, and practiſed with more Certainty than it has been, this is the way to arrive at that Certainty: It is granted, that the way is difficult and laborious; but Men are more capable of inlarging their Knowledge, than their Indolence will permit them; numerous Inſtances in all Arts and Sciences almoſt daily prove it. And odious as the Name of Theory may be to ſome, yet few, I believe, would be thought to be without it in one Shape or other; for they muſt form ſome Notions of the Diſeaſe which they are treating, of its Cauſe, its Nature and Effects, or elſe their Practice is Empiricifm of the moſt abject Kind;

but

but ſo far as they do thus, they are Theoriſts. *Why then will they condemn others, for what they allow as laudable and neceſſary in themſelves? I imagine that if the Cauſe of their Behaviour in this reſpect, was explained, it would not reflect much Honour to thoſe who ſo zealouſly declaim againſt Theories.*

One would think, that it is unneceſſary to uſe many Arguments to determine Mens Choice; whether it is more eligible to quit our Reaſon for Myſtery, and Matter of Facts for cuſtomary Opinions, which are often abſurd; and ſo ſuffer ourſelves to wander through the endleſs Mazes of imaginary Hypotheſes, which lead us to play at Hazard with Mens Lives: Or rather, by cloſely obſerving the Proceſs of Nature, *from certain and evident* Cauſes, *endeavour to diſcover the true Nature and Diſpoſition of the Diſeaſe, the Manner of producing its Symptoms, and the Ways which* Nature *indicates for her Relief, ſo that we may aſſiſt her agreeably to her own Laws, by*

the

the Application of ſuch Inſtruments as are by Experience known to be effectual; and thus endeavour to adapt our Practice to our Theory, in a manner conſonant to the Reaſon and Nature of Things: Thus much however will probably be granted, that the more ſtrictly we purſue and adhere to theſe Principles, either in our ſpeculative Reſearches, or in Practice, the more Certainty we ſhall obtain in the former, and the more Satisfaction in the latter. This Method I have attempted in the following Treatiſe; how I have ſucceeded therein, muſt be left to others to decide; however it prove, I ſhall have this comfortable Reflection, that difficult as it is to write a good Theory of this Diſeaſe, yet it is almoſt as difficult to write worſe than ſome have already done upon this Subject. The Order obſerved, is as follows.

After giving my Sentiments of the Riſe and Progreſs of the Small-Pox, *and a brief Account of Inoculation; I have conſider'd the Nature, Diſpoſition, and*

Effects

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known from careful Experiments, and accurate Obſervations. To engage the Attention of thoſe *who have competent Abilities, as well as Opportunities of doing it, by ſhewing, as far as it is in my Power, the* Likelihood *of Succeeding, both from the Reaſonableneſs of the Thing, and from what has already been done, is all I aim at. If it is allowable to urge thoſe of the Faculty to communicate their Obſervations upon any Subject, I know of none that more needs it than this. The trite Invitation of* Horace *may on this account be once more repeated,*

—— Si quid noviſti rectius iſtis,
Candidus imperti. ——

I might have increaſed the Bulk of this ſecond Edition, with Hiſtories of Caſes, or by producing the Teſtimonies of Authors of Credit, (tho' ſome are referred to) to eſtabliſh ſome things which perhaps may be conſider'd as novel, and on that Score be deem'd unworthy of Regard, tho' practis'd ſeveral Ages ago;

but

but it seems more agreeable to good Sense, that Subjects of this kind should not be intirely dependent on Authority, or the celebrated Names of the Ancients: Their Truth and Foundation on the Nature of Things, and the Conviction they carry along with them, should influence their Reception; since Antiquity has sometimes erred, and palm'd numerous Mistakes upon following Ages.

ERRATA in the *Practical Essay*.

Page 9. Line 22. for *but*, read *because*. Ibid. l. 25. after *Alexandria*, add a Comma. p. 13. dele *(a)*, and *Ockley's Sar. Hist.* in the Note. p. 19. l. 11. for *this*, r. *that much*. p. 21. l. 25. after *Discovery*, add *of the Circulation of the Blood in An. Dom.* 1628. p. 23. l. 7. for a Semicolon, make a Comma. Ibid. l. 8. after *Distemper*, add *with hot inflaming Medicines*. p. 32. l. 10, 11. for *different Kind of Eruption*, r. *different Kind of Small-Pox, and not the same Sort again*. p. 63. l. 2. for *lesser*, r. *less*. p. 98. l. 22. for *Summus*, r. *Summer's Day*. Ibid. l. 24. r. *and the least to* 42. p. 99. l. 26. for *secure*, r. *procure*. p. 103. l. 12. after *&c.* r. *But also*. p. 116. l. 17. for *it*, r. *Bleeding*. p. 120. l. 16. dele *is*.

In the Treatise on *Epidem.*

Page 7. l. 18. for *large*, r. *full*. p. 11. l. 16. for *and the*, r. *and diluting with the*. p. 43. l. 21. dele the Comma, after *cold*.

Bath, 5. June,
1740.

W. H.

THE

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ERRATUM.

Page 32. l. 10. *read,* kind of *Small-Pox,* and not the same Sort again.

AN

AN HISTORICAL ACCOUNT OF THE *Rise* and *Progress* OF THE SMALL-POX.

THO' the Composition and Structure of human Bodies hath always been such, as hath render'd them subject to various Changes, Diseases and Death at last; yet all the now known Distempers are not of equal Antiquity; but in different Ages and Climates Causes have appeared, capable of producing Diseases altogether new; and of extinguishing others, which had long infested the World: Insomuch that several Diseases which were known to the Ancients, are now neither seen nor heard of; and others are become almost universal, which were unknown to the Ancients. Of this Sort are the *Rickets*, and, in the Opinion of the most Judicious, the *Lues Venerea*, the *Small-Pox* and *Measles*.

The *Rickets* have not been mentioned above two hundred Years: The Appearance of the *Venereal* Disorder in *Europe* is generally agreed to have been about the Year 1494. Nor have we any Account of the *Small-Pox* or *Measles*, 'till about the Year 640; tho' they are now become as universal Diseases as any we know of. And tho' a great many Persons have wrote on the *Small-Pox*, yet none of these, whether Physicians or Historians, whose Writings have come to our Hands, have given us any tolerable Account of its Rise, its Progress, and the Advances it has made in the World, 'till the late Learned Dr. *Freind*, in his *Epistola de Purgantibus in Sec. Variol. Febr.* gave us some short Hints; and since that, in his Continuation of Dr. *Le Clerc's History of Physic*, a more ample Account of several *Arabian* Physicians and their Writings, with a short Description of this Distemper and their Method of treating it.

But how much soever some have been, or are, inclin'd to think that the *Small-Pox* or *Measles* (which appears to be a Disease of the same Antiquity with the former) were known to the ancient *Greek* Physicians before that time; I think no one who has any tolerable Acquaintance with their Writings can suppose, that they who have so exactly described so many Diseases, both *Acute* and *Chronical*, with all their minute Symptoms, nay even some which rather deserve the Names of Inconveniences or Uneasinesses, than Diseases, should so silently pass over two

such

ſuch remarkable Diſtempers as the *Small-Pox* and *Meaſles*, without deſcribing them and their peculiar Symptoms, or mentioning them at leaſt, more fully than by the bare Names ἐξανθήματα, φλυκτίναι, ἐπινυκτίδες, ὀκθυμήματα, ἄνθραξ, *&c.* And let but thoſe Gentlemen, who thro' too great a Fondneſs for Antiquity, often make the Ancients ſay, what they never ſo much as thought of; and who ſuppoſe that the ancient *Greeks* meant either the *Small-Pox* or *Meaſles* by any of theſe Terms, conſider with what Exactneſs *Hippocrates* obſerved the minuteſt Appearance, in every Diſeaſe that came under his Notice, and how carefully he deſcribed each Symptom; and they muſt own that it would argue him guilty of a Neglect not yet charged upon him, to ſuppoſe him ignorant of this Diſtemper, if it was then known in *Greece*; or if he did know it, that he never deſcribed it in a more diſtinguiſhable manner, than any of the Paſſages alledged by theſe Advocates, can reaſonably be ſuppoſed to imply. The ſame may as juſtly be ſaid of *Celſus*, *Galen*, *Aretæus Cappadox*, *Cœlius Aurelianus*, *Oribaſius*, *Ætius*, *Alexander Trallianus*, *Paulus Ægineta*, &c. moſt of whom have applied theſe Appellations to ſome Species of *cuticular Eruptions* or *Tumours*, but never intended them to ſignify either the *Small-Pox* or *Meaſles*.

For *Celſus*, who is ſuppoſed to have lived at *Rome* about *A. D.* 29. at leaſt very early in the firſt Century, and has wrote on moſt Diſeaſes

then known, says nothing of either the *Small-Pox* or *Measles*; nor describes any Disease that can be supposed to be either of them.

Galen lived at the same City some time after him; he studied at *Alexandria* about *A. D.* 156 or 160. he travelled afterwards into *Palestine* and *Syria* (*a*) in Search after Learning and the Knowledge of Diseases and Medicines, before he came to *Rome*: He was so attentive to whatever concern'd the History of Diseases, as to mention even those which he had only heard of; an Instance of this is the *Dracunculus* or *Vena Medinensis* (*b*), a Disorder still frequent among the *Arabians* and *Persians*, which he acknowledges (*c*) he had never seen. Could then the *Small-Pox* or *Measles* have escaped his Notice, had they been known in any of the Countries he passed through? Or had he heard of so memorable a Disease, from any of that great Number of learned Men of various Nations, which he must necessarily converse with at *Alexandria*, at *Rome*, or in his Travels from Country to Country, can it be supposed that he thought them less worth his Notice than the *Vena Medinensis*? But he has not spoke one Word of either the *Small-Pox* or *Measles*.

(*a*) Le Clerc Hist. de la Medicine, p. 662. Edit. Amst. 1723. (*b*) As it is usually, but erroneously called; for *Avicenna*, who has described it, its Method of Extraction and Cure, very well, calls it *Irk Medini*, i. e. *Nervus Medinensis*, and so do all the other *Arabians*, *Vena Medinensis* being an Error of their Translators. (*c*) Galen. de locis affect. 6: 3.

Neither

Neither has *Aretæus*, who moſt probably lived about the ſame Time (*d*), tho' he has left us a very large Volume of his Writings.

Cœlius Aurelianus, who lived at *Sicca* in *Numidia*, probably about *A. D.* 180. (*e*), has not made the leaſt mention of either of theſe Diſeaſes.

Oribaſius was Profeſſor of Phyſic at *Alexandria* about 200 Years after *Galen* (*f*), and *Ætius Amidenus* ſtudied at the ſame Place about 100 Years after this; he lived at *Amida*, a City on the *Tigris* in *Meſopotamia*, and publiſhed his *Tetrabiblos* probably about *A. D.* 500 (*g*).

Alexander Trallianus was born at *Tralles* in *Lydia*; he viſited *France*, *Spain*, *Italy*, &c. (*h*); was a Man of extenſive Practice, great Experience, and no leſs Repute; he lived and probably wrote about *A. D.* 520. or 530. yet none of theſe Three ſeem to have had any Knowledge of theſe Diſeaſes; for neither they, nor any *Greek*, *Roman*, or any other Phyſician, who lived before the Time of *Mohamed*, have ever mentioned them; no, not *Paulus Ægineta* himſelf; for I can't think that the following Sentence can be ſuppoſed to have any relation to the *Small-Pox*, when he ſays, *Jam verò carbunculi ex cauſis populatim graſſantibus excitantur* (*i*). And this is the only Expreſſion in

(*d*) Le Clerc Hiſt. de la Med. p 516.

(*e*) Vid. J. And. Quinited. de Partis illuſt. p. 680. Glandorp. Onomaſt. Rom. p. 180. (*f*) Freind's Hiſt. Phyſ. Vol. I. p. 4. 28. (*g*) Id. p. 76. (*h*) Id. p. 88.

(*i*) Lib. 4. cap. 5. de carbunculo, Ed. Collinæi.

him that I know of, that can possibly be interpreted in the Favour of those, who contend for their being known to the Ancients.

From which Dr. *Freind* very justly observes, That this is a strong Proof of their being not only unknown to the elder *Greeks*; but likewise, that they were unknown in *Greece* in *Paulus*'s Time; to which I may add, and to the *Alexandrians* too, about *A. D.* 620. (*k*), the Time when it is supposed *Paulus* studied there.

As therefore none of the ancient or latter *Greeks*, none of the *Roman*, *African* or *European*, Writers, have made the least mention of these two Diseases; we may justly conclude they were unknown, both in *Europe*, as in *Greece*, *Italy*, &c. in the North and West Parts of *Asia*, as *Asia Minor*, *Armenia*, *Georgia*, *Parthia*, *Bactria*, *Persia*, *Syria*, *Palestine*; the North Parts of *Arabia*, and in *Egypt*, and its neighbouring Countries in *Africa*, in any of their Times, and even till after the Death of *Mohamed:* For several of these great Men either studied or taught Physic, at *Alexandria* in *Egypt*; and as *Alexandria* was not only the Centre of all these Nations, but the great Nursery of Learning, particularly of Physic, even from the first Birth of the Sciences to the time of this City's Destruction; it was the Place of public Resort of all who made Profession of Literature, and con-

(*k*) Id. Lib. 4. cap. 29. p. 38.

sequently

ſequently was the Centre of Intelligence, not only from theſe Countries, but from moſt Parts of the then known World; and if theſe two Diſeaſes had been in any of theſe Countries, ſuch is their Nature, that they would ſoon have ſpread into moſt or all theſe other Nations; at leaſt, the frequent Communications of theſe with each other, on the account of War, Commerce, Religion, or the Travels of the *Literati*, muſt have brought them, or ſome Account of them, to *Alexandria*; where the Appearance of ſo loathſome a Diſeaſe as the *Small-Pox*, could not long have eſcaped the Notice of the Phyſicians in that Place, nor have been thought unworthy of a Place in the Records of Medicine: But as no ſuch Account is to be met with, we muſt look for their Origin elſewhere.

At or ſoon after the Deſtruction of *Alexandria*, and the burning its famous *Library*, by *Amrou Ebno'l Aas* (*l*) General of the *Saracen* Army, in the Reign of *Omar Ebno'l Chatab*, the ſecond Succeſſor to *Mohamed*, in the 20th Year of the *Hegira*, and 640. of CHRIST; theſe two Diſeaſes firſt appeared among the *Arabians* or *Saracens*, when they came into *Egypt* upon that Expedition, from whence they ſoon after ſpread into all its neighbouring Nations; and the *Arabian* Phyſicians and Hiſtorians are the firſt Authors who give us

(*l*) Abul-Pharag. Hiſt. Dynaſt. p. 114. Ed. Oxon.

any Account of these Diseases. These Circumstances pretty strongly incline us to believe, that the *Small-Pox* and *Measles* were first hatched and bred in, and are properly indigenous to *Arabia*, and most probably to its more Southern Parts, *viz.* the Kingdoms of *Hejaz*, *Yaman*, *Fartack* and *Maskate*, &c. where they might have had these Distempers a considerable time among themselves, before they were communicated to any other Nation; as they were situated in a remote *Peninsula*, separated almost from the rest of the World by impassable sandy Deserts, and were very little known, or taken notice of, by any Authors of other Nations, and they had none of their own before this time, at least whose Productions are come to our Hands. *Abul-Pharagius* (*m*) tells us, that one *Ahron* a Priest and Physician lived at *Alexandria*, and wrote 30 Books in Physic, in the *Syriac* Tongue: These are the first Books which mention the *Small-Pox*, and in them he has described the Symptoms and Time of their Eruption, and their different Kinds whether more or less dangerous, with some short Hints concerning the Method of Cure: These Books were translated into *Arabic* by *Maserjawaihus* (*n*) a *Syrian Jew* and Physician in *Basora*, in the Reign of the Caliph *Merwan*, *A. D.* 683. But as both the original Works of *Ahron* and this Translation are lost, we have nothing of his now remaining,

(*m*) Idem, p. 95. Ed. Oxon. (*n*) Idem, p. 127.

maining, but what *Rhazis* has collected from them, and left us in his *Continens*. This makes the Matter remain ſtill in the Dark; tho' 'tis probable, if we had the original Works of this *Ahron*, we might find a more full Account of the Riſe of this Diſeaſe among the *Arabians*; at leaſt of their bringing it into *Egypt*, and its manner of appearing there, than we now poſſibly can have. Wherefore we muſt be content with what we can collect from theſe ſmall Remains of *Ahron*, whom *Abul-Pharagius* places as cotemporary with one *Hareth Ebn Calda* (*o*), (who probably was *Mohamed*'s Phyſician, becauſe he adviſed thoſe who were ſick to apply to him for Relief) and lived about the 17th Year of the Emperor *Heraclius* (*p*), which anſwers to the fifth of the *Hegira* of the *Turks*, and 626. of CHRIST; the Year before *Mohamed* was inveſted with the Power and Dignity of *Caliph*. But whether the *Small-Pox* was known at *Alexandria* at this time, is doubtful; but the ſame Author places *Paulus* of *Ægina* (*q*) about the 31ſt Year of the Emperor *Heraclius*, which was *A. D.* 640. *Heg.* 20. and *Paulus* ſtudied at *Alexandria* probably about 20 Years before; and he tells us (*r*), that he has not omitted one Diſeaſe then known. Therefore whether *Ahron* wrote before *Paulus* ſtudied at *Alexandria*, and had his Account of the *Small-Pox* from the *Arabians*, or he had

(*o*) Hiſt. Dynaſt. p. 99. (*p*) Idem ibid.
(*q*) Idem, p. 114. (*r*) In Præfatione.

travell'd

travell'd into some Part of *Arabia*, and seen the Disease there, before it spread into *Egypt*; or they were brought into *Egypt* unknown to *Paulus*, he being then but a Student there; or, which is most probable, *Ahron* lived and did not finish his Works till after the *Saracens* took that City, and brought these two Diseases with them, is a thing as difficult to determine, as it is indifferent; since 'tis certain, that these Diseases were known in *Egypt* about this time, *viz. A. D.* 640. *Heg.* 20. and 'tis most probable were brought thither by the *Arabians*: Since we find that they not only first appeared in *Egypt* upon these People coming thither; but where-ever they came afterwards and conquer'd, they there planted the *Small-Pox* and *Measles*; for soon after this time, they were become so frequent in their Dominions, that they reached People even of the first Rank, whose Stations might make them more capable of avoiding the Infection: For History informs us, that the *Caliph Yezid* (*s*), who died *A. D.* 683. *Heg.* 64 aged 38. (or, as *Ockley* says, 39.) (*t*), was pitted with the *Small-Pox*; his Father *Moawyah* was Secretary to *Mohamed*; and *Yezid* was born in the 26th Year of the *Heg.* and probably had the *Small-Pox* when he was young, about 20 Years or sooner, after *Mohamed*'s Death: And the *Caliph Abul-Abbas Alsaffah* (*u*) died of the *Small-Pox*, *A. D.*

(*s*) Abul-Pharag. Hist. Dyn p. 126. (*t*) Saracen. Histor. Vol. II. p. 247. (*u*) Abul-Phar. p. 139.

753.

753. *Heg.* 136. These are the first which History mentions who were pitted with, or died of, this Disease; tho' 'tis very probable, that many had the same Fate before, since it appeared then with much the same Symptoms in their warm Climate, as it does now in ours, and had been frequent among the *Saracens* above an hundred Years at that time; and 'tis also probable, a much longer time among the People of *Arabia Felix*, if their Ignorance of Learning had not deprived us of a more early Account of this Matter: For these *Saracens* were at their first Appearance as a People of any Note in the World, a poor, starved, half-naked, brutish People, ignorant of all manner of Learning, and every Language but their own, with a little smattering of Astronomy and Poetry (*x*); yet as they extended their Conquests and Empire, they began to search after Learning, and cultivate the Sciences, especially Physic, Chemistry and Astronomy; all which, by the great Encouragement of their *Caliphs*, *Al-Mansor*, *Rashid*, and *Al-Mamun* (*y*), especially the last, who did a great deal more than all his Predecessors, not only in founding Colleges, but in procuring the Books of the learned *Greeks*, and able Professors both *Jews*, *Christians*, *Mohamedans*, and of other Nations, to translate them into *Arabic*, and teach the Sciences as well as to practise Physic,

(*x*) Idem. Ockley's Saracen Hist. (*y*) Abul-Pharag. p. 141, *&c.*

whereby

whereby they shortly became a learned, flourishing People; insomuch that they seemed to have had almost all the Learning of that and the four or five following Centuries, intirely among themselves; and as they acquired and cultivated it, *Greece* and the other politer Nations both of *Europe* and *Asia*, seem to have gradually sunk into Ignorance and Stupidity; as if the Sciences and all Kinds of Learning had followed the Fortune of the Conquerors, and taken their Residence at the Seat of the *Arabian* Empire.

Therefore all the Account we can have of the *Small-Pox*, from their first Appearance in *Egypt* about *A. D.* 640. to the XIVth or XVth Century, we must take from the *Arabians*, as they are the first and only Authors now remaining, who have described this Disease; and even many of their Authors are now lost, as well as the above-named *Ahron*. *Abul-Pharagius* (z) gives us the Names and Characters of above twenty Physicians, Men of Learning and Repute, and Physicians to their *Caliphs*; who liv'd between the time of *Ahron*, and *Rhazis*, *A. D.* 900. all whose Works, except *Serapion*'s, are destroyed.

One of the first whom he mentions, whose Works are most of them extant, is *Mohamed Ebn Zacharia Al Rhazis*, commonly called *Rhazis* only, from *Rhei*, a City in the Province of *Corasana*, in the North East Part of

(z) In Hist. Dynast.

Persia,

Persia, now called, *Irac-Agemi*, the Place of his Birth (*a*). He was a Man of great Learning, indefatigable Industry, and much Experience (*b*), as he lived to a great Age; he died after being some Years blind, *A.D.* 930. He wrote several Books in Philosophy, 12 in Alchemy or Chemistry, and a great many in Physic. *Abu Osaiba* (*d*) reckons up 226 Treatises which he composed; several of which are preserved to this Day, and among them is one upon the *Small-Pox*, wherein he has fully described their different Kinds, with their good and bad Symptoms, and the Method of Cure: But as the Symptoms vary so little from what they are now with us, it will be unnecessary to repeat what he says of them here: As for his Method of Cure, it was more reasonable and just, than the Methods used by any of the *Europeans* even till Dr. *Sydenham*'s Time.

The next after *Rhazis* whose Works Time has not destroy'd, is *Hali* or *Ali-Ebno'l Abbas* a *Persian Magus*; he studied under *Abu-Maher*, a *Persian* Doctor, and wrote his *Al-Maleci*, or Royal Work, in the Reign of *Adado 'ddaula*, to whom he dedicated it about *A.D.* 978 (*e*). In which he treats of the *Small-Pox*; but in Truth, he has done little more than abridge what *Rhazis* had said.

(*a*) Ockley's Sar. Hist (*b*) Abul-Pharag. Hist. Dyn. p. 191. (*c*) Idem Ibid. (*d*) A M.S. not yet published. Dr. Freind's History of Physic.
(*e*) Vide Opera in Theoria, p. 2, *&c.*

About

About 20 Years after him, flourished the famous *Avicenna*; he was born at *Afhana* (*f*), in the Province of *Corasana*, *A. D.* 978. and studied at *Bocara* not far from it in the same Province; a City famous for the Cultivation of the Sciences both then, and for several Ages after. He died at *Hamadan* (*g*) in *Persia*, *A.D.* 1036. aged 58 Years. He was a great Mathematician, Philosopher and Physician. A certain Oriental Author (*h*) says, That he wrote above an hundred Volumes; and in those Works of his which we now have, he treats of the *Small-Pox*; and is the first who has observ'd the *Bloody Urine* and *Bloody Stools*, two fatal Symptoms which had not then appear'd, at least are not mentioned by any one before him: He also first took notice of the *Quincey*, or Swelling of the Throat, another mortal Symptom in this Disease: He advised Bleeding more boldly than any of his Predecessors, and that in any time of the Disease when a *Plethora*, or (as his Translator calls it) *Vehementia repletionis*, requires it, *quantitate quæ exsiccet, seu alleviet* (*i*). Both *Rhazis*, *Hali Abbas*, and *Avicenna*, treat of the *Small-Pox* and *Measles*, as one Disease, or rather as two Kinds of the same Disease, (tho' they are in reality very different) attributing the *Measles* to a less putrescent, but more violent inflammatory, Disposition of the Humours.

(*f*) Mr. de la Croix, Hist. of Genghizcan, p. 218.
(*g*) Idem ibid. & Abul-Pharag. Hist. p. 232.
(*h*) Bin Calican in Vasyatalayan, in Genghizcan, p. 218.
(*i*) Canon. Med. L. 4. Fen. 1. 4. p. 74. Ed. apud Junt.

In

In the *Small-Pox* they deem'd 'em more putrescent, but less inflammatory. They distinguished them accordingly by different Names (*k*), both signifying an eruptive pustulous Disease. For Preparatives, they advise Bleeding, Swimming, drinking Ice-water, (a Thing commonly used in their warm Climate) a cold acid Diet; and the Body to be kept open by Laxatives, to make the Pustules fewer. They bleed all in the Beginning of the Disease, even Children; if that has been omitted, or sometimes when it has not, if the Eruption did not proceed regularly, they gave large Quantities of cold Water, two or three Pints in half an Hour, and repeated it again, if Occasion required to promote Sweating. If the Pustules did not rise and come forward, they gave a Decoction of Figs, Raisins, Lentils, and sometimes added incrassating Gums; and if the Fever and Heat were small, Saffron and warming Medicines: But if the Fever was high, they order'd the Room to be kept cool, and diluted plentifully with cooling acid Liquids; if the Patient was faint, they admitted a fresh cool Air: They forbad Purging after the Eruption, and before the *Crisis*; but then, if the Fever was high, they purged gently;

(*k*) Nomen, quo *Arabes variolas* vulgò denotant, esse *Jódari*, à *Jádira*, pustulis correptus fuit; et non *Chasbah*, quod morbillos potius significat, à *Chasaba*, morbillis laboravit. Quod tamen *Chasbah* non impropriè forsan etiam *variolis* tribui potuit à *Rhazio*, cùm Arabum medici utrumque et *chasbah* et *jódari* ad eandem morborum classem referre solent; quasi nimirum malignitatis solummodò gradu inter se differant. Hunt. Orat. de Ant. Eleg. Util. Ling. Arab. Oxon. 1739.

and

and if it was very high, with an inflam'd Swelling of the Throat, *Avicenna* prescribed Bleeding. In the *Measles*, if the Oppression and Sickness were great, or a *Syncope*, he advised Immersion in cold Water with Friction, to forward the Eruption; a Practice which however successful in their Climate, I fear wou'd be dangerous in ours. They used Gargles, and took great Care to preserve the Eyes and the Face from pitting, by Collyriums and Cosmetics, of both which they have left us great Variety; for on the latter only *Avicenna* bestows a whole Chapter, and *Rhazis* two. *Rhazis* mentions the second Fever, and says, *Quod si febris augeatur post excretionem, pestilentia est atrox; si vero purgetur, est clemens morbus* (*l*). So that they were not such intire Strangers to the second Fever as some learned Men have thought them.

After this time we meet with none of the *Arabian* Physicians but they say something of the *Small-Pox*; tho' in general nothing but what they have, or might have, taken from some of these three great Men.

But how, or when, this Disease was first brought into *Europe*, no Authors inform us; so that during the Interval of several Ages, we meet with no Assistance in our Researches into the History of the Progress of this Disease: We may gather from History, that as the *Saracens* extended their Conquests and Empire Eastward into *Persia*, Northward

(*l*) De Pestilent. c. 15. p. 342.

into

into the *Grecian* Empire, and Westward along the Coast of *Africa*, (all which they did in little more than thirty Years time) they planted the *Small-Pox* and *Measles* where-ever they came; so we find that they extended their Arms into *Spain*, and conquer'd a great part of that Kingdom, about *A. Heg.* 96. *Dom.* 714. and it is most probable that they brought the *Small-Pox* and *Measles* along with them, and planted them there, as they had done in all other Parts into which they came before. And thus were these two *Mohamedan Plagues* first brought into *Europe* by that People; either by this way into *Spain*, or else by *Constantinople* into *Lycia* and *Cilicia*, and so into *Italy*: For the *Small-Pox* were become so frequent in *Spain* in *Avenzoar*'s time; which was either the latter End of the XIth, or the Beginning of the XIIth Century, that it was looked on as a Wonder if any escaped them: From whence we may conclude, that they had been in *Spain* for some considerable time, and probably had spread into *Italy*, *France* and *Germany*, if not thro' all *Europe* at that time: But as Learning of every kind was at that time almost extinct in *Europe*, and the Sciences brought to the lowest Ebb; so they were then at the greatest Height and Flow, which they ever attained to among the *Arabians* in the East, where they had been carefully nourished and cultivated for some Centuries: And it is owing to this general

Neglect of Letters, that we have no better Account of the Introduction of this Disease, and its Propagation thro' the several *European* Nations, as well as of many other Things, which the Ignorance of those Times has lost.

Soon after this, namely in the XIIth Century, the School at *Salernum* began to make a Figure, and was for some time the principal Seat of Literature. The Ingenious and Learned here met with Encouragement, and those who were in Search after Knowledge were sure to meet with able Instructors. 'Twas remarked above that the *Arabians* had monopolized the Sciences, and had the Management of Arts as well as of Empire. Their Writings began to be in Esteem, and some of them were brought to *Salernum:* These excited the Curious to search after more; they procured several of their original Works, and many of their Translations from the *Greek* Writers, from whence it soon appeared that the greatest and best part of their Compositions were borrow'd. These Gentlemen us'd the *Arabians* in the same manner as they had used the *Greeks*; they applied themselves to study the *Arabick* Language, and translated several of those which treated of Medicine into such *Latin* as they were then Masters of; and indeed it appears to have been the general Employment of the Learned from the XIth to the End of the XIVth Century, to translate such Works as fell into their Hands; to comment upon them, and to transcribe

from

from one or another of their Predeceſſors, without producing any thing of their own, or making any Remarks upon the State of Phyſic at that Time. To this culpable Negligence it is owing, that we are ignorant in what manner, or preciſely at what Time, the *Small-Pox*, made its Entry into *Europe*; what Advances it made, or what Methods were uſed to repulſe ſo formidable an Enemy. We are equally ignorant when this Diſeaſe was introduced into *England*; this much however is certain, that it was very well known here in the XIIIth Century, and perhaps long before. For two of our ancienteſt *Engliſh* Phyſicians, at leaſt whoſe Works are preſerved, *Gilbertus Anglicus* and *John* of *Gaddeſden*, both ſpeak of the Diſeaſe as commonly known, even by the old Women. The firſt is ſuppoſed to have lived about 1270 or 1280, and the latter about 1310 or 1320. *John* tells us (*l*), that he had the Care of the King's Son in the *Small-Pox* (who, Dr. *Freind* ſays, was either one of King *Edward* the Iſt, or *Edward* the IId's Sons): He ſays, he cured him by wrapping him in *Scarlet*, and ordering every thing about his Bed to be *red*, which he ſays, *eſt bona Cura*; and *Drelincourt* may probably aſcribe as good a Reaſon for it, tho' not with equal Gravity; viz. *ut crebro rerum rubore tinctarum aſpectu ad exteriora ſummamq; cutem ferantur humores**.

(*l*) Roſa Anglicana, l. 41 (*) Drelin. Diſſert. de Variol.

This Use of red Cloths about the Sick, is much liked by the good old Women to this Day; and for any thing I know to the contrary, they first had it from *John*, since it appears from what Dr. *Freind* says of him, that he was a great Favourite of the Fair Sex. Both *John* and *Gilbert* were looked upon as extraordinary Physicians, and Men of great Learning in their Times; so that one may have a good Guess at the State of Physic and Learning in *England* at that time from *John*'s Works: for whatever he has that is useful is either taken from the *Arabians*, or from those who had taken it from them before, as was the common Case at that Time, till about the Middle of the XVth Century, when several Causes contributed very much to the Increase of Science in general.

One of these was the Invention of Printing, which by supplying the Studious with Books at a much easier Expence and Labour than before, put it in their Power to amass a more extensive Fund of Knowledge, on moderate Terms: And

Not long after this, *viz.* about the Year 1453, *Constantinople* being taken by the *Turks*; many of the *Greeks*, and several of the more learned Sort fled into *Italy*, bringing some of the Manuscripts of their old Physicians along with them; for until this time the Writings of the *Greek* Physicians were not brought into the Western Parts of *Europe* in their own Language;

Language; what they had of them before, being only ſuch as the *Arabians* had tranſlated out of the *Greek* into their own Tongue, and the *Europeans*, thoſe again into *Latin*. But now receiving thoſe *Greek* Authors in their original Tongue, they were ſet upon ſtudying the Language, comparing them with the *Arabian* Tranſlations, and then upon tranſlating, explaining and amending from the original *Greek*. This Acquaintance with the Ancients gradually increaſing, tended to diſpel ſome of the Clouds of Error and Ignorance in which the Weſtern World was then inveloped, from a too ſtrict Adherence to the Tenets of the *Arabians*; they at once ſaw the Originals from whence theſe had borrowed their Luſtre, and the Miſtakes they had frequently committed in copying them. This excited and improved a Taſte for Learning, and made way for thoſe numerous Improvements and Diſcoveries in all Parts of Phyſic, which were made towards the End of the XVth and thro' the following Centuries; none whereof will be more juſtly celebrated in the Annals of Medicine than the immortal *Harvey*'s Diſcovery.

Chemy, tho' long before introduc'd into Medicine by the *Arabians*, yet made no great Progreſs till about the middle of the XVIth Century; about which time it was cultivated to very good Purpoſe, and ſeveral efficacious Medicines were by its means diſcovered of ſuperior Virtue to any then known,

however mistaken in their Opinions about them the Artists might be.

Not long after this a Division was made, and Parties were formed by the *Chemists* and *Galenists*, as they were pleased to style themselves or each other; the first were for infallibly curing all Diseases, with their new-invented Medicines, without any other Assistances; wherefore many of the *Chemists* opposed Bleeding almost in every Disease, and particularly in any State or Circumstance of the *Small-Pox*, tho' several learned Physicians of different Countries opposed this singular Doctrine, and plainly proved both from the *Arabian* Writers, and their own Experience, the Advantage and Necessity of Bleeding in several Circumstances attending the Disease.

After this a warm Dispute arose about the Use of a *hot or cool Regimen* in the *Small-Pox:* Those for the hot Regimen observing sometimes a numerous Train of such Symptoms as eluded all their Endeavours, they gave it the Name of *Malignity*, and suggested that these Effects proceeded from something of a poisonous Nature, not protruded from the Centre, to the Surface of the Body; and imagining that all hot Alexipharmic Medicines were Antidotes to all Poisons, concluded, that such hot Alexipharmics were requir'd to propel the supposed poisonous Matter from the Centre to the Surface of the Body;

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But before we drop the Subject, it may not be amiſs to obſerve, that this Diſeaſe ſeems to be more violent and fatal with us than in ſome of our neighbouring Nations, probably from our manner of Living, and the different Qualities of the Air of our Iſland: This perhaps may be one Reaſon, why our Countrymen gave more Attention to the Practice of *Inoculation* than our Neighbours did. At leaſt one would rather ſuſpect this to be the Cauſe, than to allow that an unaccountable Byaſs after every thing new was the Motive of our Inquiry after its Succeſs.

The Cuſtom of transferring the *Small-Pox* ſeems not to be a modern Invention; diſtant Nations have practiſed it in different Ways, without giving much room to ſuſpect that they borrowed it from each other. The *Chineſe* have long had a Method of conveying this Diſeaſe, by dipping a little Pledgit of Cotton in the *variolous Matter* taken freſh out of the Puſtules, and putting it up the Noſtrils; this differs not much from the natural way of Infection.

We are told that a Practice ſomething like Inoculation has been long uſed in *Wales*, chiefly among the Vulgar, which they call, *Buying* the *Small-Pox*. It is not improbable but they may have derived it from the *German Boors*, amongſt whom a Cuſtom of this kind yet obtains.

But the Method which was practiſed here was brought from *Turky*, as they alſo borrowed

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Near thirty Years ago Dr. *Timoni* a Native of *Conſtantinople*, who had travelled into theſe Parts of *Europe* on account of his Education, at his Return tranſmitted an Account of it, and its Succeſs, to the *Royal Society*, recommending its Uſe; but it was not ventured upon, 'till Mr. *Maitland*, a Surgeon, coming over from *Turkey* in 1720, where he had been an Eye-witneſs of its Succeſs, prevail'd upon ſome to have it try'd here, after which it made a conſiderable Noiſe, and ſome Progreſs for a ſhort time; but as it has not always been attended with the Succeſs which its Promoters have wiſh'd for, its Credit at preſent ſeems to be ſunk at Home; tho' in ſome of our *American* Colonies it is now practiſed with conſiderable Succeſs.

If Anſwers can be given in the Affirmative to the two following Queries, from a competent Number of juſt Obſervations, made either at Home or in a Climate agreeing with ours in Temperature and manner of Living, 'tis probable that its Credit may one Day be retrieved among us.

1ſt. *Whether the Danger is leſs, to have the* Small-Pox *by Inoculation, than to have them in the common Courſe by a natural Infection?*

2d. *Whether to have the* Small-Pox *procured by Inoculation, is as ſufficient a Security againſt a ſecond Invaſion, as it is to have them in the natural Way?*

It

It may not, by the way, be amiss to observe that in general such only have been chose as proper Subjects for Inoculation, as were of healthful, good Constitutions, and were likely to undergo the Disease with most Safety; whereas the Distemper seizes others indiscriminately, if not those soonest, whose Constitutions are obnoxious to the most violent and fatal Kinds. The Computations therefore of the Numbers of those who die of each Sort, may probably be placed on a very unfair and unequal Bottom.

Wherefore till the World be fully satisfied that the Practice of Inoculation is found by sufficient Experience to be safe and successful; or that the Method proposed at the End of this Treatise for taking off the Inflammation, and resolving the *variolous Matter*, is generally practicable, or the Reverse; it will be prudent to pursue such a Method as will assist us to conduct our Patient, thro' this Disease, with the most Ease and Safety. How far this End may be obtained by the Course recommended in the following Essay, is left to every one's Judgment and Experience to determine.

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A PRACTICAL ESSAY ON THE SMALL-POX.

CHAP. I.

Of the Small-Pox, *its Cause, and different Kinds.*

§. I. I THINK it is agreed upon by Physicians in general, and confirmed by the Experience of all Ages since the *Small-Pox* appeared in the World, that it is an *epidemical* and *contagious* Disease; it is *epidemical*, as it proceeds from a common Cause infecting the greatest Part of the People in a certain Region or District at the same time; and *contagious*, as it proceeds from infectious *Effluvia* exhaled from the Bodies of such as labour under this Disease, which floating in the common Air surrounding us, render it capable of producing the *Small-Pox* in those who breathe in such Air; and have

have not yet had this Disease. No Contagion is more difficultly guarded against than this; Persons of no Sex or Age are secure from it, till they have once had it; nay some are said to have had it twice; but *Averrhoes* and some others after him have asserted that none have the *Small-Pox* twice; and to me it seems most probable, that those who are said to have the *Small-Pox* twice, have had at one of the Times, a different kind of Eruption, and not the genuine *Small-Pox*. This Disease being so universal, it induced those who first wrote upon it, to believe that Infants before their Births contracted a seminal Contagion, *a sanguine menstruoso matris* (*m*), which afterwards produced the Disease, by causing a Fermentation in the Blood at a proper time, which being once thus carried off, they were never subject to this Disease a second time: This Opinion was constantly received and believed, till the Discovery of the Circulation of the Blood taught us a better Knowledge of the Animal Oeconomy, and a more just Method of reasoning thereupon; which soon exploded this ill-grounded *Arabian* Hypothesis, but without furnishing us hitherto with a better.

§. II. It is likewise agreed that the common Air which constantly surrounds our Bodies, and which we every Moment receive into

(*m*) Rhazis de pestilent. c. 1. Continens lib. 4. 30. Hali Abbas Theor. p. 97. Avicen. Canon. l. 4. Fen. 1. c. 6.

our

our Lungs, is not one *homogeneous* Fluid, but is mixed with an infinite Number of *Effluvia*, or ſmall Particles, perpetually exhaling from almoſt all Bodies whatever; from ſome of the mineral Tribe, from Vegetables, and the Bodies of Animals in all Conditions, healthful, morbid, dead and corrupting: And tho' theſe *Effluvia* are not always the Objects of our Senſes; yet it is certain both from Reaſon and Experience, that ſuch there are actually exiſting in the Air, and that they as certainly are capable of producing Diſeaſes in our Bodies, when they are admitted into our circulating Fluids. It is from a different Mixture of theſe inviſible *Effluvia*, added to the various Degrees and Combinations of the ſenſible Qualities of Heat and Cold, Dryneſs and Moiſture, that the *Air* is ſo different in different Regions and Situations of Places; and that it is ſo different at one time in the ſame Tract or Climate, from what it is at another: And in Proportion as theſe Cauſes co-incide, epidemical Diſeaſes are more or leſs frequent, benign or fatal. If a Perſon in good Health comes into *Air* replete with infectious Particles, he muſt at each Inſpiration inevitably draw in ſome of theſe; which being applied with ſome Degree of Force to the Cavity of the Mouth, the Windpipe, and the much larger expanded Surface of the Lungs, they adhere to the Humidity which covers theſe Parts; ſome of this is abſorbed continually

into the Blood, and along with it whatever is mixed with it from without; hence we see how the Infection is communicated almost immediately to the whole Mass of Fluids. Besides, a Part, and probably by much the most considerable, passes with the *Saliva* and *Mucus* of the Mouth into the Stomach and enters the Blood by the Intestines and Lacteals (*n*): where the Contagion will operate according to its different Nature. In this manner are the *Small-Pox*, and all other contagious, endemial and epidemical Diseases, produced and propagated from one Body to another, except such as are conveyed by immediate Contact. However, that the *Small-Pox* is thus conveyed, is confirmed even by the Observations of the Vulgar; every one knows, that if a Person who has never had the Distemper, comes into a Room where another lies sick of that Disease, tho' he neither touch him nor his Cloaths, nor even come so near him as to receive his Breath, yet he will scarcely avoid being infected. The Case is the same if he go into a Room, where the Body of one dead of the *Small-Pox* is lying: But if the same Person carefully shunned such infected Air or Places, he would be in no danger of taking the Disease at that time. This then, I think, is the highest Cause we can

(*n*) Hence it appears how little Credit is to be given to those who boast so much of Alexipharmac Medicines, to all malignant epidemical Diseases: And that the avoiding such infected *Air*, and a regular Use of the six Non-naturals, are the only effectual Preventatives to be depended on.

ascend

aſcend to the Knowledge of; *viz.* the infectious *Effluvia*, eſpecially when the *Small-Pox* becomes epidemical: At other Times we can only aſſign a Diſpoſition in the Fluids obnoxious to Inflammation, and to this Diſeaſe more than to any other of the inflammatory Tribe; wherein this Diſpoſition conſiſts, and whence it ariſes, that the ſame Cauſe operates upon one Subject with more Violence than upon another, will be mentioned hereafter.

§. III. With regard to the ſeveral Kinds or different Sorts of *Small-Pox*, Phyſicians have varied according to their different Fancies; ſome dividing them into two Sorts only; ſome into four; others into ſeven; ſome making more, others fewer Diviſions, as they have obſerved them to appear in different Places at various Times. *Rhazis* makes two Sorts, the *Sublimia* (*o*) which he in another Place calls *Peralba Magna* (*p*), and the *lata continua, alia in aliis*, &c. by which he means the Diſtinct and Confluent: He likewiſe mentions the *Variolæ virides, violaceæ, nigræ*, and the *admodum parva alba, velut verrucæ, humore vacua; & exiliores duriores ad maturitatem non pervenientes* (*q*). All which he ſays are of the malignant and mortal Kind; but he ſays nothing of thoſe attended with *Petechiæ* and Hæmorrhages; and whether they appeared thus ſoon, is uncertain;

(*o*) Ad Al-Manſor. lib. x. c. 18. (*p*) De Peſtilent. cap. 15. (*q*) Idem in locis citat.

however they seem to be more frequent now than they were formerly. *Hali Abbas* observed in his time all these Kinds of Pox, as also those which were attended with *Petechiæ*, and *Blisters like Bladders* caused by Burning(*r*). *Avicenna* after them, mentions the same different Sorts; and how much soever he may be esteemed a Copier after them by some learned Men, he first mentions the *Bloody Urine and Stools*, and takes notice of some having a second Crop; also another Sort which he calls *duplices Magnæ, in ventre unius quarum est Variola alia* (*s*); as also the *Quincey or Swelling in the Throat*, Symptoms of no small Importance.

But though these *Arabians* have well observed and described the different Sorts of *Small-Pox*; yet they have not attributed to each Sort their peculiar Symptoms, and different Methods of Treatment or Cure; but have contented themselves with leaving that in a general manner.

Dr. *Helvetius* says, he has observed no less than *seven Sorts*, distinguished by the Number and Nature of their Pustules, or by the Symptoms peculiar to each Sort (*t*).

§. IV. Drs. *Sydenham* and *Boerhaave* make but two Sorts, *viz.* the *Distinct* and *Confluent*, with the regular and anomalous of each Sort: To which may be added the *Con-*

(*r*) Theoria, lib. 8. p. 97. (*s*) Canon. lib. 4. Fen. 2. p. 73. (*t*) Essay du Petit Verol.

tiguous,

tiguous, and thoſe attended with purple Spots and Hæmorrhages, which are ſufficient; to make more Diviſions is but more critically trifling, than really uſeful; ſince all the true Kinds of *Small-Pox* are eſſentially of the ſame Nature, and proceed from the ſame Cauſe; and their different Appearances and Symptoms, from the Varieties of the then epidemical Conſtitution and Seaſon of the Year, the different Virulency of the *Miaſmata*, and Conditions of the Perſons infected; for from the Variety of theſe, the various Symptoms and Conſequences of this Diſeaſe may be accounted for. Whereas, if Phyſicians were to make as many Sorts or Kinds of *Small-Pox*, as they find different Symptoms and Appearances in their Patients, it is poſſible they muſt make as many Kinds as the Diſeaſe makes Returns into different Towns; if not as many as they have Patients, which would be ridiculouſly trifling. Wherefore I ſhall here treat of it as one Diſeaſe, divided into the *Diſtinct*, *Contiguous*, *Confluent*, and the *Bleeding Small-Pox*, attended with purple Spots and Hæmorrhages; all which are ſometimes intermixed with the *Cryſtalline*, *Siliquoſe*, and *Verrucoſe*, when of a malignant Sort.

CHAP. II.

Of the Symptoms of the Small-Pox, *and first of those of the Distinct Kind.*

§. I.

OME time after a Person is infected, he finds himself oppressed with a Wearinesſ and an indolent Faintneſs, without being able to discover any apparent Cauſe, to which this Alteration may be attributed: The next Morning or ſoon after, he is ſeized with a ſhivering Coldneſs, accompanied with yawning and ſtretching, which are ſucceeded by an acute Fever attended with Sickneſs, a *Nauſea* and Vomiting; a burning Heat, violent Pain in the Head, Back and Loins eſpecially, and ſometimes with a Pain below the Region of the Heart, or *Scrobiculus Cordis*, eſpecially if it is preſſed with one's Hand, alſo with frightful Sleeps, Difficulty of Breathing, with a Pain and great Heavineſs of the Eye-lids, and a Dulneſs, which is ſometimes ſo great as to cauſe a perfect *Carus* or *Coma*; the Eyes wa-

ter,

ter, or involuntarily let fall Tears: Children are frequently ſeized with a Convulſive Fit or two. In ſome epidemical Seaſons, Adults are much inclined to Sweat, which retards the Eruption, and is not eaſily abated or prevented.

This I call the firſt State of the Diſeaſe; which generally continues three or four Days in the diſtinct Sort, though ſometimes the Puſtules appear ſooner; and the earlier they appear, of ſo much the worſe Kind they moſt commonly are (*u*).

Theſe are the Symptoms which generally precede the Eruption of Puſtules in the diſtinct Kind: And it is obſervable, that they differ little or nothing from what they were in the warm Climate of *Arabia* and *Perſia*, ſeven or eight hundred Years ago, as appears from the prognoſtic Symptoms of this Diſeaſe left us by *Rhazis*, *Hali Abbas*, and *Avicenna* (*x*).

§. II. The Symptoms of this State, which we call the State of Contagion, being finiſhed, we come to the State of Eruption; in which, firſt Pimples as ſmall as Flea-bites, or little Pin-heads, appear here and there in the Head and Face, then in the Neck, Hands, Arms and Breaſt, and ſo gradually throughout the whole Body; which every Hour increaſe both

(*u*) Boerhaave Aphoriſ. 1398. Sydenhami Opera paſſim. Avicenna, Canon. lib. 4. p. 74.

(*x*) Rhazis ad Al-Manſor. lib. 10. c. 18. Hali Abbas. Theor. c. 14. Avicen. lib. 4. Tract. 4. p. 74.

in Number and Magnitude; upon which the Symptoms either very much abate, or totally vanish, in proportion to the Number of the Pustules, and Degree of the Disease. Soon after this, the Pustules begin to look red and inflamed, with a tensive Heat and pricking Pain; sometimes the Jaws, Eye-brows, Knees, or Soals of the Feet, are inflamed and afflicted with a violent Pain, which increases with the Pustules: The Perspiration and Circulation of the Blood through those Places where the Pustules are formed, being now intirely obstructed, very much increases the Fever and Inflammation, and causes a Swelling all over the Body: The Eyelids also, especially if the Pustules are many about them, are so distended and swelled, that the Patient is deprived of Sight: These Symptoms continue and increase till the eighth or ninth Day from the first Seizure, or the fifth or sixth from the Eruption; at which time the Pustules are grown rough, white, and are filled with a whitish Fluid, being so many little suppurated Tumours (which sometimes ouze out a yellowish Matter) encircled with rosy Margins, of a paler or a deeper Red, as the Disease is more or less dangerous.

§. III. Blood being taken from the Sick, in the *First State*, is of a *fine florid crimson Colour* (*y*). And in this *Second State* is *viscid*,

(*y*) Boerhaave Aphoris. Aph. 1384.

dense

denſe and ſizy (*z*), in proportion to the Violence of the Diſeaſe, as in Pleuritic, and other inflammatory Fevers.

§. IV. I ſhall with Dr. *Boerhaave* (*a*), call this *State* of the Diſeaſe, *viz.* from the third, or fourth Day, to the eighth or ninth, the inflammatory State.

§. V. From this Condition of the Blood, and its increaſed Velocity through thoſe Veſſels which are not obſtructed; is cauſed that high florid red Colour in thoſe Spaces between the Puſtules, attended with a Heat and Pain, and that Swelling, firſt in the Face, then in the Hands, and all the Body over. Hence the beneficial Uſe of cooling and relaxing Fomentations, or Bathing, will appear.

§. VI. The Puſtules now, on the Face firſt, and then on the whole Body, being white, begin about the ninth or tenth Day from the firſt Attack to turn yellow, and then brown, or ſometimes black, and at laſt dry into Scabs; about the Eleventh, the Swelling of the Face begins to diminiſh; and the Scabs being dry to fall off by the fourteenth or fifteenth Day; but thoſe on the Hands, Feet and Legs, frequently remain two or three Days longer, eſpecially when the Diſeaſe is more violent; for the more benign the Diſeaſe is, the ſooner all its *Stadia* (except the firſt) are completed; and the more violent it is, the longer all are, except the firſt.

(*z*) Idem, ibid. & Aph. 1396. (*a*) In locis citat.

CHAP.

CHAP. III.

The Symptoms of the Confluent Pox.

§. I. THE Confluent *Small-Pox* are attended with all the Symptoms that the Distinct are, but in a more violent Degree; the loathing Sickness and Vomiting, the Fever, Restlesness, Pain in the Head, Back and Loins, (especially the last, if they are of a very bad Sort) are all very violent in the first State; neither do they cease upon the Eruption as in the distinct Kind, though they sometimes abate a little.

§. II. In the second State, the Pustules at first appear like the Eruption of the *Measles*, or an *Erysipelas*, and most commonly on the third Day; sometimes sooner: Nay, I have known them appear on the second Morning, or sooner, when of a very bad Sort; but scarce ever after the third, except some grievous Symptoms afflict the Patient more than common; as a violent Pain in the Loins like a

Lumbago

Lumbago Rheumatica, or a Fit of the *Stone*; or in the Side like a *Pleurisy*, or in the *Stomach* with most violent Sickness and Vomiting, which sometimes will retard the Eruption till the fifth or sixth Day; and presages that they will not only be of the Confluent Kind, but of the worst of that Kind also, and attended with the greatest Danger. And though the Fever and other Symptoms are a little abated upon the Eruption of the Pustules, yet they continue many Days after, and most of them even till the *Second Fever* comes on, which Fever seldom or never attends the distinct, and rarely the contiguous Sort. The Pustules do not rise and fill in this Sort as in the others, especially on the Face; but are depressed, flat and intangled or joined one with another, and so cover the whole Face, which they cause to swell, both sooner and to a much greater Degree, than the other Sorts do. On the seventh or eighth Day, they begin to turn a little white like a skinny Membrane, or rough Parchment, glewed to the Face; which in the four or five Days following grows gradually rougher, and changes to a deep yellow or duskish brown Colour, and sometimes black; and the more severe the Distemper is, the blacker the Pustules turn, and continue the longer before they fall off in Scabs. A Salivation almost constantly attends Adults in this kind of Pox, which sometimes begins at the first Eruption, though commonly

monly not till a Day or two after it: The Matter at firſt is thin, and ſpit up in large Quantities; but about the tenth or eleventh Days, or ſometimes ſooner, grows viſcid and clammy, and is got up with great Difficulty; ſometimes it ceaſes for a Day or two, and returns again for a few Days more: And as this Salivation and Swelling of the Face, begin to decline on the eleventh or twelfth Day, the Hands ſhould ſwell, if they are not ſo before; and if they are, they ſhould continue ſo for ſeveral Days more. As a Salivation attends grown People in this Kind of *Small-Pox*, ſo Children have moſt commonly a Looſeneſs, tho' it does not invade them ſo ſoon, as the Salivation does the others; but at what time ſoever it comes, it generally continues through the whole Courſe of the Diſeaſe, if not imprudently ſtopped.

§. III. About the ſixth or ſeventh Day, the ſecond Fever begins to come on, and continually increaſes till the eleventh, twelfth, or thirteenth Day; or, more properly, the inflammatory ſuppurating Fever increaſes to the End of the Diſeaſe, and is augmented by the additional Cauſes of the ſecond Fever. The Puſtules being dried into Scabs about the fifteenth or ſixteenth Day, begin to fall off; but if the Diſeaſe be very ſevere, they remain on ſome Places of the Face, till after the twentieth, nay, ſometimes to the thirtieth Day; and ſometimes when they are fallen off, or rather

picked

picked off a little too ſoon, ſcurfy Scales ſucceed, which imprint Pits and Scars on the Face, to the great Deſtruction of many fine Features.

§. IV. Blood being taken from the Sick, in this Kind of *Small-Pox*, is generally much more inflamed and ſizy, than in the diſtinct Kind; eſpecially in the two laſt *Stadia* of the Diſeaſe.

CHAP.

CHAP. IV.

Of the Contiguous Small-Pox.

§. I. THESE are a Sort which partake more or less of the Nature of the distinct or confluent Pox, as they have more of the peculiar concomitant Symptoms of the one Sort than of the other; and the Pustules are so numerous and closely joined together, that several of them unite and flux one into another, forming one very large broad Pock; yet are not so depressed and flat as the confluent Pox are, but rise and fill something like the distinct Kind. Sometimes they are attended with a Salivation, and at other times not: And sometimes with more of the Symptoms peculiar to the Confluent, than to the Distinct, and *vice versâ:* For it is no more than the greater or less Number of the Pustules and Degree of Inflammation, which makes them partake more of the one

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CHAP. V.

Of the irregular and fatal Symptoms which attend this Disease.

§. I. HAVING described the usual Symptoms of each Kind of *Small-Pox*; we come to those irregular ones which always either threaten, or certainly presage, the Death of the Patient if not timely relieved. Of which, those that appear in the first State of the Disease, are some of the following.

§. II. If the Sickness and Vomiting are very severe, if the Pain of the Head, Loins, or any other Part, be very violent, especially if the Loins be affected with intolerable sharp shooting Pains, as if stabbed with a Sword or Lancet; if the Fever and Inflammation of the Face and Eyes accompanied with a *Delirium*, be all violent; if the Pustules appear on the first or second Day, or not till after the fourth, like an *Erysipelas*, standing so close together, that there seems not room

for

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makes a black, fœtid, or bloody Urine; or purge a black fœtid *Ichor*, or large Quantities of Blood, the Danger is extreme; all these being fatal Fore-runners of Death; whose Approach is more certain, and is known to be near at Hand, if many of them appear together. If the Sick, either in the confluent, contiguous or distinct Kinds, be delirious, and a *Phrenitis* follows; if he makes a little clear Urine at a time and often, about the seventh, eighth, or eleventh Day, and is oppressed with an Anxiety, and Difficulty of breathing, he dies quickly, if not timely relieved by such suitable Evacuations, as his Strength will admit of, and his Circumstances require. If the Salivation in the contiguous or confluent Sort suddenly stops, and the Swelling of the Face and Hands suddenly falls; and a *Phrenitis*, *Angina*, *Pleuritis* or *Peripneumonia*, come on, and the Patient begins to breathe strong, quick, and with great Streightness and Difficulty, he expires shortly, unless some suitable Evacuations immediately relieve him.

§. IV. Another Case which is something remarkable, is a *Delirium* which sometimes comes on about the fourth or fifth Day after the Eruption, sometimes later; for a *Delirium* in the Beginning of the Disease is very common and not accounted dangerous, if it is accompanied with no bad Symptoms, and ceases upon the Eruption; but a *Delirium* coming at this time, if preceded by a violent Pain in

the Head, and accompanied with a Reſtleſſneſs and continual Watchings, catching at Motes or Flies, which the ſick Perſon ſuppoſes to float continually in the Air before him; if his Eyes ſhine and ſparkle, and roll to and fro in their Orbits in a frightful manner without Intermiſſion, their Veſſels are inflamed and diſtended with Blood; and if you look attentively thro' the Pupil as deep into the Eye as you can, you may perceive it to be of a ſparkling fiery red Colour, and remains ſo as long as the Swelling of the Eyelids will permit you to ſee them; the *Delirium* continually increaſes till it becomes a perfect *Phrenitis*: This is a dreadful Symptom whenever it comes, and is a Circumſtance which has not been ſufficiently obſerved and deſcribed by any Author I have yet ſeen, eſpecially that fiery red Colour in the Bottom of the Eyes, proceeding from the Diſtenſion and Inflammation of the Blood-veſſels of the *Retina*, which it receives from thoſe of the Brain, and its *Meninges*; and argues that theſe muſt conſequently be affected in the ſame manner. When theſe ſenſible Parts are thus inflamed, and the red Globules of Blood forced into their tender Veſſels, which do not naturally admit them, they muſt there ſtagnate and diſtend, if not burſt them; whence Death muſt inevitably follow, if a powerful Revulſion be not ſpeedily made.

§. V.

§. V. In all acute Diſeaſes, and eſpecially this, we muſt carefully obſerve the Patient's *Pulſe*, *Urine* and manner of *breathing*: The beſt *Pulſe* in *Statu ſano* is a ſtrong, full, equal and ſlow Pulſe; therefore, the nearer it approaches to theſe Conditions, the better, and *vice verſa*.

The Patient's Urine in this Diſeaſe, as well as in all *Exanthematous* Fevers, generally depoſits a Sediment from the Beginning to the End of the Diſeaſe. An high-coloured Urine without a Sediment, or with a Suſpenſion after the Sediment, is a bad Omen: And a clear pale Urine, when the Fever is very high, or the Patient delirious, is worſe, except in ſome Hyſterical and Hypochondriacal People.

The manner of Breathing ſhould be very diligently obſerved, as Reſpiration is one of the chief Springs of Life, and ſo neceſſary a Cauſe of the Circulation of the Blood: For a conſtant Sort of Conſent, or Proportion of Times, between the Contractions of the Heart and Inſpiration, is obſerved; *i. e.* The Vibrations of the Pulſe and Number of Times of Breathing, are, as near as I could obſerve, in *Statu ſano*, as four and a half to one, or as ſeventy-two to ſixteen; *viz.* If a Perſon has ſeventy-two Pulſes in a Minute, he breathes ſixteen times in the ſame given Time; or if one in a Fever has one hundred twenty-one Pulſes, he ſhould reſpire about twenty-

seven times in the same Time; but I have very often found, that the Times of Breathing increase faster than in this Proportion, especially when the Fever has been very violent, and the Person weak; and whether the Number of Respirations constantly increases faster than the Number of Pulses according to this Proportion, when the Sick grow weak, and the Fever violent, and the more so, when the Person is near dying, is what I have not yet made sufficient Observations on fully to confirm, but I believe it may prove so. Hence we may understand why the *Dyspnœa*, or *Anhelitus*, is so fatal a Symptom in this Disease, especially in its latter *Stadia*: As it shews the great Heat and Density of the Fluids, and the Imbecillity of the Solids to propel them forward in their Vessels; hence the great Resistance which the Fluids meet with in circulating through the Vessels of the Lungs, and all the other Parts of the Body: I grant, we often meet with a great, full, and quick Breathing about the Time of the *Crisis*; but as it is great and full, as well as quick, it denotes Strength in the Patient, and is no bad Symptom at this time.

CHAP.

CHAP. VI.

Of the Proximate Cause of the Small-Pox, *Method of Prevention, and the Treatment proper in the First Stage of this Disease.*

§. I. AVING described both the regular and anomalous Symptoms of this Disease, we now come to account for their Causes, manner of Production, and their Effects; and from thence to form a reasonable Method, by which they may be either *Prevented*, or, when present, *cured*.

§. II. How the *infectious Matter*, or *Miasma variolosum* produces the *Small-Pox*, is not easy to determine; for the Particles of the *Miasma* are so infinitely small, and so remote from the acutest Perception of our Senses and Comprehension, that they are no-ways the Object of them, until we discover

their Presence by their sensible Effects on our Bodies; neither is it possible for us by any *Art*, to know their Natures, Structures, or geometrical Figures, so as to find any true *Data* to reason upon, in order to discover those Laws, by which they undoubtedly act upon our Bodies in the Production of their direful Effects; we must therefore, by reasoning in an analytical or retrograde Way, endeavour to find their Natures and Manner of acting, from their sensible and visible Effects; since we can have no Knowledge of them by any other means.

§. III. If then we duly consider the Effects of these *Miasmata variolosa*, when mixed with our circulating Fluids, we find their final Effect to be the Production of a great Number of little Tumours or Pustules, filled with a concocted putrid *Pus*: This concocted *Pus* cannot be produced, but by something that must increase the Velocity and *Momentum* of the circulating Fluids, in or contiguous to those putrid Pustules, and by something obstructing and resisting that increased *Momentum* in the small Arteries (*primi vel secundi generis*) ending in those Pustules: These Obstructions, and this increased *Momentum*, cannot be produced, but by something that must either so irritate the small evanescent subcuticular Arteries, where the Pustules are formed, as to contract and diminish their Diameters, or have its constituent Particles so large, that they

they cannot paſs through the Veſſels; or elſe its Particles muſt by ſtrongly *attracting* each other, or rather ſome Particles of our Fluids, form *Moleculæ* which cannot paſs theſe ultimate Veſſels: And that ſomething muſt at the ſame time make the Contractions of the Heart and Arteries ſtronger and more frequent: Theſe ſtronger and more frequent Contractions of the Heart and Arteries, muſt be cauſed by ſomething which can ſtimulate the nervous Fibres; and this Stimulation muſt proceed from the natural Structure or Figure of the *Miaſmata*, whatever that is, whether they conſiſt of triangular, quadrangular, or of ſaline multangular Particles, or whatever elſe can be imagined: For I think it is impoſſible to know, and not very material, if known, ſince we muſt at laſt aſcribe the primary Cauſe to the *Miaſmata varioloſa*, which produced the *Small-Pox* in that Part of the World where they firſt appeared, as *Hippocrates* did the Cauſe of the *Plague* and ſome other contagious epidemical Diſeaſes, to the θεῖον τι, *ſeu divinum vel ignotum quid*: And ſince we are like to be for ever ignorant of the original Cauſe of this Diſeaſe in thoſe Nations where they firſt appeared, as alſo of the Make and Figure of the Particles, we muſt content ourſelves with knowing that their Figure and Make muſt be ſuch, as when they are introduced into the Habit in the manner already deſcribed, they are capable of produce-

ing

ing the enumerated Effects; namely, they can, by irritating the small Vessels, or increasing the Size, or by changing the Form, of the fluid Particles, or by all these Ways, form Obstructions; excite the Solids in general to a more vigorous Action, and hereby increase the *Momentum* and Velocity of the Fluids, *i. e.* can produce an inflammatory Fever in every Degree of it.

§. IV. With regard then to *Prevention*, no surer Method has hitherto been proposed, than to avoid the Places infected; but as this cannot always be done, the next Remedy is, to have the Body prepared in such a manner, as may render the Disease more benign, whenever it makes its Attack. The Method which is here recommended, is, that as soon as any Danger of Infection appears, from this Distemper's being in the Neighbourhood, those who have not yet had the Disease, should take several Doses of proper *antiphlogistic purging Physic*, at suitable Distances from each other, as,

℞ *Stib. Diaphoret. Nitrat. ℈j. Sal. Polychrest. pulv. gr. vj. Cons. Fruct. Cynosb. ℈j. f. Bolus cum q. s. Syr. Violar. Sumatur horâ Somni.*

Vel, ℞ *Stib. Diaphor. Nitrat. ℈j. Nitr. stib. Sal. polych. ana gr. x. Calom. levig. gr. v. Cons. Fruct. Cynosb. ℈j. Syr. Rhei q. s. f. Bolus h. s. sumend.*

℞ *Fol.*

℞ *Fol. Sennæ* ʒjß. *Agaric. Rad. Rhei opt. ana* ℈j. *Fruct. Tamar.* ʒiij. *Sal. Polych. gr. xij. f. Infuſ. in Aq. Font. bullient. vaſe clauſo, per horas vj. Colentur* ℥iv. *Colaturæ adde Syr. de Cichor. cum Rheo* ℥ß *Elix. Salut. Carm.* ʒij. *f. potio cath. mane poſtero ſumenda cum regimine.*

This or ſuch a like cooling Cathartic may be given (increaſing or decreaſing the Doſe, as the Age or Condition of the Patient requires) every third or fourth Day, for four or five times; after that once a Week, till the Danger of Infection is abated, or the Acceſs of the Diſeaſe forbids this Courſe; let the Patient alſo take one of the *Bolus's*, with or without the *Calomel*, as the Phyſician may judge proper, every Night and Morning, with half a Pint of common Whey: In the Days betwixt purging and during ſome time, let them abſtain from all heating high-ſeaſoned Meats, and hot ſpirituous Liquors: Let their Diet be thin, cooling and diluting, ſuch as Gruel, Panada, Pudding, Milk, Whey and the like; with ſmall Broth, a little light Meat, and cooling Sallads, *&c.* to Adults and thoſe who are advanced in Years; theſe may alſo eat ripe Fruits, if in Seaſon, as Apples, Pears, Peaches, Nectarines, good Plums, Cherries, and ſuch-like, eſpecially in the hotteſt Seaſon; let their Drink be ſmall, cooling, and grate-

fully

fully acid: Let their Minds be kept chearful and easy, and the Use of the Six Non-naturals as regular as possible: Especially let them avoid all violent Exercise and Passions of the Mind, as Fear, Grief, or intense Thought. If the Person be of a sanguine plethoric Habit, Bleeding will be requisite, or if the Stomach is foul, a Vomit, before the Course of Purging is begun.

§. V. By this *Regimen*, the crude Humours of the Body will be carried off, the Fluids cooled and rendered less liable to Inflammation or Putrescency, and consequently the succeeding Disease and its Symptoms will be more mild and favourable. Dr. *Sydenham* (*b*) observed, That *repeated Cathartics before the Invasion, for the most part rendered the* Small-Pox *distinct and favourable.*

And *Mercurials*, when administred before this Disease, have been known not only to have had no ill Effects, but even to carry off the Disorder entirely, when it was attended with Circumstances which almost put it past Doubt, of its being the *Small-Pox*, if we may credit the following Account.

Observavi Remedium hoc (*Merc. Dulc.*) *si detur* (*c*) *in morbi suspecti principio, vel præservasse plane, etiamsi alii in eadem domo variolarum malignitate torquerentur, vel saltem a nimia eruptionis abundantia liberasse.*

(*b*) Sydenh. Oper. p. 327, in Epist. ad D. Cole.
(*c*) Graffius in Eph. Germ. An. tert. obs. 56.

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State; the common Consequence of this Disease, in a greater or lesser Degree.

§. VII. To answer then the first Indication, upon the Appearance of any Symptoms of this Disease; if the Person be of a sanguine plethoric Habit, the Fever high, the Pulse strong, quick and hard, it will be necessary to bleed in the Foot to such a Quantity as the Symptoms indicate; after this, if Sickness and Vomiting attend, 'tis necessary that a Vomit be given, unless some Circumstances of the Patient, or particular epidemic Constitution which then reigns, and gives the Humours too great a Tendency towards the Head and upper Parts of the Body, forbid it; otherwise a Vomit at this time is of Service, since it is probable that by its Operation some of the Infectious Particles, which are carried with the *Saliva* into the Stomach, and now cause that Pain with Sickness and Vomiting, by irritating its sensible nervous Coats, may be cast quite out of it (*e*); and 'tis possible that some of the *Miasmata* which are already passed into the Blood, may be evacuated with that great Quantity of mucous Matter, which is secreted by the Glands of

(*e*) Certe emetica caute & cum prudentia adhibita divinam opem ferunt, si in tempore & statim in principio pestis & contagiosorum morborum usurpentur, quod certa experientia nobis constat.— Neque enim tantum ipsum illud fermentum, sed & saburra vitiosorum humorum, quæ pabulum & fomentum ipsi præbet, feliciſſime ejicitur. *Hoff. Med. Rat. Syst. T. 2. p. 206.*

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the moſt proper, of which *Vinegar* tho' common is one of the beſt, both as it dilutes and attenuates ſizy Blood, and as it cools and efficaciouſly reſiſts a Tendency towards Putrefaction; to which may be added ſuitable Doſes of cooling Medicines, ſuch as, *Nitrum ſtibiatum, Sal polychreſtus, Prunellæ, Tartarum Vitriolatum, Cremor Tartari, Spir. Nitri Dulcis, Sp. Salis Dulcis*, &c. or the Medicines preſcribed (*p.* 58.) given three, four, or five times a Day, as the Nature of the Caſe may require, during the firſt five or ſix Days; carefully obſerving to keep up a moderate brisk Perſpiration, without increaſing a troubleſome Heat. Theſe Medicines tend to ſmooth the Acrimony, attenuate the Sizineſs, and prevent the Putreſcency, of the Juices, at the ſame time that they promote the Diſcharge of the Infection by the Pores of the Skin.

§. IX. The ſecond Intention is, *To divert the variolous Matter from the internal and vital, to the Surface and remote Parts of the Body*: This muſt be effected by *fomenting* and *bathing* the remote Parts, *viz.* the *Feet, Legs, Hams, Hands* and *Arms*, in *warm emollient Decoctions*, two or three times a Day, half an Hour or longer at each time; and by applying *Sinapiſms* or *rubefying Cataplaſms* to the Soals of the *Feet, Hams* and *Wriſts*, after each time of Bathing, prepared of Emollients and gentle Stimulants,

so that they may both relax the Vessels, and by a slight Irritation draw down the Humours: These Fomentations and Cataplasms should be applied from the very first Appearance of any Symptoms of the Disease, and continued daily till the Pustules are pretty well filled, and their Contents turning into white Matter, or *Pus*. By thus fomenting and bathing the remote Parts, the Fibres and Coats of the Blood-vessels in those Parts will be softened and relaxed, their Re-action and Compression upon the Fluids will be diminished, their Diameters will be inlarged, and the Resistance lessened; but the Vessels of the other Parts of the Body not being thus affected, their Elasticity and also the Vigour with which the Fluids are propell'd thro' them, continue to be the same. It is plain, that whenever any one Part in the Course of Circulation, is thus become more incapable of resisting the Force applied to it than another, a more copious Afflux of Fluids is derived to that Part, and that there is a less rapid Motion in the others, since the debilitated Vessels cannot return them with an equal *Impetus*; besides, a greater Quantity of the infectious Particles will be brought to this Place, and from the retarded Motion of the Blood will be more copiously deposited here, than upon any other Part where the Circulation is quicker; some of the soft, smooth, aqueous, Particles will also be carried by the absorbent *Lymphatic Ves-*

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and those Places where these large Pustules were, especially on the Feet and Legs, continued to discharge a great deal of acrid Matter, for eight or ten Days, nay, sometimes, in morbid Constitutions, for two or three Weeks, after all the other Pustules on the rest of the Body, were dried up into Scabs and fallen off. Nor is this Practice entirely new, something like it has heretofore been used, tho' chiefly with an Intention to preserve the Features (*g*); it commonly occasioned a pretty deal of Pain, and numerous Clusters of *Pox*, in the Feet. The Efficacy of this Method is further confirmed, by the great Discharge of *variolous Matter* from Wounds, Ulcers and Issues, and the great Number of Pustules which we always observe to crowd about them, when any who have such, are seized with this Disease: and Many more Observations of the like Nature might be produced to confirm the Usefulness of this Practice, were not these and the Reasons assigned sufficient.

§. XI. And seeing that Reason, repeated Observations, and the best Authors (*h*) ancient and modern who have wrote on this Disease, inform us, *That the more numerous the Pustules are on the Head, Face and Breast,*

(*g*) Quo faciem a multitudine variolarum liberent — in lac bubulum calens infantum pedes immergunt. *Sylv. prax. Med. p.* 621. (*h*) Vide Avicen. Canon. Fen. 2. p. 73. Sydenhami Opera passim. Boerhaave, Aphoris. §. 1398. Freind Epistol. de Purg. p. 80, &c.

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tho' they are few on the other Parts, the greater the Danger is: And on the contrary, the fewer, and more distinct they are on the Head, Face and Breast, tho' the rest of the Body be full, cæteris paribus, *the less is the Danger.* It being evident, that if the *variolous Matter* be thrown on the vital Parts, especially the Brain and its *Meninges*, and be once impacted there so as to form Obstructions, it is impossible for the best Assistance, if a timely Revulsion be not made, to save the Life of such a Patient: And as this Method of deriving the *variolous Matter* from those, to the remote Parts, is the most effectual to prevent these fatal Consequences, and relieve the Patient in this deplorable Condition, I must confess that it is somewhat surprising that it has not long since been introduced into Practice with us in *England*; since there are no Objections against it, that to me appear to have any Weight; for in the many times which I have used it for several Years, and in all Seasons of the Year, I have never once found any Inconveniency, either by the Patient's taking Cold, which some fear, or otherwise; tho' I have constantly put their Feet and Legs into the Decoction, or into Water, as warm as they could well bear it, for half an Hour or more each time, and continued to repeat it several times, till the Pustules were tolerably

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Vel, ℞ *Ther. Androm.* ʒiß. *Pulv. Croc. Anglic. Camph. ana gr. vj. Stib. Nitrat. gr. x. conf. alkerm. q. ſ. ut f. Bolus.*

℞ *Aq. Lact. Alex. Menth ana* ℥*iij. Vini Canarienſ.* ℥*iv. Aq. Theriacal. cum acid.* ʒ*vj. Tinct. Croc. Sp. Nit. Dul. ana* ʒ*iij. Syr. e Mecon.* ℥*j. f. Julapium. Sumatur Bolus hic vel ille quarta, vel ſexta, vel octava quâq; horâ, prout res Ægroti poſtulaverint, inſuper bibendo coch. iij. vel iiij. Julap. Cardiaci.*

Or, on the contrary, to abate the Vehemence of the Fever, when he finds that the Pulſe is too quick, hard or ſtrong, with violent Pains in the Head, Back or Joints; with Reſtleſſneſs, Toſſings, burning Heats, great Difficulty of Breathing, and frequent Delirioufneſs; the Expulſion of the *variolous Matter* being at the ſame time retarded, or the *Pox* ſunk; as they argue that the Blood is extremely ſizy, the Veſſels from the too great Irritation are contracted, and that the thinner Secretions are thereby prevented, ſo we can expect nothing leſs than a farther Vitiation of the Blood in Quantity, Quality and Motion, *i. e.* an Increaſe of the Fever and all the Symptoms.

§. XIII. When, therefore, theſe dangerous Symptoms appear, whatever Time of the Dif-

ease it may be, some Evacuations are absolutely necessary; it is evident, that Bleeding is the most proper and effectual Evacuation in this Case, since it may be clearly demonstrated from the Doctrine of *Bellini* (*i*), that by diminishing the Quantity of the Blood, we diminish its *Momentum*, its Velocity and inflammatory Disposition, the Number of Obstructions and Pustules, and the Danger of the Patient. These being abated, the Motion of the Blood becomes more regular, the Pulse more distinct, equal and free, the Expulsion of the infectious *Miasmata* will be more regular and complete, and the circulating Fluids less vitiated and changed. It is not only requisite to bleed once in these Circumstances, but when the first Bleeding does not remove or abate these Symptoms, it is absolutely necessary to repeat it; and in some Cases and Constitutions several times too (Regard being had to the Age and Strength of the Patient); otherwise the most imminent Danger, or Death itself, can't be avoided, which repeated Experience has long since confirmed. For when a plentiful Use of the Antiphlogistic Medicines before proposed, can't remove these Symptoms, nothing but Bleeding can be depended on to answer the Intention at this Time; notwithstanding the great Prejudice which the Vulgar, and some others, have en-

(*i*) Vide de Sang. Missione.

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tertained against it. But it will not be difficult to shew that Bleeding, when these Symptoms indicate it, is not only agreeable to the Theory here advanced, but is supported by the Authority of the most judicious Ancients, and the successful Practice of the most experienced modern Writers on the *Small-Pox*.

Upon the first Appearance of this Disease, *Rhazis* constantly prescribes Bleeding, and, if the Patient is of a full corpulent Habit, even to Fainting; and adds, that in such Cases the Quantity must of Necessity be diminished: " *Cum igitur videris signa Pestilentiæ*, (for so his Translator *Georgius Valla* " calls the *Small-Pox* here) *si sit corpulentus, & victus plenitudine affluens, venam* " *seca, & sanguinem detrahe ad deficientem* " *usque animum, ex medio ancone, vel ex* " *craniaca, vel ex interiore poplite*" (*l*): And in his 10th Book to AL-MANSOR, he says, (*m*) " *Sanguinem illico, si nihil obstet,* " *vel per venam apertam, vel per cucurbi-* " *tulam cum scarificatione adglutinatam,* " *detrahat medicus. Omnino enim san-* " *guinis copia comminuenda est.*" In both these Places he speaks of Bleeding before the Eruption of the *Small-Pox*. So likewise *Haly-Abbas* prescribes Bleeding at this Time,

(*l*) De Pestilent. L. 1. C. 6. p. 334.
(*m*) Chap. 18. p. 304.

" *Ad*

"*Ad deliquium Animi, si virtus, ætas, com-*
"*plexio, & tempus Anni adjuverint* (*k*)."
And AVICENNA (*l*) advises the same, as also do all the other *Arabians* who lived after them. It may however be remarked, that they practised in the warm Climate of *Persia* which might dispose the Fever to be more violent than with us; also that the Inhabitants of all warm Climates bear the Loss of a very large Quantity of Blood with Impunity; and therefore that we must not be sway'd by their Example in Bleeding to Faintness; yet in the Cases which I have mentioned, the Necessity of Bleeding is the same here as with them; only in a Proportion adapted to our Climate and Constitutions.

Since the *Arabians*, most of the celebrated medical Writers, have recommended Bleeding; some of these of various Countries, the Reader is referred to.

In Italy, *Emilius Campolongus* (*m*), *Julius Cæsar Claudianus* (*n*), *Epiphanius Ferdinandus* (*o*), *Diomedes Amicus* (*p*), *Josephus de Medicis* (*q*), *Petrus Bayrus* (*r*), and *Horatius Augenius* (*s*), who asserts that he writes no-

(*k*) Practica. L. 4. C. 1. (*l*) Vide in Locis citat. (*m*) De Variol. C. 413. (*n*) Empir. Rational. L. 5. C. 1. (*o*) Cas. Medic. 78 (*p*) De Variolis, C. 6, 10, *&c.* (*q*) Apud Gregor. Horstium, Tom. 2. p. 46. (*r*) De Pestilent. Cap. de Variolis & Morbil. (*s*) De Febrib. L. 10. C. 3, 9.

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thing concerning the Cure of this Diſeaſe, but what 46 Years Experience had convinc'd him to be good Practice; and adds, *That all who have wrote of the* Small-Pox, *agree that the Cure of this Diſeaſe ought to be begun by Bleeding* (†).

In Spain, *Anton. Ponce Sanctacruz* (*t*), *Chriſt. a Vega* (*u*), *Ludovicus Mercatus* (*w*), *Gomet. Pereira* (*x*), *Caſpar Bravo* (*y*), and ſeveral others.

In Portugal, *Roderic a Fonſeca* (*z*) *Dilectus Luſitanus* (*a*), *Zacutus Luſitanus* (*b*), *Stephen. Rod. Caſtrenſis* (*c*).

In Germany, *Forreſtus* (*d*), *Georg. Horſtius* (*e*), *& Dan. Horſtius* (*f*), *Platerus* (*g*), *Baldaſer Timeus* (*h*), *Fran. Joel* (*i*), *J. C. Frommanus* (*k*). *Eph. Germ. an. tert. Obſ.* LV.

In Denmark, *Tho. Bartholin* (*l*), *Pechlinus* (*m*).

(†) Omnes qui de Variolis ſcripſerunt, unanimi conſenſu, principium curationis illarum fieri debere a vacuatione ſanguinis contendunt, ideoque Venam incidendam eſſe—— *&c. de Feb. L.* 10. C. 4. (*t*) Imped. Magn. Auxil. L. 3. C. 1P. (*u*) De Arte Medica, L. 2. C. 1. (*w*) De Pueror. Morbis, L. 2. C. 22. (*x*) Nova Medicina, p. 904. (*y*) Reſolut. Medic. diſp. 1. P. 4. (*z*) Conſil. Medic. L. 1. Con. 48. (*a*) de Venæſect. C. 21. p. 145. (*b*) Prax. Medic. p. 786. (*c*) Qua ex quibus, L. 3. C. 16. (*d*) Obſervat. L. 6. Obſ. 46, 47, *&c.* (*e*) Opera Medic. Tom. 2. L. 6. (*f*) In Epiſtol. Ep. 10. (*g*) Oper. de Curat. Variol. p. 200. (*h*) Conſ. Medic. L. 8. C. 29. (*i*) Practic. L. 9. S. 5. (*k*) Diſcurſ. Med. Sect. 97. p. 103. (*l*) Ciſta Med. p. 60. (*m*) Obſervat. Phyſico-Medic. p. 230.

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which receives its Current from the *Aorta descendens*.

Besides, if we would make the Revulsion more effectual, we should take care, that a large, generous Aperture be made, thro' which the Blood may flow with a free, impetuous Stream; this cannot always be procured in the Feet or the *Jugular*; on this Account therefore we must often take the Arm, tho' the others, for the Reasons assigned, are more eligible. When none of these Methods answer our Purpose, it may not be amiss to open the *occipital* Veins, by making deep Incisions, and applying cupping Glasses, these Vessels having an immediate Communication with those Parts of the Brain, which perhaps may be less affected by opening the *Jugular*; what the learned *Morgagni* says of it in the Cure of a *Phrenitis*, deserves our Consideration (*a*).

§. XV. In order to make the Methods hitherto proposed yet more effectual, let the Patient have his lower Parts kept warm by covering them with more Cloaths, whether he be in Bed or up; and let them be gradually thinner towards his Breast and upper Parts, and his Head kept cool: Let him have as moderate a cooling Air admitted into his Chamber, as his Condition and the Season of the Year will admit of, that thereby he may both breath more freely, his Blood be more cooled

(*a*) Adverf. Anatom. 6. Animad. 82.

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in passing through the Lungs, and be render'd more fit to pass through all the other Vessels of the Body; so that the Inflammation may be abated, the Fever kept moderate, and the Derivation of the *variolous Matter* to the lower and remote Parts made more effectual. I know that Dr. *Sydenham* advises (*s*) the Sick to be kept from their Beds in the Day-time, till the sixth Day, in order to abate the Fever and Inflammation; but I never could find that the Sick could bear being kept out of Bed so long, unless the Distemper was very mild, and the Pustules few.

Inasmuch as the regular and complete Eruption and Suppuration may be retarded, either by the over-violent Motion of the Blood, or on the contrary, by that being too low, languid and weak, and that an Error on either Side may prove fatal; a strict Regard must be all along had to the Pulse, Fever and Strength, of the Patient, as well as the Number of the Pustules and other Symptoms, that they may be kept regular and moderate; and whenever they are not so, Nature must be assisted accordingly as these indicate and require; either by the Use of *Antiphlogistics* and *Evacuations*, &c. *as before directed*; or by *gentle Cardiac and Alexipharmic Medicines*, &c. But the latter are scarce ever required in the first State, and not near so often in the se-

(*s*) Dissert. Epistolar. ad D. Cole, p. 323.

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CHAP. VII.

The Method of treating the Sick in the Second Stadium, *or State of Suppuration.*

§. I. FROM the State of Contagion and Eruption, we come to that of Suppuration, which generally continues from the fifth or sixth Day, to the ninth or tenth, and may be properly called a Continuation of the first Fever; for tho' there be a Remission of the Fever and its violent Symptoms, upon the full Eruption of the Pustules; yet the Obstructions remaining in those Vessels where the Pustules are formed, which are now so many suppurating Tumours, where the Fluids meet with a Repulse in every obstructed Vessel; and the propelling Force of the Solids being still increased, by the Stimulation of the *Miasmata*, and the Pain arising from those Obstructions, together with

the Diminution of the Perſpiration; the firſt Fever, which was ſomething abated upon the Eruption, will be increaſed again by theſe Cauſes, in proportion to the Number of Puſtules, the Degree of Irritation, and the *Momentum* of the Blood. Hence thoſe who are of a robuſt plethoric Conſtitution, and are very full of Puſtules, muſt, as this State of the Diſeaſe increaſes, have the Fever very much augmented and attended with great Pain, burning Heat, Reſtleſſneſs, *Delirium*, and ſeveral other bad Symptoms; whoſe Effects will be fatal when the ſecond Fever comes on; or ſooner, if not prevented, or now taken off.

§. II. This Fever is not only of the inflammatory Kind, from its own *peculiar Genius*, and the aboveſaid *Cauſes*; but ſometimes is aggravated with other Symptoms, proceeding from the then reigning *endemial or epidemical Conſtitution of the Air*.

It is from this Cauſe that the *Small-Pox* is frequently attended with *anomalous Symptoms*, not properly belonging to itſelf, but of a *Genius* peculiar to ſome *epidemical Fever* then reigning, or which was ſo juſt before the Invaſion of the *Small-Pox*; and we may often obſerve, that an *epidemical Fever* ſucceeding the *Small-Pox*, is attended with ſome Symptoms peculiar to the latter, and not properly belonging to that Fever.

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In this caſe Regard muſt be had to the Nature of thoſe heterogeneous Symptoms (if I may ſo call them) which attend the *Small-Pox*, as alſo to ſuch Methods as were moſt ſucceſsful in the Cure of that Fever; and when theſe Symptoms are more violent and dangerous, than thoſe which properly belong to the *Small-Pox*, they muſt be removed by ſuch Methods as were moſt ſucceſsful in that *epidemical Fever*, when not accompanied with the *Small-Pox*; provided that they be not directly oppoſite to the Method of curing the *Small-Pox*; if they be ſo, we muſt then proceed by ſuch Rules, as juſt Reaſoning from their Nature and Conſequences, indicate to us: Theſe concomitant Symptoms may be ſo various, from as many different Cauſes, that it is impoſſible to preſcribe any conſtant and certain Method of treating them; ſince this muſt be varied as the Cauſes change; if Bleeding, for Inſtance, has been unſucceſsful in the preceding Fever, it muſt be forbid in this Caſe, unleſs ſome violent inflammatory Symptoms appear, which nothing but Bleeding can relieve, and even then it muſt be cautiouſly preſcribed: And if the Nature of the Fever be ſuch, that *Cardiac* or *Alexipharmic* Medicines were required, they muſt alſo be exhibited now in the *Small-Pox*.

§. III. But when such an *epidemical Constitution of the Air*, happens to reign at the same time with the *Small-Pox*, and the *epidemical Infection* which produces it, has a Tendency towards Putrefaction in the same manner as the *variolous Infection*, which is too often the Case; this inflammatory suppurating Fever will be very much augmented; and the second Fever will also be attended with an uncommon Malignity; or in other Words, an Aggregate of the most violent Symptoms.

§. IV. If we now find by the Increase of the feverish burning Heats, Restlessness, Quickness, Hardness or Strength of the Pulse, or any other Symptoms, that the Fever is rising too high, we must immediately attempt to abate it by the cooling Medicines recommended above, and the Assistance of *Anodynes*, which may now safely be given, in a Quantity sufficient to abate the Restlessness; the Fever now depending as much upon the Irritation in the suppurating Pustules, as upon the Obstruction of the Vessels. But if the Fever still so increase, that a total Inflammation, with a *Delirium*, *Angina*, *Phrenzy*, *Pleurisy*, *Peripneumonia*, or an Inflammation in any other Part, threatening a Suffocation of the Vessels, or a Gangrene, *&c.* can no longer be staved off; we must again have recourse to Evacuations, however critical the Time

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may appear; and of theſe, Bleeding, I believe, will be found to be the only one we can recommend with Safety and a Proſpect of Relief, in ſuch preſſing Circumſtances. We are not to omit at the ſame time making uſe of *Antiphlogiſtics* both internally, and externally applied by way of *Fomentation* to the inflamed and ſwelled Part, mixed with *Emollients* and *Diſſolvents*, as *Sapo Venet. Sal Ammoniac. Sal. Commun. Nitrum*, &c. *pro re nata.* And in ſome Caſes by cooling Clyſters: But Purging at this time, *viz.* before the Suppuration of the Puſtules is near perfected, may retard that, and probably make a Revulſion to the *Viſcera* of dangerous Conſequence.

§. V. I am but too ſenſible that Bleeding in any Circumſtance, at this time of the Diſeaſe, has often been oppoſed with more Warmth than Reaſon; and perhaps may be again, and even by ſome who are Men of Figure in the Faculty, and can admit of it in the firſt State.

As the Caſe then is of very great Importance, it will be proper to examine what Inſtances are recorded of its Succeſs, when brought about by Nature or Art; and what the general Opinion of ſucceſsful Practitioners with regard to Bleeding is: We ſhall then be more capable of judging how far theſe Gentlemen are right, in the Oppoſition they make.

Rhazis says (*a*), "*Sanguinis evacuatio ex* "*naribus, vel sponte, vel arte facta, adeo* "*confert, ut solo fluxu isto ægrotantes sa-* "*natos vidisse*, &c." And *Hor. Augenius*, (*b*) "*Saluberrimum esse provocare sanguinem* "*ex naribus docuit experientia: Nam qui-* "*bus sponte effluxit, variolæ pauciores &* "*salubriores evenerunt.*" See also *Epiph. Ferdinand* (*c*). *Sydenham* (*d*) gives us the History of Mr. *Elliot*'s Servant's Case, who lost a great Quantity of *Blood* at his Nose on the eighth Day, and recovered very well, only with the Use of *Spir. Vitrioli*; and this Loss of *Blood*, with the *Spir. Vitrioli*, seems to have been the chief Cause of his recovering. And as cautious as the Doctor was of Bleeding in this State of the Disease, he might have observed how much *Nature relieved* both this *Servant*, and a *noble Lady* (*e*) by it; who, he says, was seized on the third Day after the Eruption of the *Small-Pox*, *Magna fluxione mensium*, which continued *violently* for *many Days*; and tho' the *Small-Pox* were of the worst black Kind, yet they filled well, their Maturation proceeded regularly, the Fever was kept moderate by it, and she recover'd safely: Here we see, she lost great Quantities of Blood daily during the State of Sup-

(*a*) Continens, 18. 8. (*b*) De Febrib. L. 10. C. 3. (*c*) Cas. Medic. Cap. 78. (*d*) Variol. Anomal. Anno 1674-5. (*e*) Idem, Anno 1670-71-72. p 168.

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puration; and the Sort of *Pox* conſidered, her Recovery, as well as her having no *other* bad Symptoms, (as he calls this) may be juſtly attributed to that great Loſs of Blood. As for the Caſe of the Man, who, he ſays, had been bled ſeveral times before he was ſeized with the *Small-Pox* for a Rheumatiſm, I think his having a bad Kind of *Pox*, and his Death, may be more juſtly attributed to the inflammatory ſizy State of his Blood, which that Diſeaſe always leaves, than to Bleeding.

Pechlinus mentions two Caſes, where one Woman having her *Lochia* plentifully, recovered very well; the other not having them ſo, died (*f*). And he adds, that he has often obſerved in this Diſeaſe, where great Hæmorrhages have happen'd, that they recover'd very well. Dr. *Fuller* has a like Caſe, with the like good Succeſs (*g*).

Dr. *Freind* mentions a Woman who miſcarried on the fifth (*h*), and another on the eleventh Day (*i*); though the Loſs of Blood was conſiderably great in both Caſes, yet they recover'd very well; and he ſays, that the Puſtules filled better, and the Swellings (a Thing at this Time ſo neceſſary) increaſed more after, than before that Loſs of Blood. I might produce many more Inſtances of the like Nature, were not theſe ſufficient.

(*f*) Obſerv. Phyſico-Med. p. 234. (*g*) Exanthematolog. p. 308. (*h*) Epiſt. de Purg. Hill. 5. p. 58. (*i*) Idem, p. 55.

§. VI. Thus far *Nature* shews us how we are to proceed. Let us now inquire what the Experienced say in respect to Bleeding in this State of the Disease. AVICENNA prescribes Bleeding in this second Stage boldly (*k*): He says, "*Quando procedunt variolæ, "non oportet tunc ut administraretur phle-"botomia, nisi inveniatur vehementia reple-"tionis, & dominium materiei; tunc enim "phlebotometur quantitate quæ exsiccet, seu "minoret.*" And SERAPION (*l*) says, "*Si "hæc febris fuerit propter causam variola-"rum, & virtus, & ætas, consentit tunc "non aliquid magis juvativum quam phlebo-"tomia venæ.*" HEURNIUS says (*m*), "*Quin "si dyspnœa adfuerit cum exanthematibus, "interdum ad phlebotomiam venimus: Ita "Nobilissimæ Comitissæ Hymondanæ Fran-"ciscæ Admirali Filiæ, venam pertundi "jussi, cum exanthemata non satis prodi-"erunt, idque felici successu.*" Likewise GOMETIUS PEREIRA (*n*), "*Si vel adsit "inflammatio vel plenitudo, etiam proruptis "variolis, sanguinem fidenter esse mitten-"dum*, &c." See also DIOMEDES AMICUS (*o*), LUDOVICUS MERCATUS (*p*), JOSEPHUS *de Medicis* (*q*), HOEFERUS (*r*), with many

(*k*) Canon. Med. Tom. 2. Lib. 4. p. 74. (*l*) Serap. inter Script. de Febr. C. 12. (*m*) Comment in Hippoc. Aph. L. 2. Aph. 15. (*n*) Nova Med. p. 904. (*o*) De Variolis, C. 10. (*p*) De Morbis Pueror. L. 2. C. 22. (*q*) Apud Greg. Horst. Tom. 2. (*r*) Hoefer. L. 7. p. 366, *&c.*

more,

more, who all advise and prescribed Bleeding in this State of the Disease, when these Symptoms seized their Patients, and with Success too.

But as EPIPHANIUS FERDINANDUS has laid down the plainest Rules concerning Bleeding in this Disease, I will give you his Words from Dr. FREIND (*s*): " *Nos autem clarius* " *hanc de venæsectione doctrinam illustrabi-* " *mus: quoties enim est urgentiæ scopus,* " *omni tempore est mittendus sanguis, dum-* " *modo adsint indicantia: Nam primo, cum* " *apparent variolæ & morbilli, & febris* " *non cessat, neque alia symptomata gravia,* " *tum licet mittere sanguinem. Secundo,* " *cum apparuerunt per unum diem, deinde* " *delitescunt, tum statim mittendus sanguis.* " *Tertio, quando sunt alia gravia symptomata* " *præter symptomata variolarum, ut angina,* " *obstinata phrenitis, lethargus, dysen-* " *teria, gravis ophthalmia, vel quivis alius* " *periculosus & gravis affectus; & sic* Rha- " zis *mittit sanguinem in variolis & mor-* " *billis ubi adest dysenteria.*"

Dr. PITCAIRN (*t*) advises Bleeding, and repeats it several times, if the first does not moderate the Symptoms. Dr. FREIND (*u*) has proved the Necessity of Bleeding in these Cir-

(*s*) Freind. Epist. de Purg. p. 33. (*t*) In Epistola de Variolis. (*u*) Epist. de Purgant. a p. 28. ad 37. & in Comment. de Febrib.

cumstances;

cumstances; and confirmed it with several Histories of its Success: So also has the ingenious Dr. MEAD, in his Letter to Dr. FRIEND, when he says (*w*), "*Id vero monuisse debu-*
"*eram, non hoc tantum tempore, sed & nullo*
"*non morbi die ægro protinus mittendum*
"*esse sanguinem, si respirandi difficultas ur-*
"*geat; si supervenerit phrenitis, aut alia*
"*quævis nimii fervoris febrilis se prodant*
"*indicia.*" And adds an extraordinary Instance of its Success. But Dr. CADE yet goes further, and says, "*Nec a sangui-*
"*nis detractione, quoties impedita respira-*
"*tio hanc suadet, pulsus humilis & an-*
"*gustus me terret* (*x*)." But we must carefully distinguish here between a weak low depressed, and a low oppressed Pulse; for upon Bleeding, this latter Kind of Pulse will rise and beat with more Strength and Freedom, since its Oppression was owing to a Plenitude of Humours; but the other, *viz.* the depressed One, to a Weakness of the Solids, or a real Want of Strength, and this always sinks upon Bleeding. Many more Vouchers for this Practice in these dangerous Circumstances might be produced, were Numbers alone to determine the Affair; but the Authority of those I have mentioned, will weigh with the Judicious, as much as

(*w*) Ep. ad D. Freind in Comment. de Feb. p. 103.
(*x*) Idem, ibid. p. 95, 96. Edit. 8vo.

Authority

Authority ſhould do; and will be ſufficient to juſtify any one in this Practice, when the recited Conditions are preſent.

§. VII. Clyſters of the antiphlogiſtic Kind, which cool and gently lubricate the Inteſtines, when the Fever is high, and the Patient has had no Stool for ſeveral Days, (as often happens to Adults) are of great Service: But if ſuch Purgatives as ſtimulate the Bowels too much, be given in them, before the Suppuration be perfected, they may be hurtful, by making too ſtrong a Derivation of the *variolous Matter* towards the *Viſcera*, and by forcing a *Diarhœa* which is not critical, but hurtful to Nature, retard the Suppuration of the Puſtules, or elſe be of more fatal Conſequence.

§. VIII. Hitherto the Symptoms ariſing from too violent a Fever have been chiefly mentioned, and their Treatment deſcribed. But the Fever ſometimes ſinks too low, and is not ſufficient to protrude the *variolous Matter* to the Surface of the Body, or to fill and ripen the Puſtules. Here the Pulſe is too low, tho' perhaps hard and quick, eſpecially in *cachectic Habits*, and ſuch as are diſpos'd to *ſpaſmodic Affections*; this Hardneſs ariſing, not from the Plenitude and Diſtenſion of the Veſſels, as in the preceding Caſes, but from a convulſive Stricture of the muſcular Coats of the Arteries. In this Caſe Bleeding always increaſes the *Languor* and Faintneſs,

Faintness, the Anxiety and Oppression of Spirits, and the Coldness of the Extremities, which the Patient already labours under. If in this Case taking away a few Ounces of Blood occasions a *Leipothymia*, or a Tendency towards it, we must stop, and endeavour to assist Nature, by giving such warming *cardiac*, or *alexipharmic Medicines*, as are suitable to the Patient's Age and Degree of the Fever present: But it may be observed, that the *volatile, caustic, alkalious Salts* and *Spirits*, as *Sal & Spir. C. C. vol. Sp. & Sal. Ammon.* &c. are very improper, and even pernicious in this Distemper, especially in its latter *Stadia*, however useful they may be in some other Diseases; since they contribute to increase the putrescent State of the Fluids, which are but too much tending that way already, from the Nature of the Disease itself, especially in the putrid second Fever, as will be more fully explained hereafter.

℞ *Lap. Contrayerv.* ℈j. *Croci Anglic. pulv. gr. vj. Theriac. Venet.* ʒß, *Syr. Croci q. s. f. Bol. cum Haustu sequent. sumend. & pro re nata repetend.*

℞ *Aq. Lactis Alex.* ℥iß. *Theriacal. cum Acid.* ℥ß. *Syr. e Mecon.* ʒiij. *F. Haust.*

Vel, ℞ *Lap. Contrayerv.* ℈j. *Rad. Angel. pulv. gr. xv. Croci gr. vj. Confec. Alkerm. q. s. f. Bol. cum Haustu sequent. exhibend.*

℞ *Aq.*

℞ *Aq. Menthæ, Vini Canarienſ. Syr. e Mecon. ana ℥j. Spir. Vitrioli, gut. viij. f. Hauſtus.*

Theſe for Adults.

Such a like warming Medicine, with *Anodynes*, will often do Wonders in this Circumſtance, if at the ſame time they dilute well with proper Liquids, as *Rheniſh-whey*, or *Sack-whey* acidulated: The *Cardiacs* increaſe the Heat and raiſe the Fever, by gently exciting the Action of the Nervous Syſtem; the *Diluents* preſerve the Fluidity of the Juices, whereby they are propell'd with leſs Expence of Strength; and the *Anodynes* contribute to the Regularity of their Motion, by abating the *Stimulus*. But we ſhould be cautious in repeating theſe *Cardiacs*; for the Fever is ſometimes eaſily raiſed too high, at this *Stadium* of the Diſeaſe. As the Suppuration proceeds, and the Second Fever comes on, *antiputreſcent Medicines*, i. e. ſuch as reſiſt the Putrefaction of our Fluids, muſt be added to the former, and ſuch all Acids are eſteemed to be; but in this time of the Diſeaſe (except in the *Bleeding-Pox*) the vegetable Acids are preferable; as they both cool and attenuate, as well as prevent the Putrefaction of the Fluids. *Juice of Lemons, Oranges, Limes, Crem. Tart.* and *perfect Vinegar* made from *Wine*, are the chief of this Tribe, the laſt eſpecially.

§. IX.

§. IX. If *Vesicatories* can ever be of Service in the *Small-Pox*, it must be in this Case; but I believe that few Examples of their Use, even here, are to be found. In looking over the Histories of *variolous* Patients, wrote by Persons of Accuracy and Judgment, it will not often occur that Blisters have produced any considerable Change for the better. Their Use is now become so common, and imprudently promiscuous, (and this not amongst the Vulgar alone) that upon every Appearance of a Fever the Skin must be torn off by a Vesicatory, tho' the true Indications very often forbid it; and thus they aggravate the very Evil they were intended to remove.

From as much as we know of the Nature of this Disease and the Effects of Blisters, if Ratiocination is at all allowed in Medicine, we must necessarily conclude, that they are generally, if not always, improper in the *First*; are seldom useful in the *Second*; and oftener are applied, than Advantage reaped from them in this *Third* Stage of the Disease, except as Revellents.

The only Cases in the present Situation, in which they can be rationally prescribed, are, in my Opinion the following; *viz.* where the Patient is of a lax, weak Habit, the Pulse low, weak and depressed, and the Fever insufficient for the Expulsion and Suppuration of the Pustules, thro' mere Weakness of the Solids, and Viscidity of the Fluids; or where

where the remote Parts of the Body are cold, and the Eruption is thereupon ſtopp'd, or the Puſtules receded in the *Second Stage*. Or when the Swellings of the Face, Hands or Feet, in the *Third Stage*, riſe not at the proper Time, or too ſuddenly ſubſide, and Nature ſinks under the Load; or where the *Ptyaliſm* ſuddenly ſtops before its uſual Period, or a *Coma* or *comatous Delirium* from a Viſcidity of the Fluids appears, or an Afflux of theſe to the Brain; or if the Fever is too low; in theſe Circumſtances, I ſay, Bliſtering freely muſt be of Service, and for the very ſame Reaſons that muſt always render them injurious in every Stage of the genuine inflammatory *Small-Pox*, except, as we took Notice before, they are uſed as Revellents; it being evident, from the Stranguries, feveriſh Heats, Reſtleſſneſs and continual Thirſt, almoſt always attending the Operation of *Veſicatories*, that the active and corroſive Salts of the *Cantharides*, when mix'd with the Blood in the Courſe of Circulation, certainly increaſe its Velocity, and render the Inflammation more violent.

CHAP.

CHAP. VIII.

Of the SECOND FEVER; *its Cause, Nature, and Method of Cure.*

§. I.
IT is called the *Second Fever* in Distinction from the *First*; as it succeeds that, and is of a different Nature, and proceeds from as different a Cause: The First arises from the Stimulation of the *Miasmata* and Suppuration of the Pustules, as is demonstrated already; but this, from an Obstruction and Retention of the perspirable Matter, and an Absorption of the putrid *variolous Sanies* from the Pustules into the circulating Blood, which is now in an inflamed sizy State, the Effect of the primary Fever.

§. II. For when the *Small-Pox* are of a malignant Kind, and the Pustules so many that they cover most Part of the Surface of the Body, the greatest Part of the perspiratory Pores are obstructed; and consequently the

the Matter which ought to be carried off by insensible Perspiration, must be retained in the Blood; whence the Quantity of the circulating Fluids will be daily increased, as Perspiration diminishes; unless some of the other Excretions, as those by Urine, *Saliva, &c.* be so much increased, as to equal that Retention; which I believe rarely or never happens when the Pustules are very numerous. And if we consider how great the Quantity of this Matter must be, which is daily carried off by those imperceptible Pores, which are so numerous, that *Leeuwenhoek* (*a*) computes there are 20000 of them in the Space which a Grain of common Sand will cover, most of which are in this Case obstructed, and cover'd with the Pustules and Scabs: How great a Change must this produce in the Body? But let this Computation of *Leeuwenhoek*'s be true or false, I shall only presume, that there are such perspiratory Pores; and that it is found by Statical Experiments, that there is a Quantity of Matter perspired in the Space of twenty-four Hours, by a common middle-siz'd Man in Health, equal to half a Pound in the Winter Season, and to three Pounds in our warmest Summers in *England*, as Dr. *Keil* makes it (*b*). Tho' Dr. *Robinson* (*c*) found the Quantity per-

(*a*) Experim. & Contemp. Vol. I. p. 48. (*b*) Keil Med. Static. Britann. Aph. 17, 18, 19, 39.
(*c*) Treatise on Animal Oeconomy, Prop. 32.

ſpired in twenty-four Hours to be from about twenty-nine Ounces in Winter, to fifty-two Ounces in Summer in *Dublin*. But as the moſt accurate *Statical* Experiments made in our Climate, are probably thoſe publiſhed by Dr. *Rogers* of *Cork*, I ſhall take my Calculation from thence: It being difficult to reconcile the wide Computations of theſe Gentlemen; for no Allowances which we can reaſonably make, for the Diſtance of *Northampton*, *Dublin* and *Cork*, from each other, or their different Situations, will be ſufficient; the Difference of Conſtitution, and Variation in Repletion and Exerciſe, and Accuracy of Experiments, muſt make up the reſt: In this laſt reſpect I believe Dr. *Rogers* is preferable to the others. From whoſe Experiments it appears that the greateſt Quantity perſpired in 24 Hours in Summer was 93 Ounces, and the leaſt 33; which added together make 126 Ounces, the Half of which is 63; and is a proper *Medium* for the Summus daily Perſpiration: The greateſt Diſcharge by the Pores in Winter amounted to 60 Ounces, and the Leaſt 42; theſe added make 102 Ounces, the Half whereof, 51, is a proper Medium for the Winter's Perſpiration in the 24 Hours.

Dr. *Keil* ſays (*d*), that the Perſpiration which is encouraged by a good Fire, or a warm Room in Winter, is not inferior to the

(*d*) Keill ibid. Aph. 16.

Quantity

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diminished, we will suppose that the Excretions by *Saliva*, Urine, *&c.* are increased in this Case 36 Ounces above their usual Quantities: Which Augmentation is, I believe, more than what commonly happens, especially towards the latter End of the Disease, when the thinner Part of the Fluids being wasted, the *Saliva*, *&c.* grow viscid and clammy: Therefore the Mass of *circulating Fluids* will be augmented 9 *Ounces* in every 24 Hours; in 3 Days 27, and in 6 54 Ounces; and consequently a *Plethora*, or Plenitude of *cacochymical Humours*, must unavoidably attend this State of the Disease. Hence the Usefulness appears of a diligent Attention to the Quantities that are daily evacuated by the Mouth, by Urine or Stool; and to the Proportion they bear to the *Ingesta*, during the Course of this Disease: For by observing the Excesses or Diminutions of these, and comparing them with the other Circumstances of the Patient; we may *judge* with more Certainty both *when*, and *what*, Evacuations are necessary; when also the spontaneous Evacuations are to be restrain'd, and when to be promoted; carefully observing by no means to interrupt or retard the critical Efforts of Nature, as this Salivation and Loosenes most commonly are.

§. III. This preternatural Increase of the Fluids from a Retention of the perspirable Matter, is not the only Cause of the second Fever,

Fever, conſidering it barely as an Addition to the *moles movendorum*; but by its too long Stay in the Body, its Texture is gradually changed, and it becomes a kind of morbid Ferment to the reſt of the Fluids. The perſpirable Matter is that Part of the Maſs of Fluids, which has longeſt undergone the Alterations enſuing from a continual and rapid Motion, is moſt of all changed into the Nature of an animal Subſtance, of any in the Body, and will conſequently be moſt liable to ſuffer that Change, to which all animal Subſtances both Fluid and Solid are propenſe, *viz. Putrefaction.* Whoever will give himſelf the Pains to examine the Thing by Experiment, will find, that any animal Fluid, if it be expoſed to a Degree of Heat for ſome time, equal to that of a Perſon in this Diſeaſe, or even much leſs, will be gradually changed from its naturally *ſmooth, balſamic* Condition, into an *acrid, purulent, fetid* one; its Salts from being *bland, ammoniacal* and *half-fixed,* will become *pungent* and *volatile*; and their ſoft *inodorous* Oil will acquire a very great Sharpneſs and an intolerable *Fœtor* (*). All extravaſated ſtagnating Fluids in our Bodies under the ſame Conditions, will unavoidably ſuffer the ſame Changes; and even thoſe which are yet in

(*) Vide Boerh. Aphor. §. 82. 100. 406. 1400. Et Elem. Chem. in Exper. de Sang.

Motion, the longer they are retain'd, will more nearly approach to the same Condition. The perspirable Matter then, upon so long a Retention, will have acquired a greater or less Degree of this Putrescency, according as the preceding Causes of such a Change have been more or less vehement, and will become acrid and corrosive. This being mixed with the thinnest Part of the *variolous Matter* continually taken up by the *absorbent lymphatic Veins*, (now lying open under the Pustules which at this time cover the whole Body with a kind of putrid Bath) it is return'd to the circulating Mass, which is now in an inflammatory sizy State, produced by the first Fever, as was mentioned before. These putrid Humours, dispersed by Circulation thro' the whole vascular System, must every Moment be applied to the sensible nervous Fibres of the Heart and Arteries, and excite a more frequent, as well as a more violent, Contraction; whence the *Velocity* and *Momentum* of the Blood will be increased, and the Fever augmented, in proportion to the Vehemence of the already mentioned Causes; which continuing to act, must so increase the inflammatory Disposition of the Blood, as to render it unfit for due Circulation and Secretion, and incapable to pass through the minute Vessels without producing fresh Obstructions and Inflammations, which will be

be more destructive to the Parts where this Lodgment is made, as the Matter is every Moment rendered more acrid and corrosive, by the increased Heat promoting its spontaneous Tendency to Putrefaction, upon which it already borders. This Vitiation in Quantity, Quality and Motion, (the only Ways in which it can possibly be vitiated (*a*),) is sometimes so extreme, as to produce, besides every Species of topical Inflammations, as *Phrensies, Pleurisies, Inflammations of the salival Glands, of the Kidneys*, &c. *Dysenteries, Consumptions, Apostemations, putrid Ulcers, incurable Fistula's, Gangrenes, Sphacelus* and *Death.*

Fernelius describes the shocking Appearance which this Disease sometimes Occasions, in a very moving manner: *Morbi fœditas* says he (*b*), *tam deformis aliquando visa, ut occæcatis oculis, universa cutis in squamas fœtidas & crustas ingentes solveretur: corpus omne non aliter contabesceret, & macie nigroreq; torreretur, quam si menses quatuor e furca pependisset.*

§. IV. When therefore this Fever is present, the whole nervous System will be necessarily affected, from the violent Irritation which the Acrimony occasions; whence universal Spasms are produced, whereby Nature

(*a*) Bellini de Febrib. Prop. 23. (*b*) Fern. de abdit. Rer. Caus. l. ii. c. 12.

endeavours to cast this oppressive Load of morbid Humours on one Part of the Body or other, where-ever the *Momentum* of these most exceeds the resisting Force of the Vessels, or where some Obstructions are already formed. Hence it is, that in different Constitutions, it falls on different Parts of the Body, and so forms new Obstructions, with all its Consequences enumerated in the preceding Section.

§. V. From all which (§. 1. 2. 3. 4.) it follows; that as the greater or less Violence of this Disease, in its two first Stages, proceeds from the different Degrees of Virulency of the Infection, and the greater or less Disposition of the Solids and Fluids of the Person infected to be *inflamed and putrefied:* So in this last State, or *second Fever*, the greater or less Danger will be as the greater or less *inflamed State* of the *Blood* from the first Fever, the greater or less Number of Pustules and perspiratory Pores obstructed, the greater or less Virulency and Quantity of the putrid Matter absorbed conjunctly, and the Strength of the Patient reciprocally.

From hence also the Reasons appear, why this *second Fever* is the most fatal Time of the Disease; why some Evacuations are absolutely necessary when the Fever is violent; and why those who have but few Pustules, and of a benign Kind, have no *second Fever:* Also why

why the good or bad Succeſs in curing this Diſeaſe, depends ſo much on a right or wrong Method of treating the Sick in its firſt *Stadia:* And laſtly, why the Methods of preparing the Body before, and treating the Patient after, the Infection, as propoſed in *Chap.* 6. are judg'd to be neceſſary.

§. VI. Theſe then (§. 1, 2, 3, 4.) being the Cauſes, and this the true State of the *ſecond Fever*, we muſt from thence form the Intentions of Cure; which to me appear to be,

Firſt, *to prevent the Production and Increaſe of theſe acrid cacochymical Humours, as much as poſſible.*

Secondly, *To hinder the Return of the purulent variolous Matter from the Puſtules into the Blood.*

Thirdly, *To correct and change the morbid Condition of the Fluids, and reduce them as near to their natural State as we can.*

Fourthly, *To evacuate the redundant Quantity of theſe morbid Humours.* And,

Fifthly, *To remove the Inflammation, whether general or topical; and to ſtop the great Tendency of the animal Juices to Putrefaction.*

§. VII. The firſt Intention then, which is to *prevent the Production and Increaſe of theſe morbid Humours.* This is ſuppoſing the Phyſician to be called in due time, ſince the Management of the Sick in the firſt Stages will contribute

contribute very much to ſecure his Patient from Danger at this time, or otherwiſe to perplex them both; a liberal Uſe of ſmooth, blunting, cooling Liquids, of a Nature oppoſite to that of Putrefaction, and Medicines conducing to the ſame End, of which ſome Examples have already been given; together with ſuch Evacuations as the Circumſtances have, thro' the Courſe of the Diſeaſe, ſhewn to be neceſſary, appear to be the moſt reaſonable Methods to hinder the Production, as well as to retard the Increaſe of ſuch *peccant Humours*.

§. VIII. The ſecond Intention is, to *prevent the Return of the variolous Matter from the Puſtules into the Blood.* This I apprehend will be the moſt effectually done by keeping the Pulſe and Fever regular, and moderately brisk; ſo that the violent Irritation may not produce thoſe univerſal *Spaſms* which probably are the greateſt Cauſe of this Return of the *variolous Matter* into the Blood (*c*); alſo by *opening the Puſtules*, eſpecially when they are very numerous, and are filled with an *Ichor* or *Sanies*, and having this gently wiped away; which will be of ſingular Service, both as it effectually prevents its Re-

(*c*) Spaſmi efficiunt, ut non bonis certè ægrotantium rebus ex ſummâ cute, quæ jam depoſita ibi erant excrementa, ad ſanguinis maſſam, parteſq; nervoſas, periculoſe admodum repellantur. *Hoffm. Med. Rat. Syſt. T. 2. p. 70.*

turn

turn into the Blood, and gives more Liberty for the perſpirable Matter to paſs off; and conſequently muſt contribute very much towards anſwering both theſe firſt Intentions of Cure. This is a Practice which has been ſo much neglected for ſeveral Ages, even from the time of the old *Arabian* Writers, that many may think it new; which it really is not, for it ſeems to have been a conſtant Practice in *Avicenna*'s Days, who directs us to *open the Puſtules when ripe, and the Seventh Day is over, with Needles of Gold and to wipe off the Matter with Cotton* (*i*). But a Lancet may do better; for if the *Pus* be but taken away, 'tis no matter how the Puſtules are opened, if it be but eaſily done; we do the ſame thing in all other ſuppurated Tumours, and it ſeems no leſs neceſſary in this Diſeaſe. But waſhing after it, with ſalt Water and Reſtringents, as *Avicenna* adviſes (*k*), or the Uſe of dry Fumigations, to dry up the Puſtules into Scabs, as *Rhazis* and *Hali-Abbas* would perſuade us (*l*), I fear may be hurtful; as they will cloſe the Pores, ſtop the Perſpiration, may increaſe the Pain and Fever, and be troubleſome and offenſive to the ſick Perſon alſo.

(*i*) Quando egrediuntur voriolæ cum complemento, et pertranſit ſeptimus dies, et apparet in eo maturatio, tunc neceſſe eſt ut rumpantur cum acubus de auro, et auferatur humiditas cum Cotto. Canon. Med. Vol. 2. Fen. 1. p. 59.

(*k*) Ibid. p. 75, 76. (*l*) Rhazis. de Peſtil. C. 9, 10. ad Almanſor. L. 10. C. 18. Hali-Abbas Practica.

But

But whether applying emollient relaxing Fomentations to the whole Body after opening the Pustules, to cool, cleanse and open the Pores, and encourage the Perspiration, may not be of great Service in these Circumstances, I shall propose as a thing not unworthy of the Consideration of the Faculty: Also whether it may not be safely practised in our Country, especially in the warmer Seasons of the Year, without Danger of the Patient's catching Cold, as some may probably apprehend?

§. IX. The third Intention, which is, *To correct and change the putrid stimulating Nature of those Humours, when mixed with the circulating Blood*, &c. It appears from what is said before, that this second Fever is chiefly caused and increased by the Retention of the perspirable Matter, and the Admission of the putrid variolous *Ichor* from the Pustules into the Blood. The Heat must continually increase this putrescent Disposition of our Fluids, and render them still more putrid, and consequently produce various and direful Effects. This *Plethora* consists more, if not solely, of an Increase of the thinner aqueous or serous Particles, than of the red Globules of the Blood; and consequently is most adapted to be discharged by some of the aqueous or serous Excretions. These Excretions are Perspiration, Sweat, *Saliva*, Urine, and

and the Diſcharge through the Inteſtinal Glands. But in the preſent Circumſtances the two Firſt, *viz.* Perſpiration and Sweat, are ſo obſtructed, that a Diſcharge that way is impracticable. The Second, *viz.* by the Salivary Glands, is what Nature always attempts in this Caſe, when the former are very much obſtructed; but when theſe Obſtructions are almoſt general, as is the Caſe when the Puſtules are numerous, this Diſcharge is moſt commonly inſufficient; either from the Viſcidity of the Humours to be diſcharged, or from the Obſtruction and Swelling of thoſe Glands, eſpecially when the Diſeaſe is violent; neither is a greater Increaſe of that Diſcharge, in this Caſe, either ſafe or practicable; ſince thoſe Medicines, *viz.* Mercurials, which are only to be depended on to promote that Diſcharge, can't be ſafely given at this time, it being well known that they excite a Fever when given to raiſe a Salivation, tho' no Fever precedes the giving them; conſequently they would very much increaſe this Fever, and perhaps cauſe a fatal Afflux of the putrid Humours to the Head and Brain. The Third is by *Urine*; the Evacuation whereof is generally increaſed in order to carry off the Redundancy cauſed by the Obſtruction of the other; but when the Retention of the perſpirable Matter, and conſequent Plenitude of putrid Humours, are ſo great, as too often they

are

are at this time, the Attempts to discharge it this way prove as frequently insufficient and ineffectual; and sometimes we observe, that Nature by throwing too great a Load of these Humours upon the Kidneys, produces a *Nephritis* or Inflammation of the Kidneys, with frequent Discharges of small Quantities of clear pale Urine, followed with a Suffocation of those Vessels, and Death. To attempt then to increase this Discharge by strong *Diuretics*, must increase the Afflux of Humours, and thereby the Disorder. Neither are *diuretic Medicines* so certain or speedy in their Operation, or the Discharge they make so considerable, as to be depended upon in this urgent Case. It remains then to be considered, how far *Cathartics* will here be of Service.

An almost infinite Number of Glands are dispersed thro' the Cavity of the Intestines, which continually ouze out a Quantity of Fluid, greater or less, as the known Causes of Secretion are more or less, active. But from the Number of Blood-vessels dispersed thro' the whole Course of the Intestines, and the Quantity of Fluids sometimes occasionally evacuated by the *Anus*, we are certain that an Excretion this way may be procured, superior to that of any Emunctory in the whole Body. It is obvious that the Medicines which are used for exciting this Evacuation, are more under our Command, than any of those which are applied

plied in promoting the other Evacuations; ſince their Action can always be increaſed as much as we pleaſe, and can be more eaſily reſtrained than any of the reſt.

Beſides, we are in much leſs Danger of exciting an Afflux of cacochymical Humours to the Vitals, ſince 'tis allowed that an effectual Revulſion from the Head and ſuperior Parts, may be made by the *Alvus*; the Glands here are likewiſe more detach'd from each other than in the Kidneys; the Veſſels are deſign'd for the Secretion of a thicker Fluid than Urine; the Cavity of the Inteſtines is more defended with *Mucus*, and conſequently, the Hazard of bringing on an Inflammation of the Bowels, is leſs than of the Kidneys; or if they ſhould be in Danger, the Application of Remedies is eaſier, ſince they go directly without being changed by the Circulation to the Part affected. We are likewiſe not void of Inſtances of the good Effects of Cathartics in this State of Things (*a*). We may therefore, whenever this Redundancy of peccant Humours is the Cauſe of theſe threatening Symptoms, attempt to remove them by procuring a Diſcharge by Stool.

§. X. If then the Fever is violent, the parching Heat and Reſtleſſneſs exceſſive, the Breathing quick and laborious, the Pulſe

(*a*) Vide D. Freind, Epiſtol. de Purg. &c. & in Comment. to de Febrib. D. Mead, in Epiſtol. ad D. Freind, ibid.

ſmall,

small, quick, or undulating, with a sudden Abatement of the Swelling of either Face, Hands or Feet, we may be certain that Nature will speedily succumb, unless she is suddenly relieved. In the first Place then, let a cooling Clyster be injected (to avoid all Imputation of Rashness, if the Case will admit of so much Delay) which being rejected, again carefully examine the Symptoms; if the Heat, Restlessness and Anxiety are diminished, if the Pulse is more full and equal, in a few Hours time, let a Cathartic like the following be given:

℞ *Fruct. Tamarind* ℥ß. *Crem. Tart.* ʒj. *Sal. Polychrest.* ℈j. *Leniter coquantur in Aq. Font per* $\frac{1}{16}$ *horæ. Dein colentur* ℥iv. *Colaturæ adde Tinct. Rhabarb. sine Vino,* ℥j. *f. Potio Cathart.*

A few Spoonfuls of a grateful Cordial may be given during the Operation to very good Purpose, with soft cooling Accescents. After proceeding in this manner, I have frequently had Occasion to remark the good Effects of this Method; the Fever has become moderate, the Inquietude has ceased, the Extremities have moderately swell'd, and the Disease has proceeded regularly. It is easy to conceive how the Feet should again swell, and the Pustules be filled, from an Evacuation, as well as the other Symptoms abate;

if

if we consider the Occasion of their subsiding, which was doubtless a spasmodic Contraction of the external Parts, brought on both by the acrid *Indoles* of the Matter, and the painful Tension of the Vessels, occasioned by an Excess of the Quantity of it; nothing (as was before observed, (*p.* 106.) more effectually returning the morbid Matter, collected in the subcutaneous Vessels in these Diseases, into the Blood, than such spasmodic Affections. When therefore the irritating Cause is removed, the Quantity lessened, and the Action of the nervous System invigorated by a generous temperate Cordial, 'tis no Wonder that the Effects cease, and every thing returns to its proper Order. *Anodynes* will now also be of singular Service; they will abate so much of the Fever as is owing to the Irritation, and on this account are the best *Anti-spasmodics*, as well as *Febrifuges*; and as they generally promote the Flow of Humours to the Surface, they will also contribute towards filling the Pustules, and raising the Swellings of the Extremities, and must by no means be omitted after the Operation of the Cathartic is finished, in order to allay the Hurry of Spirits, which the *Cathartic* may possibly occasion.

As the *Crisis* of this Disease draws near, or about the eighth or Tenth Day, when the burning Heat, Restlessness and all the febrile Symptoms increase, and are extremely urgent, Opi-

ates are then to be call'd to our Assistance, and to be repeated every 8, 10, or 12 Hours, as the Case requires. *Syr. de Mecon.* is the most suitable Anodyne, as it is the softest, and rarefies the least, of any Opiate we know of.

It is almost needless to enter into a Disquisition of that Question, so long agitated amongst several eminent Writers, about the *Time when* Cathartics may with Safety be given in this Disease. I think Dr. *Freind's* Opinion is perfectly right, when he says, (*b*) *In hoc casu non tam dies curiosius numerandi, quam cubantis conditio expendenda; siquidem medicina non ad temporis mensuram, sed ad morbi momenta, accommodari debet; et quo celerius gravia hæc mala corripiunt, eo maturius quoq; auxilia rapienda sunt.* Therefore in some Cases we may omit Purging till after the thirteenth Day, as *Sydenham* advises; in other Cases we may observe Dr. *Freind's* Admonition of Purging, *ubi semel exaruerint pustulæ*; which if taken to signify the Pustules in general, will not be before the Thirteenth; if only upon the Face, it may sometimes be the Ninth or Tenth; at which Times he assures us he has purg'd with Success. But the Magnitude of the Disease, and Vehemence of the Symptoms, can only indicate *when* an Evacuation is necessary; the Manner how, is sufficiently spoke to.

(*b*) Epist. de purgant. in Var. *&c.* p. 24.

§. XI.

§. XI. It frequently happens in the laſt Stage of this Diſeaſe, that through the Violence and Duration of the Fever, the Blood is ſo far deprived of its more liquid Parts, as to become unfit for regular Motion, and often produces *Inflammations* either *general* or *topical*; by removing which, *the fifth Intention* is anſwered: The Hardneſs of the Pulſe, the ſanguine Conſtitution of the Patient, and the uſual febrile Symptoms in the firſt Caſe, and the particular Attendants of a topical Inflammation, as acute Pain in the Side, if 'tis a Pleuriſy, Swelling and Pain in the Throat, if a Quinzy, eaſily diſtinguiſh it from the preceding Diſorder; in this Caſe we muſt, if the Symptoms are urgent, have recourſe to the uſual Method of treating theſe Diſorders (*c*); we muſt, notwithſtanding the Diſeaſe is advanced, leſſen the Quantity of Blood, in order to abate its *Momentum*, and leſſen the Diſtenſion of the Veſſels, and make way for the Aſſiſtance of diluting *Antiphlogiſtics*. We don't always leſſen the Strength of our Patient by taking away Blood; the Vigour of each Individual not conſiſting in the Quantity of Blood, nor merely in the Elaſticity of his

(*c*) Verum ubi vehemens febris accenſa ſævit, & ſymptomata varia invaleſcunt, ne dubites miſſione ſanguinis naturæ ſuppetias ferre: virium non ita nimis religioſa habenda ratio, ſæpe ab ipsâ ſanguinis copiâ omnis dependet. Uno verbo, conſilio omnia moderanda ſunt, nec propter abuſum ſtatim tollendus eſt uſus. Drelinc. Diſſert. de Variol.

Solids, but in a due Proportion of the one to the other, or an exact *Equilibrium* between them. Wherefore the Pulse may be low and oppressed, from this Plenitude; and upon taking 6, 8, 10, 12, 16 or 20 Ounces of Blood, according to the Condition of the Sick, they will be so far from being weakened, that they will find themselves relieved and strengthened by it, and their Pulse will beat with more Freedom and Strength after Bleeding. But the Physician must in this Case carefully distinguish between an oppressed low, and a depressed weak Pulse; and when he finds the first, with the abovesaid *Plethora*, or the Pulse to be strong, quick and hard, with any of the abovesaid Symptoms and Circumstances, he will find it not only necessary, but the most successful Thing he can prescribe.

§. XII. In these Cases likewise, the Application of suitable Fomentations, to the inflamed and swell'd Part; as to the Throat in a Quinzy, *&c.* are of singular Service, if timely applied, and sufficiently continued; as they dissolve and discuss the viscid Humours, and help to make the Revulsion by Bleeding more effectual: The Rules in Bleeding before-mentioned, being observed.

§. XIII. As to *cardiac* and *alexipharmic Medicines*, I think they are much oftener given than required in this Disease: And parti-

particularly all the *Teſtaceous Tribe*, which are imaginarily given as ſuch. I have long ſuſpected the *Reaſons* and *Grounds* upon which they are ſo frequently preſcribed in *this*, and moſt other *Fevers*, eſpecially of the *putrid* Kind; and I think they will ſcarce bear the Teſt of a ſtrict Examination, or be found to be of any real Service, except in ſome Childrens Caſes, and thoſe of ſome over-delicate Conſtitutions, where an Acidity is to be corrected; in theſe Caſes they are very uſeful Medicines. But in the *Small-Pox*, both theſe and all the *Tribe of Alkalious*, *Cauſtic*, *Volatile*, *Salts and Spirits*, &c. as alſo all the inflaming ſpirituous Juleps, *&c.* are highly prejudicial to moſt Conſtitutions, in the preceding Stages of this Diſeaſe, but abſolutely ſo in this laſt, as they more or leſs increaſe the putreſcent *Diatheſis* of the Juices, eſpecially all the alcalious Claſs.

When therefore a Cordial is neceſſary, if the Patient be ſick or faint, either upon making any Evacuations, or the Sinking of the Puſtules from the Slackneſs of the Fever, or from a Deficiency of natural Strength, or, which is often the Caſe towards the Concluſion of the Diſeaſe, from the nauſeous putrid Vapours in which he continually breathes, a *Cardiac* muſt be exhibited, and ſuch an one as deſerves the Name. A Glaſs of Sack diluted with *Aqua Menth.* or *Cinam. Ten.* or

alone, if the Patient has been used to it, will answer the Intention very well, or the following;

℞ *Pulv. Rad. Angel. Hisp. Contrayerv. Tart. Vitriolat. ana gr. vj. Croci. Angl. gr. vj. Conf. Alkerm. q. s. f. Bolus.*

Vel, ℞ *Ther. Androm.* ʒß. *Croc. Ang. pulv. gr. vj. Tart. Vitriol.* ∋ß. *f. Bol.*

℞ *Aq. Lact. Alex. Menth. Vin. Canariens. ana* ℥*iij. Aq. Theriac. cum acid.* ℥*j. Tinct. Croc.* ʒ*iij. Sp. Nit. D.* ʒ*ij. Succi Aurant. Syr. e Mecon. ana* ℥*j. f. Julap.*

Either of the Bolus's may be given, as the Case requires, every five or six Hours, with three or four Spoonfuls of the Julep; which may also be exhibited in Faintings, varying the Acids or Anodyne *pro re nata.*

§. XIV. The *Ptyalism*, which is a constant Companion of the Confluent, and often of the contiguous *Small-Pox*, is the Effect of the Obstruction of the subcuticular Glands and perspiratory Pores, and sometimes of the colliquative putrescent State of the Fluids; whence Nature being unable to discharge the perspirable Matter by its natural Way, endeavours to do it by the salivary Glands and Kidneys; wherefore it is thin, and got up in large

large Quantities in the Beginning of the Diſeaſe; but about the ninth or tenth Day, ſometimes ſooner, it grows thick and clammy, ſo that it is got up with Difficulty, and often threatens a Suffocation; in which Caſe, if Gargles and Syringing the Mouth and Throat don't relieve, I have found a gentle Puke of *Oxymel* or *Acet. Scillitic.* to be of ſingular Service, and has made the Patient breathe with more Eaſe and Freedom; and by giving them afterwards in ſmall Quantities, mix'd with any proper Liquid, diluting plentifully at the ſame time, and fomenting the Glands of the Throat, the Patient has been much relieved, till a Clyſter or Cathartic could be ſafely given to diſcharge the Load of Humours that way.

§. XV. I confeſs that I can't conceive from whence that timorous Heſitation proceeds, that deters ſeveral Phyſicians from all Evacuations after the Eruption in this Diſeaſe, let the Circumſtances be never ſo urgent. Their Fear of making a Revulſion of the putrid Matter from the Circumference, to the internal Parts of the Body, which they imagine Purging muſt always do, is, I think, not well grounded. I grant that while there is a reaſonable Proſpect of diſcharging the Matter by the Surface and Extremities, it is ſafeſt, and moſt agreeable to the common Courſe, to promote it; but when the Load of Humours is ſuch, that a Quantity is already

thrown upon the Surface, greater than the Veſſels can contain without ſome Danger of ſtopping the Circulation, as 'tis plain they often are, the excretory Pores ſo much obſtructed that little can be diſcharged that way, and the Fever, and its Symptoms, are already become violent by the Attempts made to caſt it off that way; 'tis evident that heating Alexipharmic Medicines given to aſſiſt Nature (as is pretended) muſt be ſo far from effecting it, that they will increaſe all theſe; and by urging Nature to do what is impoſſible, produce a total Suffocation of thoſe obſtructed Veſſels, Gangrenes and Death.

§. XVI. I have often ſuſpected, that the Looſeneſs attending Children in this Diſeaſe, is is not ſo much owing to a ſpontaneous Tendency of the Humours to the inteſtinal Glands, or from a Weakneſs of theſe; as it is the Effect of the *Miaſmata*, or putrid Matter, ſecreted from the Blood, and diſcharged with the *Saliva*; which being ſwallowed, and paſſing into the Stomach and Inteſtines, it ſtimulates their tender Coats as Purgatives do, and ſo cauſes the Looſeneſs; and conſequently is ſomething more like to *Art*, than a critical Diſcharge of Nature. This I ſhall not aſſert, but leave it to further Obſervation; but, which way ſoever it be, as this Looſeneſs is ſalutiferous, Nature thereby (as well as by Hæmorrhages) ſhews us the way we ought to follow her.

§. XVI.

§. XVII. This putrid Fever, ſometimes at the latter End of the Diſeaſe, will make Returns like a remitting, and at other times with an ἀπυρεξία, like an intermitting Fever: In which Caſe, ſome Moderns have adviſed the *Bark*; which I do not approve of: For as it contracts the Fibres, and diminiſhes all the Excretions, the putrid malignant Matter muſt thereby be detained in the Blood, and be of bad Conſequence. In this Caſe I think that a ſuitable Purge or two, and a liberal Uſe of *Elix. Vitrioli Mynſichti*, with gentle Cardiac Bitters, may anſwer the End much better; with a good nutritious Diet.

§. XVIII. Sometimes it happens, that when the Puſtules are well filled, and come to Maturity, and all things ſeem to go well; that on a ſudden, without any manifeſt Cauſe preceding, the Matter in the Puſtules has ſuddenly diſappeared, and returned into the Blood, whence the Patient has been oppreſſed with Sickneſs and Faintneſs, *&c.* I have twice met with ſuch a Caſe, where in one on the eighth, the other on the eleventh Day, the Matter vaniſhed on a ſudden, ſo that little or none was left in them, and the white Skin which covered moſt of them was ſhrunk up; others remained empty like little Air-bladders; yet by the Uſe of gentle *Carthartics*, and a proper Antiputreſcent Cardiac given during the Operation of the Purges, they both happily recovered;

and

and the Places where the Pustules were, appeared in two or three Days time, as they usually do in three Weeks or a Month after. Dr. *Freind* mentions such a Case, where the Person recovered by his Assistance. *Epist. de Purg. in Variol. Hist. sexta.*

But when the *variolous Matter* is thus absorbed, and flowing with the Blood, fixes upon the Brain, the Lungs or the Heart, occasioning the utmost Anxiety, Convulsions or *Syncope*, with a small undulating trembling Pulse, *&c.* it is a deplorable State, which I fear is *ultra artis limites positus:* So that a Physician can do no more than declare Death to be at hand. *Siquidem ut invictæ materiæ vim copiamq; arguunt, ita naturæ succumbentis infirmitatem* (*d*).

(*d*) J. Steph. oper. p. 290.

CHAP.

CHAP. IX.

Of the BLEEDING SMALL-POX, *or those atttended with* PURPLE SPOTS *and* HÆMORRHAGES.

§. I. IT has been already obſerved, That all the Sorts of *Small-Pox* are eſſentially of the ſame Nature, and proceed from the ſame Cauſe; and that their different Kinds, Symptoms, Times of Duration and Degrees of Danger, proceed from the various Degrees of Virulency of the *Miaſmata*, the different epidemical Conſtitutions of Years, and the different Habit of the Perſons infected; to which may be added, the right or wrong Method of treating them in the firſt Stages of the Diſeaſe.

§. II. The *Bleeding Small-Pox* are the very worſt Sort, and ſeem to proceed from a Conjunction of ſeveral of theſe Cauſes, in their

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Sometimes a colliquative profuſe Salivation comes on thus ſoon; which is afterwards often mixed with Blood. Dr. *Fuller* ſays (*e*), he obſerved in the worſt Degree of this kind of *Small-Pox* that he ever ſaw, ſeveral pretty broad Spots exactly round, and of a very delicate fair blue Colour upon the Breaſt, Back and Face; which he takes to be like the *Tokens* in the Plague, real Mortifications, and moſt infallible Harbingers of Death: And he is certainly right; for theſe Spots, as well in this, as in ſome peſtilential Fevers, and the Plague itſelf, are of the ſame Nature; the Blood being ſo diſſolved, and its *Momentum* increaſed, that its red Globules paſs into ſuch Veſſels, as naturally don't admit them; whence they, and the adjoining Veſſels are obſtructed and quite ſuffocated, the Blood ſtagnates, and the Parts really mortify. Hence, the greater the Spots are, and the more in Number, *cæteris paribus*, the more certain is the Death of the Patient; and *e contrario*.

§. III. The *Hæmorrhages*, which accompany theſe *Petechiæ*, have three different Times of appearing. And the ſooner they come, *cæteris paribus*, the more violent they are and more certainly fatal; and *vice verſa*.

§. IV. The firſt of their Appearance is at the time of Eruption of the Puſtules, and moſt commonly the next Day after the Ap-

(*e*) Exanthematolog. p. 375.

pearance

pearance of the red Flushing above-mentioned; which are always mortal. For I have never once seen, or heard of any who recovered, when they came at this Time, and were of this Sort. The *Hæmorrhages* are either by the Urinary Passages, or by Stool, without much Pain or Griping; or from the Lungs, Mouth, Nose, Eyes or Ears; nay, sometimes even from the Pores of the Skin, and the Pustules themselves.

Upon this Effusion of Blood, the violent shooting Pains (§. II.) and most of the other grievous Symptoms, quite vanish, and the Sick find themselves pretty free from Complaints, (except the *Dyspnœa*, and Inflammation of the Eyes, which still continue) 'till they placidly expire. Blood taken from the Sick at this time, is of a florid red Colour, even more so, than the finest arterial Blood; from a general Dissolution and Attenuation of the red Globules which compose it.

§. V. The second time of Appearance of these *Petechiæ* and *Hæmorrhages*, is about the fifth or sixth Day after the Eruption of the Pustules, at the time when these should be filling and suppurating; but if the *Hæmorrhages* are excessive, and the *Petechiæ* numerous and large, the Pustules neither fill, nor regularly suppurate, as in the other Kinds of *Small-Pox*. And from hence may be deduc'd a fatal Prognostic; for our Patient hardly

ever

ever eſcapes, at leaſt I never heard of or knew any who did, when his Circumſtances are ſuch as are here deſcribed; and the nearer they approach to this Degree, the leſs Hope is to be conceived of a Recovery.

§. VI. The third time is about the ninth or tenth Day, and ſometimes not till the eleventh or twelfth, when the ſecond Fever comes on. In general, they are not at this time ſo certainly fatal, as in the precedeing Stages; and the ſame Prognoſtic obtains here, as in the other Periods, that the fewer *Petechiæ*, the leſs the *Hæmorrhages*, and the more Proſpect of the Patient's Recovery. Some few Inſtances there are of Perſons ſurviving this dangerous Condition, tho' very few.

§. VII. The *Ætiology* of theſe Symptoms will eaſily appear, on conſidering the *Phænomena* here deſcribed. They demonſtrate the extreme Comminution of the Fluids, eſpecially of the red globular Part, and that their Velocity is exceſſive. When they appear early in the Diſeaſe, the Cauſe is violent and acute, and a fatal Prognoſtic almoſt without Exception may be drawn from it. The later they ſhew themſelves, the more Hopes they afford of Succeſs in attempting to relieve them, ſince they now owe their Riſe, not entirely to the Activity of the infectious Particles, whoſe peculiar Antidote we are ignorant

rant of, but to other Causes, the Nature whereof we are better acquainted with: Such are in the last Seasons of their Appearance, or after the Accession of the second Fever, an increased Momentum of the Fluids, from an Increase of Quantity, and strong Irritation [§. 2. *Ch.* 8.]. From these, the Texture of the Blood is sometimes so extremely dissolved, as to be capable of entering not only the subtiler Part of the arterial System, *viz.* that Part which does not usually admit of Globules of red Blood; but even to pass through most of the Organs of Secretion, such as the Kidneys, the *salival* Glands, and even the *Perspiracula* of the Skin, either by tearing or dilating the Extremities of the tender Vessels; from the former proceed the *Petechiæ*, from the latter the *Hæmorrhages*.

§. VIII. As for the Cure of this most terrible Kind of *Small-Pox*; I must confess that I know none that is promising, or likely to be successful. Had the Method of preparing the Body, as before proposed (*Chap.* 6.) been applied, it would probably have prevented this calamitous Scene; and whilst I view the Miseries which the Patient labours under, and the Perplexities which a Physician tender of Life is involv'd in, I cannot but again recommend it, as being the most probable Method yet known of lessening the Number of these disastrous Cases. As to the

Method

Method of Cure, when these Rules have not been followed; and when the *Petechiæ* and *Hæmorrhages* are actually present; I heartily wish that I could promise and perform more than I can; for the most able and judicious Physicians, both ancient (*b*) and modern (*c*), have in this Case done little more than pronounce these Symptoms, whenever they appeared, so many certain Fore-runners of Death; lamenting at the same time the Imperfection of the Art, and the Loss of their Friends.

§. IX. But it is probable, that whatever Method or Medicines *will abate the Velocity, Heat, Rarefaction and Momentum, of the Blood, and incrassate and condense, or bring its constituent Globules into nearer Contact with each other*, will be proper in this Case.

§. X. How far Bleeding will be useful here, if any thing can, I think will readily be seen from what is said above. We shall by Bleeding lessen the Quantity of Blood, and consequently its Velocity, Heat and *Momentum*; if then the Patient's Condition admits of any Relief, it must be expected in part from a Remedy which answers so much of the Intention of Cure (*v. p. 72, &c.*) : The Urgency of Symptoms,

(*b*) *Vide* Rhazis, Haly-Abbas, & Avicenna, in locis citatis.

(*c*) Sydenhami Opera. Boerhaavii Aphoris. Freind, Epist. de Quibusd. Variol. & de Purg. Epist. Helvet. du petit Verol. Fuller's Exanthematalog. Douglas's Practical Essay, *&c.*

the Age and Strength of the Patient, must dictate the Quantity; tho' we are not to rely solely on this Aid.

Dr. *Freind* tells us (*e*), That he prescribed Bleeding, and repeated it, with Acids and Restringents agreeable to the Practice of the ancient *Arabians*, but is fearful that all our Endeavours are to no Purpose in this Case: And says, *That whatever Methods of Cure were attempted, yet no Person, as far as he could find, surmounted these difficult Circumstances attending this Disease* (*f*). Indeed if the Doctor only used such gentle Acids as the *Arabians* were acquainted with, I do not see how they could answer in this desperate Case; for though they might abate the Heat and Rarefaction, *&c.* yet they were too weak to do it effectually, or to stay the *Hæmorrhages*. For unless Bleeding and stronger acid *Styptics* than what the *Arabians* used, are administred in large Quantities at the first Appearance of these Symptoms, or before any considerable Loss of Blood has happened, I fear that neither they, nor any thing else will avail; especially when these Symptoms appear in the first Stage, are violent in the others, or have continued so long, that the Texture of the

(*e*) Epistol. de Quibusd. Variol. p. 15. (*f*) Neque enim quisquam, quæcunque per medendum experimenta agerentur, quantum mihi saltem videre contigit, hujusce morbi difficultates eluctatus est. Idem, pag. 17.

Blood

Blood is extremely diſſolved, the Orifices and Coats of the Veſſels torn and deſtroyed, and the Loſs of Blood is already great: For Bleeding is then too late, and may rather haſten than prevent the Death of the Patient: Hence Dr. *Cade* judiciouſly ſays, *That tho' Bleeding certainly relieves the Difficulty of Breathing, yet the bloody Urine (as often as it ſeizes the Sick in this Diſeaſe) is ſo far from being leſſened, that it is increaſed, and the Death of the Patient haſtened by it. But I have known* (ſays he) *this fatal Symptom removed, and the Life of the Sick a little prolonged, by giving* Camphire *twice a Day, with a large Quantity of Acids: But to confeſs the Truth, I never knew any one in the* Small-Pox *ſeized with this bloody Urine, that outlived the ſixteenth Day from the Eruption* (*g*). Here I apprehend, the good Effect which he found from giving *Camphor* and the *Acids* in large Quantities, was much more, if not ſolely, owing to the latter.

(*g*) Licet autem ſanguinis miſſio reſpirationi difficili ſubvenit, mictum tamen cruentum (quoties hoc morbo laborantes invadit) non modo non cohibet, ſed auget, & mortem in procinctu ſtantem accerſit. Hoc tamen funeſtum fati impendentis prænuntium (Camphora bis in die exhibita, & acidis largâ manu propinatis) amovi, ægroque brevi morituro ad tempus ſuccurri: ſed, ut vera fateor, ne unum quidem variolis affectum, cui urina cruenta fluxerit, diem decimumſextum ab eruptione ſupervixiſſe notavi. Apud D. Freind Comment. de Febrib. p. 96.

And Dr. *Fuller* speaks very cautiously of Bleeding in this Case; "Lest it should be "detrimental to the Character of the Physi- "cian: Yet he says that he has seen Bleeding "successful in these Circumstances, in the "last Stage of the Disease (*g*); but in the first "State, he says (*h*), neither it, nor any thing "else, can do any good at all; for such is "the Virulency of this variolous Matter, "when it is wrought up to the Height of "its Virosity, that it is more fatal, than even "the Plague itself; for it slays most certainly "without Fail, whereas the Pestilence hath "suffered some to escape: —— And that it "is contagious even from the very first Erup- "tion, if not before. And when any one "dies of this worst sort of *Small-Pox*, his "Flesh corrupts immediately (*i*)." As to the first Part of the Doctor's Observation, relating to Character, no one I believe will ever justly be blam'd, if in this Case he follow *Celsus*'s Advice, upon this very Topic of Bleeding in dubious Cases (*k*). With regard to what

(*g*) Exanthematalog. p. 380. (*h*) Idem, p. 379.
(*i*) Idem, ibid. p. 378. (*k*) Fieri tamen potest, ut morbus quidem id (*i. e.* venæsectionem) desideret, corpus vero vix pati posse videatur: sed, si nullum tamen appareat aliud auxilium, perituruſq; sit, qui laborat, nisi temerariâ quoq; viâ fuerit adjutus, in hoc statu boni medici est ostendere, quàm nulla spes sine sanguinis detractione sit; fateriq; quantus in hâc ipsâ re metus sit, & tum demum, si exigatur, sanguinem mittere. De quo dubitare in ejusmodi re non oportet. Satius est enim anceps auxilium experiri, quam nullum. Cels. Medic. L. ii. cap. 10.

follows,

follows, I believe his Opinion is but too much confirm'd by frequent Experience.

Dr. *Sydenham* was of Opinion, that these dreadful Symptoms proceeded from an inflamed Heat, and Ebullition of the Blood (*l*), and consequently that they might be prevented and cured by Bleeding, the Use of Anodynes, Restringents, and a cooling Regimen (*m*); and to confirm it, gives an Instance of one in a putrid Fever, attended with these *Hæmorrhages*, whom Dr. *Goodall* cured by this Method: And some few Instances of Success in the Cure of this sort of *Small-Pox*, may be collected from Practice and History.

§. XI. Therefore as Bleeding in these Circumstances, is thus evidently indicated, (§. 8, 9, 10.) and seems to be further so, by the Abatement or Cessation of those violent Symptoms and Pain, upon the Eruptions of Blood made by Nature herself (§. 4); and that if the *Hæmorrhages* are not thus prevented, or stay'd when come, they will inevitably sink the Patient in a very short time; and moreover, as it is advised and encouraged by the most eminent Physicians, as the first and most proper Step to be taken, that promises any Success, it is necessary (though the Pulse be quick, weak and frequent) to bleed

(*l*) In Epistola ad D. Cole. (*m*) Idem, à pag. 321. ad 352. Et à p. 520. ad 521. Ed. 1705.

to such a Quantity, as the Age and Strength of the Patient will permit, and the Violence of the Symptoms require; and that it be repeated, if the Pulse rise, as it often does, after the first Bleeding. And as we know that this violent Heat, Tenuity and Dissolution of the Blood may be still more abated, by a prudent and plentiful Use of the *Mineral Acids*, as *Ol. & Sp. Vitr. Ol. Sulph. p. Cam. Tart. Vitriol.* &c. with incrassating Restringents: And as all *Acids* in general, both Vegetable and Mineral, are *Antiputrescents*, or such as resist the Putrefaction of animal Fluids, so the Mineral ones are peculiarly adapted to the Cure of this sort of *Small-Pox*; not only as they put a Stop to the further Putrefaction of the Fluids, by destroying the irritating *Spiculæ* of the *putrid variolous Matter*: But as they are the greatest Coolers and Condensers of the Blood, by their Styptic or strong attracting Power (*n*), as may be further confirmed and demonstrated by Experiments (*o*): Whence they not only abate

(*n*) See Sir Isaac Newton de Natura Acidorum, in Introduct. to Harris's Lexicon; & Boerhaavii Elementa Chemiæ.

(*o*) We find by Experiments, that *alkalious volatile Salts*, or *Spirits*, mixed with warm Blood, or injected into the Veins of an Animal, make the Blood of a fine florid crimson Colour, and dissolve and attenuate it, and give it the same Appearance, as it has in this sort of Small-Pox; so do all Salts (or Spirits) drawn from any putrid animal Substance. Whereas *Acids* applied in the same manner,

abate the Fever and Heat, but muſt put a Stop to the *Hæmorrhages*, and the Increaſe or Spreading of the *Petechiæ*. They may be given in the following manner, with Variations *pro re natâ*.

℞ *Terræ Japon. Boli Ver. Tart. Vitriolat. ana* ℈ß. *Camphoræ, Sacch. Saturni, ana gr. v. Diaſcord. ſine Melle* ʒß. *Syr. e Symphyt. q. ſ. fi. Bol.*

Vel, ℞ *Spec. pro Confec. Hyacinth.* ℈j. *Tart. Vitriolat. gr. xv. Alum. Rup. gr. x. Confect. Fracaſt. ſine Melle,* ʒß. *Syr. Myrtin. q. ſ. fi. Bol. ſumend. cum Hauſtu Decoct. ſequentis; & pro re natâ repetend.*

℞ *Rad. Symphyt.* ℥ij. *Acetoſellæ, Hord. Excortic. ana* ℥j. *Coq. in Aq. font.* ℔iv. *ſub finem coctionis addendo Rad. Glycer.* ℥j. *Laccæ* ʒv. *G. Arab. Tragac. ana* ʒij. *Coq. ad Gummi ſolut. Dein colentur* ℔iij. *quibus adde Aq. Theriac. cum acid. Succ. Aurant. ana* ℥iß. *Acet. diſtillat. Syr. è Mecon. ana* ℥ij. *f. Apozem. ſumend. ut*

manner, condenſe, coagulate, and render it of a dark blackiſh opake Colour, by ſtrongly attracting its red Globules, or cauſing them to attract each other. Therefore, *Si contraria contrariis curantur*, as *Hippocrates* ſays; the Uſe of *acid* and *alkalious Salts* and *Spirits*, in ſeveral other Diſtempers, may be eaſily ſeen.

supra; in singulos vero Haustus instillentur Sp. Vitriol. à gut. xv. ad xxx. vel ol. Vitriol. à gut. x. ad xx. juxta Morbi Magnitudinem, & laborantis Ætatem, mutatisq; simul Remediis, prout rerum Facies mutata sit.

It will likewise be necessary to procure, if we can, a Revulsion from those Parts through which the Blood is evacuated; if it passes off by Urine or Stool, besides the Relief we may expect from Bleeding, warm refreshing Fomentations apply'd to the Extremities, will cherish the Heat, which in this Case is mostly too languid, and by relaxing the Vessels, diminish the Resistance, and solicit a larger Quantity of Fluids to these Parts.

Some perhaps may think, that I have been too liberal in prescribing Venesection, not only in this Sort of *Small-Pox*, but in the others also. But such may consider, that as this is an inflammatory Disease, and that I have here chiefly mentioned the most dangerous Symptoms, and desperate Cases attending it (since whoever is able to conduct his Patients safe through these, will easily know how to do it, when they have them in a more mild and easy Degree): So for this Reason I have had often Occasion to advise Bleeding; and not that I am for prescribing it to every Patient on the Appearance of any bad

bad Symptoms; for if ſo, it may be as often injurious as uſeful: For it is probable, that not one in ſix may require Bleeding, who yet may have ſome threatening Symptoms, but may be relieved by other now more proper Methods: But it is the great Prejudice which many have conceived againſt Bleeding at any time almoſt, or in any Circumſtances, in this Diſeaſe, which have induced me to produce ſo many Arguments, as well as Authorities for it: For when the Symptoms are ſuch, as have been deſcribed, (when Bleeding has been recommended) to omit it, would be ſuffering the Patient to periſh, when it is probably in our Power to help him. A ſlaviſh Fear of the opprobrious Prating of the Illiterate and Vulgar, is a poor Excuſe; nor ought it to deter an honeſt and juſt Man, in ſo laudable a Cauſe as the Preſervation of Life is, from putting in Execution what his Reaſon dictates as the moſt likely to take Effect, if any thing can in ſuch deſperate Circumſtances.

FINIS.

AN ESSAY ON A METHOD of CURING THE SMALL-POX, AS AN INFLAMMATORY DISEASE,

BY

Taking off the *Inflammation*, and thereby preventing the *Eruption* and *Suppuration*, of all or moſt of the *Puſtules*.

AN

ESSAY

ON A

METHOD of CURING

THE

SMALL-POX,

AS AN

Inflammatory Diſeaſe, &c.

§. I.

THE frequent great Deſtructions, and the many calamitous Scenes, which the *Small-Pox* has often produced, have put the ingenious and benevolent Part of Mankind, in every Age ſince its firſt Appearance, upon diſcovering new Methods of relieving the Diſtreſſed, and preventing the fatal Effects of this Diſeaſe. The different Means, which have hitherto been

been propoſed, ſeem only to be recommended by the Inventors, with a View to alleviate the Symptoms, and at beſt to render the Diſeaſe more tolerable. Some, I grant, there have been, who have attempted to find out a Medicine which would entirely deſtroy the contagious *Miaſmata*, and by this means prevent the Production of the *Small-Pox*; others have pretended to have diſcovered ſuch an *Antidote* as would put a Stop to the Eruption, tho' ſome Puſtules had appeared before the Medicine was given; but hitherto theſe have only deceived themſelves, and endeavoured to impoſe upon others (*a*). However ſome Phyſicians of known Abilities ſeem to think that ſuch a Medicine may be in *rerum naturâ*, as will either totally deſtroy the Force of theſe *Miaſmata*, and render them innocent, and as it were homogeneous with our Fluids, or elſe ſo to change, or diſcharge from the circulating Maſs, ſuch Particles as being united with the variolous Infection do produce the *Small-Pox*, and thereby prevent the further Progreſs of the Diſeaſe. Such an excellent Medicine as this, is what every Man cannot but ſincerely wiſh for. The illuſtrious *Boerhaave* was induced by his extenſive Benevolence to Mankind to make ſome Attempts to find out ſuch a Medicine; which tho' he did not ſucceed in, yet he has propoſed it, and pointed out

(*a*) Alſaharavius, Tract. 13. Rhazis de Peſtilen. C. 5.

the

the way to others, by which it is not improbable but that ſuch an *Antidote* may be fortunately diſcover'd at ſome time. But I muſt confeſs, that inaſmuch as this *great Man*, whoſe extenſive Knowledge in Chemiſtry and the Nature of Bodies, as well as Diſeaſes, and indeed in univerſal Learning, has not been able to make ſuch an happy Diſcovery; and as we have ſo little Knowledge of the Nature of *Subſtance*, or the Structure and Make of the conſtituent Particles of different *Subſtances*, we have too much Reaſon to fear that ſo happy a Diſcovery is at a very great Diſtance. But as the Poſſibility of finding out ſuch a Remedy, is not abſolutely denied, and the Importance of it to Mankind is manifeſtly ſo great, I ſhall preſume upon the Reader's Indulgence ſo far, as to propoſe my Sentiments on this Subject.

The above-mentioned celebrated Author recommends to our Conſideration, the following Remarks: *Correctio ſpecifica niti debet invento remedio oppoſito illi veneno contagioſo.—— Quale inveniri poſſe, comparatio hiſtoriæ antidotorum, & indoles hujus mali faciunt ſperare, & ad indagandum impellit ſumma hinc futura humano generi utilitas* (*b*). To which let me add, That as we find by Experience, the Oil of Scorpions cures the

(*b*) Vide Aphoriſ. de Cog. & Cur. Morb. à §. 1388, ad 1393.

Sting

Sting of the Scorpion; and the Poiſon of the Viper, when mixed with human *Saliva* and *Bile*, is thereby render'd innocent; as their Bite is alſo cured by their own Fat (*c*). And ſince this Poiſon, which is commonly fatal in a few Hours time, may be thus deſtroy'd or render'd harmleſs, by two ſuch inoffenſive Fluids as the human *Saliva* and *Bile*, it appears to be more probable, that ſome fortunate Experiment may diſcover an *Antidote*, capable of deſtroying the Venom of the *Miaſmata Varioloſa*, and render them as innocent and homogeneous with our Fluids, as the Poiſon of the Viper is by the other. The ſame Author further adds, That ſome Preparations of *Antimony* and *Mercury*, reduced by *Art* to a very ſubtile and penetrable Nature, well united without any acid Salt, ſeem to be the moſt likely to anſwer this End: And the Succeſs of ſome Experiments made by giving them in ſmall Quantities, do very much encourage its further Improvement: And it is not improbable but that *Belloſte*'s Pills, if they were in judicious Hands, might with ſome Alterations be brought to anſwer this great Intention.

§. II. But before we proceed, it may be neceſſary to conſider how this Diſeaſe is produced, to obſerve its Progreſs, its Alliance with other Diſeaſes, and ſee how far a Method

(*c*) See Dr. *Mead* on Poiſons.

which

which is ſucceſsful in ſome other Caſes, may upon juſt Grounds be applied to this.

§. III. The *Miaſmata Variolosa* being carried into the *Blood*, are introduced with it into every Part of the Body; where they irritate the nervous Fibres to which they are applied, and affect the reſt by Conſent (*d*). Hereby the Contractions of the Heart and larger Arteries, will be rendered more frequent and ſtrong; and the ſtronger and more frequent theſe are, the greater the Velocity and *Momentum* of the circulating Fluids muſt be; and the more theſe are increaſed, the more will their Heat and Inflammation be increaſed: And again, by how much greater theſe are, by ſo much greater will the inflamed ſizy State of the Fluids, the Number of the Obſtructions, and ſuppurating Puſtules be: For, by how much the Velocity of the Blood's Motion is increaſed, by ſo much a greater Quantity of it muſt paſs through the ſame Veſſels in the ſame given time, than did before; therefore a greater Quantity muſt paſs, through all the ſecretory and excretory Glands which are not obſtructed, in the ſame given time; whence a greater Quantity of the more ſubtile aqueous Particles of the Blood will be carried off by thoſe Glands, than was be-

(*d*) Hence that univerſal Uneaſineſs, ſtrong Reachings to vomit, violent ſhooting Pains all over the Body, and thoſe Convulſions in Children, *&c.* are produced.

fore; for an increaſed Celerity of the Blood's Motion, increaſes the fluid Secretions more than the viſcid, by the 20th Prop. of Dr. *Wainwright*. Hence the remaining Fluids muſt be inſpiſſated and more ſizy; which Viſcidity or Sizineſs will be ſtill more increaſed, by the augmented Heat of the Blood; for Experiments teach us, that any Heat exceeding that of a human Body in *ſtatu ſano*, if continued for any conſiderable time, inſpiſſates the Serum of the Blood; and the greater the Heat is, the ſooner this will happen, and the ſtronger will the Viſcidity and Sizineſs be: The Conſequence of this Coheſion or Spiſſitude of the Fluids, join'd to the irritating Power of the infectious Particles, will be the Production of a great many more Obſtructions, in the minute Extremities of the Blood-veſſels on the Surface of the Body: Wherefore the Motion of the Blood, already too quick, muſt ſtill be increaſed in thoſe Branches which yet remain free, and this will be in Proportion to the Number of obſtructed Veſſels.

From which Cauſes a violent Fever, and a total Inflammation, muſt be inevitably produced: And by how much the greater, and more violent any or all theſe are; by ſo much greater will the Violence of the Symptoms, and Danger of the Diſeaſe be; and *è contrario*.

§. IV. That this is the true *State* of the *Solids* and *Fluids*, in the firſt Period of this Diſeaſe,

Diſeaſe, I think will not be denied: The moſt accurate Obſervations of the Symptoms of this Diſeaſe, which are more evident to our Senſes, demonſtrate it plainly to be ſo; as, the ſhivering Coldneſs ſucceeded by a violent burning Heat, univerſal Uneaſineſs, Pain, Inquietude, Convulſions, Strainings to vomit, a quick, ſtrong, hard Pulſe, and the ſizy Texture of the Blood taken from the Sick in this Diſeaſe; which on the firſt, ſecond and third Days, is always of a fine florid crimſon Colour; but when it is taken on the fifth or ſixth Days, or any time after that, is always, when it has ſtood till it is cold, covered with a glutinous ſtarch-like Pellicle, more or leſs tenacious and denſe, according to the greater or leſs Violence of the Diſeaſe. In the ſame Stages of all inflammatory Diſeaſes, as *Rheumatiſms, Pleuriſies, Quinſies, Inflammations of the Bowels*, &c. we find the Blood exactly in the ſame Condition. It is therefore juſtly deem'd an inflammatory Diſeaſe, the Effects whereof in the firſt Stages are the ſame, and are common to all acute, epidemical, inflammatory Diſeaſes; tho' in its Concluſion it may differ from them all, but not as an inflammatory Diſeaſe, as I think is already demonſtrated.

§. V. We are certain from daily Experience, that the above-named inflammatory Diſtempers (§. 4.) are ſucceſsfully cured by ſuitable

Methods; which, had they not been cured by ſuch Methods, but left ſolely to the Work of Nature, would have been generally, if not always mortal. Why therefore may not the *Small-Pox* be treated in a Method which, in Diſorders of the ſame Nature and Tendency, proves ſucceſsful? regard being had to its peculiar Cauſe and Diſpoſition.

§. VI. Theſe Reflections induce me to propoſe my Reaſons for a Practice, which, tho' it bears the Face of Novelty, is not intirely founded upon precarious Conjectures, to the further Conſiderations of the Learned; in Hopes that it may be ſo improved, that the Cure of the *Small-Pox*, by *reſolving the Obſtructions*, may one Day be found to be as juſt Practice, as it is to prevent a Suppuration in a *Pleuriſy*, or in any other topical Inflammation. For a *Pleuriſy* tends to Suppuration as well as the *Small-Pox*; an Obſtruction is form'd in both Caſes; if this Obſtruction yields to the Force of the circulating Fluids, the Pain, the Tenſion and Fever go off, the Diſeaſe is remov'd; but if the Matter be ſo far impacted, as to ſtop the Current of the Blood through the Canal where it is fix'd, the *Impetus* is at length ſo far increaſed, as to deſtroy the Veſſel, and Matter is form'd. Every one knows how injudicious it would be, to attempt the Cure of a *Pleuriſy* by Suppuration, when it is in our Power to prevent it.

it. We are not without Reasons to believe that the *Small-Pox* has been, and consequently may be, cured without Suppuration; I have heard the great Professor *Boerhaave* affirm *bona fide, & vir fide dignissimus fuit*, that he had often known the *Small-Pox* cured by this Method, when the Disease before the Eruption has been taken for, and treated as an inflammatory Fever: For the Symptoms of the *Small-Pox*, are so much alike to those of an inflammatory Fever, that they are not easily to be distinguish'd. Hence it sometimes has happened, when the *Small-Pox* have not been known to be in the Town, that very judicious Physicians not being able to determine at first, whether the Distemper was the *Small-Pox*, or an inflammatory Fever, but taking the Case for the latter, have, from the Tendency which they observed in their Patients to an inflammatory Fever, bled them freely, and prescribed a plentiful Use of cooling Medicines, whereby the Cause of the *Small-Pox* has been removed without the Distemper's advancing any further, or ever coming to Suppuration. This is also confirmed by the Observations of several Physicians. Dr. *Fuller* relates an extraordinary Case, wherein the like Cure was performed by Nature herself, even when some Pustules had appeared. I shall give it in the Doctor's own Words: He says (*e*), "A Doctor of

(*e*) Exanthematalog. p. 305.

" Physic told me, he fell sick, when a Stu-
" dent at *Oxford*, in a time when the *Small-*
" *Pox* was epidemical there, had the usual
" Symptoms of cruel Pain in the Head and
" Back, together with a Delirium, came out
" full of Pustules, which his Physician pro-
" nounced to be the *Small-Pox*. Then he
" fell a Bleeding at his Nose so profusely as
" to lose at least two Pounds of Blood by
" Estimation; upon this, his Fever, Delirium,
" Pains, and all other Illness went off toge-
" ther; the Pustules all vanished; he slept
" soundly; and after that time (which was
" above 30 Years ago) he grew well, and
" never had the *Small-Pox* since."

Botallus also says (*f*), "That he cured a
" Gentleman's Servant in the Lord of *Poyrin*'s
" House, 18 Years of Age, two Days after
" the *Small-Pox* were come out, by taking
" a Pound of Blood from him; whereupon
" the Distemper left him quite, and he went
" about his Business the next Day." He also cured several others by the same Method.

Dr. *Baynard* likewise mentions several Cases of this Nature. And several others might be collected from Authors of Credit (*g*). And I question not, but many more Instances of the same Kind have happen'd, if they had been duly observed and related: But these with

(*f*) Botal. de Venæsect. c. 5.
(*g*) See also p. 60. of the preceding Essay.

what

what others we may meet with in Reading and Practice, are ſufficient to encourage the Uſe of this Method. I will only add what the learned Dr. *Boerhaave* ſays on this Subject (*h*), and then proceed to deſcribe the Method; which is,

§. VII. As ſoon as the Patient is ſeized with the firſt Symptoms of the *Small-Pox*, in the very firſt Day of the contagious inflammatory State, before any thing of the Eruption appears, bleed the Sick to ſuch a Quantity as the Patient can *well bear*; and repeat it as often as the Age, Strength, Temperature of the Patient, Greatneſs of the inflammatory Diſpoſition, Sizineſs of the Blood, and Strength of the Pulſe, do jointly indicate, and will

(*h*) " Methodus univerſalis videtur hic adhiberi poſſe, " & experimentis perfici debere, illa, quæ deprehenſa eſt " in omni inflammatorio valere, ne inflammatio in pus, " gangrænamve, abeat: quum in aliis omnibus ſuccedat, " hic nihil repugnet, morbus varioloſus ſæpe ſine variolis " ſit. *Aph. de Cog. & Cur. Morb. Aph.* §. 1393.

" Conſiſtet illa (1393) in his: 1. Mittatur cruor (ut " 854. No. 1. 890. No. 1, *&c.*). 2. Clyſmatibus, foti- " buſque, laxetur tota cutis, os, œſophagus, inteſtina, " ſæpe. 3. Potetur multum aquæ tenuiſſime farinoſæ, " acidulæ, nitroſæ; hauriatur nitrum ſtibii, vel polychreſtus " ſal, & hydrogala tenue. 4. Sit victus tenuis; aer in pul- " mones ducendus frigidiuſculus; corpus bene tectum, & " perſpirabile. *Ibid.* §. 1394.

" Quamvis enim in hoc morbo raro cogitetur de " hac indicatione, (1388) & de hac methodo imprimis, " (1393, 1394) caſus tamen, ignaro morbi medico, ſæpe " dedit ſucceſſus probantes talem artem. *Ibid.* §. 1395.

ſafely admit of, in the three firſt Days of this firſt Stage of the Diſeaſe (which may be properly called the inflammatory State); and during the ſame time, let cooling, emollient, relaxing Fomentations be applied to all the external glandular Parts of the Body, with Flannel Cloths or Sponges: As,

℞ *Fol. Althææ, Malvæ, Mercurialis, Flor. Sambuc. ana mij. Rad. Althææ, Lilior. alb. ana ℥ij. Sem. Lini, Fœnugræci, ana ℥j. Salis Nitri, ℥ß. Miſce. Coq. in Aq. fluv. q. ſ. ad ℔iv. Coletur.*

Hujus Decocti ℥iv. vj. x vel xij. pro ratione Ætatis, injiciantur pro Clyſmate duodecimâ quâque Horâ.

Panni lanei eodem Decocto madefacti, iterumq; expreſſi, calidè applicentur Corporis inferiori, Pedibus, Poplitibus, Inguinibus, Cruribus, Femoribus, & Axillis, ter quaterve, vel ſæpius in Die. Eodem Decocto Os, Nares, Fauces, colluantur, humectentur, foveantur ope Spongiarum.

At the ſame time let the Patient drink large Quantities of diluting *Antiphlogiſtic Decoctions*, mixed with gentle cooling *ſubacid Medicines:* And at convenient Diſtances of Time, let proper Doſes of *Stibium Diaphoreticum Nitratum*,

Nitratum, or *Nitrum Stibiatum*, and *Sal Polychreſtum*, mixed with ſmall Quantities of *Calomel*, or other proper *Mercurials*, adapted to the Age, Strength and Conſtitution of the Patient, be given.

The judicious Profeſſor *Boerhaave* ſays, That he has often ſeen very good Effects from a proper Uſe of theſe Medicines; wherefore I ſhall here give the Proceſs how to prepare them from the *Edinburgh* Diſpenſatory, as they are not all in ours, nor to be commonly met with in the Apothecaries Shops in *England*.

This *Antimonium Diaphoreticum* is the ſame with ours in the Shops, before the Salts are

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Antimonium Diaphoreticum Nitratum.

℞ Antimonii Semilibram, Nitri ſeſquilibram. Seorſim pulverata & commixta cochleatim in Crucibulum candens ingerantur. Finita Detonatione, Maſſa alba in Igne per Semihoram calcinetur. Pulvis ſerveiur in Vaſe vitreo bene obturato.

Antimonium Diaphoreticum Dulce, & Nitrum Stibiatum.

℞ Antimonii Diaphoretici Nitrati q. v. Trito affunde Aquæ fontanæ q. ſ. ut ſuperet aliquot Digitos. Digere per Noctem, &, Aquâ effusâ, recens addatur, ac ſic abluatur ad quintam vel ſextam vicem. Loturæ omnes commixtæ, filtratæ, leni Igne evaporatæ ad Cuticulam, in Frigore præbent Nitrum Stibiatum.

Sal

are washed from it; which Salts some have fancied to have an emetic Quality in them; but they are the only valuable Part of the Medicine; for the other Part, *viz.* the *Antimonium Diaphoret.* which is commonly used, is almost an insipid Calx, deprived of its Virtue, and is little better than a Piece of common Chalk.

These Medicines, *viz.* the *Stibium diaphoret. Nitratum*, and especially the *Nitrum Stibiatum*, are excellent *diuretic, diaphoretic, dissolvent, deobstruent, antiphlogistic Medicines*; and may be given in a proper cooling Decoction, in the following manner:

℞ *Stibii Diaphoret. Nitrati* ʒ*vj. Calomel. levig.* ʒß. *Salis Polychresti* ʒiß. *diu terendo misceantur, ut fiat Pulv. tenuissimus in xxiv. dos. æqual. dividend. Exhibe unam tertiâ quâque Horâ, è Cochlear. semisse Syr. cujusvis idon. superbibend. Seri lactis, vel Decocti sequentis sine Nitro Stibiat. ppt.* ℥*iv.*

Vel,

Sal Polychrestum Ph. Edinb.

℞ Nitri pulverati, Florum Sulphuris, ana p. æ. Optime commixta injice paulatim in Crucibulum ignitum. Cessante Deflagratione, detineatur in Igne per Horam. Depuratur solvendo in Aquâ calidâ, filtrando & evaporando ad Siccitatem.

Vel, ℞ *Flo. Sulph.* ʒj. *Cinnabaris Antimon.* ʒß. *Stibii Nitrati, Salis Polychresti, ana* ʒiß. *Fiat Pulv. subtilissimus in Chart. xij. distribuend. & sumend. ut prius.*

℞ *Rad. Scorzoner.* ℥ij. *Hord. Perlat.* ℥j. *Fruct. Tamarind.* ʒvj. *coq; per* ½ *horæ ex Aq. Font. sub Finem coct. addendo Rad. Glyceriz. Flor. Samb. Sem. Papav. alb. ana* ℥iß. *colentur* ℔ij. *Colaturæ adde Nitr. Stibiat.* ʒij. *Aq. Theriac. cum acid.* ℥iß. *Suc. Aurant. Syr. Violar. ana* ℥j. *f. Apozem. tepidè bibendum ad* ℥ij. *vel* ℥iij. *secundâ vel tertiâ quâq; Horâ.*

§. VIII. Their Diet at this time should be thin, cooling, diluting, and no ways disposing the Fluids to Putrefaction. The Patients should be kept moderately warm, especially their lower Parts, whether they be up, or in Bed; so that an equal, moderately brisk, Perspiration, may be constantly continued; but not so much loaded with Cloaths, as to cause too much Sweating, lest it should either too much deprive the Blood of its thinnest Parts, and increase the Inflammation, or sink the Strength of the Patient. At the same time let a free cool Air come into the Room, sufficient to moderate the Heat of the Lungs, without restraining the necessary free Perspiration. If the Season of the Year should be

very

very warm, the Room may be cooled by ſetting Branches of ſome ſoft porous Wood, of a reviving agreeable Smell, in Veſſels filled with Water, in the Chamber of the Sick; through which the Water will exhale, and moiſten and cool the Air. This Practice may alſo be of great Service in moſt inflammatory Fevers in hot Weather.

§. IX. It is reaſonable to ſuppoſe, that by the prudent Uſe of this Method of Bleeding, Diet, external Applications, and internal Medicines, the Blood will be ſo cooled and diluted; the rigid Elaſticity of the Solids ſo relaxed; and the active *Stimulus* of the *Miaſmata* ſo ſmoothed and blunted, or carried off by all the increaſed Excretions; that the uſual Fever, which attends this State of the Diſeaſe, muſt be either totally taken off, or at leaſt ſo much abated, that the ſucceeding Eruption and Suppuration of the Puſtules, ſhould the Diſeaſe yet advance, will either be prevented, or be ſo few that their Suppuration, and the other Stages of the Diſeaſe, will be got over without much Uneaſineſs, or any Danger of the Patient's Life.

As to Bleeding, *Bellini* has proved (*i*), that by leſſening the Quantity of the Blood, we abate its *Velocity*, *Momentum*, *Heat*, *Acrimony* and *Sizineſs*; and therefore all the Conſequences of theſe, as *Obſtructions*, *particular Inflammations or Tumours*, *Apoſtema-*

(*i*) Vide de Sanguin. Miſſione.

tions,

tions, Suffocation of the Veſſels, Gangrenes, &c. as hath been already obſerv'd, (*p.* 103.) muſt be remov'd or abated.

For that *putrid*, concocted, *Pus* or Matter, which is contained in the Puſtules, is not exiſting in the Blood before the Eruption and Suppuration, nor is it the Cauſe of this firſt Fever; but the Conſequence and Effect of it, as is already explained (§. 6.). For the *Miaſmata*, by ſtimulating the Solids, increaſe the Momentum of the Blood, againſt the Obſtructions formed in the ſmall ſubcuticular Veſſels, by which Force the ſtagnating fluid Particles, and the ſmall Ends of their containing obſtructed Veſſels, are broken, divided, and reduced by the increaſed Heat, into that white ſoft pulpous Matter we call *Pus*; in which Pus are ſtill contained ſome *infectious Particles* (*k*), yet retaining their *infectious Nature*, as appears from the Experiment of Inoculation; and probably theſe are exalted or rendered more active, by being united to the volatile Salts, produced

(*k*) *Quer.* Is it not probable, that the *Miaſmata* do adjoin themſelves to ſome particular Particles of our Blood, by ſtrongly attracting them? and are they not diſjoined by the Motion and Heat in the Putrefaction, ſtill retaining their Figure? And from this their attracting Nature, and Power of retaining their Figure, are they not probably ſome peculiar kind of Salt? And have not theſe Salts a Power of Multiplying or Increaſing, by being mixed with and putrefying our Juices?

by

by the Putrefaction of the animal Juices in the Puſtules; and hence it may be, that the Infection is ſtronger now than at any other time of the Diſeaſe, and affects others, who have not had the Diſeaſe, more certainly.

§. X. The ſtrongeſt Objection which I can find, againſt treating the *Small-Pox* after this manner, is, that as the Diſtemper proceeds from ſuch infectious *Miaſmata* being mixed with the whole Maſs of Blood, we cannot poſſibly prevent thoſe *Miaſmata*, when ſo mixed with the Blood, from producing their natural Effects; unleſs we either totally deſtroy them by ſome Antidote, or can take them all out of the Blood: The firſt is not yet diſcover'd, and the ſecond impracticable, unleſs we could take away the whole Maſs of Blood alſo, which is abſurd. Therefore it cannot be done by Bleeding, ſince ſome of the infectious Particles muſt of neceſſity be left behind in the remaining Maſs of Blood; and conſequently muſt produce their uſual Effects: Or, that this Bleeding muſt ſo weaken the Sick, that the remaining infectious Matter cannot be excluded, and the Patient muſt conſequently ſink under it.

§. XI. Theſe Objections, I grant, would be more material, if the Number of the Puſtules, the Violence and Danger of the Diſeaſe, were always in proportion to the Quantity of the infectious Particles, received into the Blood of the

the Perſon infected: but ſufficient Experience proves that it is not; and that the greater or leſs Violence and Danger, proceed from the greater or leſs Virulence of the Kind of *Small-Pox*, the Conſtitution being the ſame. And the Kind of *Small-Pox* being the ſame, the greater or leſs Danger proceeds from the more or leſs rigid State of the Solids, and greater or leſs Prediſpoſition of the Fluids, of the Perſon infected, to be inflamed, and brought into a putrid State. To thoſe therefore who are of a hot plethoric Habit of Body, whoſe Solids are ſtrong, rigid and elaſtic, and their Fluids readily inflamed, or have pre-exiſting in them an acrid Putreſcency, or ſharp morbid Humours, this Diſtemper is always very dangerous, and frequently mortal; eſpecially if the Perſon has moſtly uſed a rich Diet, ſuch as high-ſeaſoned hot made Diſhes, and the like; and has indulged himſelf in the too free Uſe of ſtrong Wines, or other ſpirituous Liquors. Whereas, thoſe who are of a moiſt, cool, moderately lax, Habit of Body, whoſe Fibres are of a ſoft and delicate Texture, their Fluids mild, ſoft and ſweet, and have conſtantly uſed a ſimple, temperate Diet; have generally a more favourable benign Kind, with fewer Puſtules, and moſtly recover without much Danger. Hence it is that we frequently find this Diſeaſe to be more mild and benign, in a moiſt warm Seaſon, and in general

general to Children and Women, and those of an effeminate, lax State of Fibres, provided their Juices are free from any preternatural Acrimony; and on the contrary are more malignant and fatal, in cold, dry, frosty Weather, in hot, dry Seasons, and to Men, or all advanced in Years, especially if of the first-described Constitutions.

For let two Persons of those opposite Constitutions, who never had the *Small-Pox* before, come into the same Room, where a third lies sick of this Disease, and both stay the same time in it; you will find, that they will differ in having the Number of Pustules, Violence of the Symptoms, and in all other respects, as much as they do in their Constitutions. Hence it will appear, that the greater or less Violence of this Disease, does not intirely depend on the Quantity or Number of the *infectious Particles* received into the Body; since these two Persons having stay'd the same time in the Room, must have taken into their Lungs near the same Quantity of *Air*, and received near the same Quantity of *infectious Particles* into their Blood; therefore the Difference must proceed from their different Dispositions and Constitutions.

§. XII. It must also be observed by the Objectors, that Bleeding alone is not proposed as capable of answering every Intention; nor is the cooling *antiphlogistic Regimen*, solely expected

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AN

ACCOUNT

Of the Principal

Variations *of the* Weather,

And the Concomitant

Epidemical Diſeaſes,

From the Year 1726, to the End of the Year 1734.

As they appeared at *RIPPON*, and the adjacent Parts of the County of *YORK*.

By *WILLIAM HILLARY*, M.D. at *BATH*.

Ἁι μεταβολαὶ τῆς ὡρέων μάλιστα τίκτουσι νοσήματα, καὶ ἐν τῇσιν ὥρῃσιν ἁι μεγάλαι μεταλλαγαὶ, ἢ ψύξιος, ἢ θάλψιος, καὶ τ' ἄλλα κατὰ λόγον ἕκαστος. ἹΠΠΟΚΡΆΤ. ἈΦΟΡΙΣΜ. τμῆμα τέτταρα, Α.

THE

PREFACE.

THAT the Structure of human Bodies is such, as renders them liable to Epidemic Diseases, is but too plain a matter of Fact; and that these Diseases are very different in their Natures, Symptoms, Dispositions and Consequences, at different Times, is fully confirmed by repeated Observations made in different Ages and Climates: This great Variety of Symptoms and Appearances, wherewith they are attended, must proceed from various Causes; since it is impossible but the

ſame Cauſe muſt invariably produce the ſame Effect, the Subject being the ſame: An Endeavour therefore to trace out wherein this Difference conſiſts, and to what this Variety of Appearances is owing, is abſolutely neceſſary, in order to attain to a certain Knowledge of the true Cauſes of epidemical, contagious, and endemial Diſeaſes; as alſo in what Manner, and by what Laws, thoſe Cauſes act, ſo as to produce their certain and different Effects: As this Knowledge is a Thing ſo much deſired, and is of the greateſt Importance, as it would lead us to the Knowledge of many uſeful Truths; we have great Reaſon to lament, that ſo few beſide the great Hippocrates, *have thought ſuch Inquiries worth their Notice; or at leaſt have not purſued them with Application and Judgment, equal to the Pattern which that great Man has left us; who not only pointed out the moſt probable Way, but began the Work himſelf; which if his Followers had thus purſued,*

ſued, it is highly probable that this valuable Knowledge might have been obtained long ere this time: For whoever reflects, how the firſt Knowledge of Diſeaſes, their Cauſes, Manner of Acting, and the Methods of curing them, were firſt obtained, or have been ſince improved, will find that it has been by accurate Obſervations, and repeated Experiments, carried on and improved by a true Method of Induction; or a Chain of Reaſonings drawn from Facts, and again confirmed by them; and whatever ſome ſuperficial Men may raſhly aſſert to the contrary, I will venture to ſay, that all our future Improvements, and all the further Knowledge which we ſhall acquire, muſt be by this Method of Induction, which the great Lord Bacon *has ſo reaſonably and ſtrongly recommended.*

In all phyſical Inquiries into ſuch hidden Subjects, it is neceſſary to premiſe ſome certain Rules to proceed upon, in order to avoid uſeleſs Obſervations, fruitleſs Experiments, and inconclu-

ſive or confuſed Reaſoning: Wherefore as all Effects are adequate to their Cauſes, and as epidemical Diſeaſes are ſo different in different Years, their Cauſes muſt have ſome eſſential Difference from each other in their Natures, or otherwiſe are attended with ſome Circumſtances at one time, which they are not at another; conſequently theſe Cauſes muſt have their original Sources from, or elſe are conſtituted of, ſuch Bodies, as can be conveyed into, and immediately act upon our Bodies, and are ſubject to change in their Natures and Diſpoſitions, or in their Manner and Degrees of acting on our Bodies, or in all theſe: We are ſenſible, that the Air *is a Body, both abſolutely neceſſary every Moment to continue Life, and is frequently ſubject to change in its Nature, Degrees of Heat and Cold, Moiſture and Dryneſs, its Simplicity or Clearneſs, or being mixed with an almoſt infinite Variety of* Effluvia *and Exhalations, from almoſt all Bodies which*

are

are exposed in it; all which Changes are capable of acting upon, and influencing the human Frame: This being the Case, the Method which seemed to promise the greatest Success, and which I therefore chose to follow, in order to attain (as far as was in my Power) a more certain Knowledge of the Causes, Natures, and Dispositions of epidemic Diseases, *was to make* a regular Series of Observations *of their* Rise, Progress, Declensions, *their* Symptoms and Dispositions, *together with the* Changes of the Air and Weather *which preceded, accompanied and succeeded, those Changes in the Appearances of those Diseases; in order to learn experimentally how far the latter were influenced and produced by the former, and from thence be enabled to account for this Variety of Symptoms and Dispositions in a satisfactory manner; as also to form more certain and successful Methods of their Cure.*

'Tis well known that many Diſeaſes owe their Riſe to Intemperance, and the irregular Uſe of the Non-naturals; but as theſe only affect particular Perſons, they can't be the Cauſe of epidemic Diſeaſes, theſe affecting People in general, whoſe Ages, Conſtitutions, and Way of Life is ſometimes very different, and they muſt therefore proceed from more general Cauſes.

With theſe Views, I firſt began to make the following Obſervations, in which I have only taken notice of the moſt conſiderable and obvious Changes of the Weather, the others being of no material Conſequence, which I had not purſued twelve Months before the learned and ingenious Dr. Wintringham, *of* York, *obliged the World with the firſt Edition of his* Commentarium Noſologicum; *wherein he has proſecuted the ſame Subject with great Judgment and Addreſs, and has ſince then, in a ſecond Edition, given us the Obſervations of ſix Years more, and I*

hope

hope will continue them as long as he continues his Practice, and oblige the World with them. Upon Dr. Wintringham's *first Publication, I had almost determined to desist; but reflecting that some Advantage might probably accrue from comparing Observations made by different Persons, in Places not far distant, I continued mine till the latter End of the Year* 1734, *when I removed to* Bath, *where chronical Cases are so frequent, and Epidemics so seldom appear, that I could not pursue those Observations in a suitable manner any longer: And, as my Intentions are purely and simply to pursue the Interest of Knowledge, and the Good of of Mankind, I now (by the Persuasion of some particular Friends) venture to publish them, imperfect as they are, rather to call upon the Abilities of others, and excite them to pursue this, or some other more advantageous Method of investigating the true Causes*

of

of Diſeaſes, than with any View of making the leaſt Compliment to my own Vanity; for I am very ſenſible in how diſadvantageous a Light ſuch a faint Sketch muſt appear both for the Author and Reader. Tho' theſe were of much Service to me in my Practice, and probably may be of ſome to others, yet there muſt be many Collections, and of much longer Continuation, obtained with the greateſt Exactneſs, before we can draw ſuch Aphoriſms as are certain and concluſive from them; for which End I now readily contribute my Mite to that future great Treaſury, and hope that many more in various Places, both of this and other Kingdoms, will undertake, improve, and carry on, the ſame Intentions, *in ſuch a manner as the Importance of the Subject requires; ſo that in time our* Profeſſion *may come to be a real* Science, *founded on* ſcientific Principles *in all its Branches, as ſeveral*

other

other Sciences now are; which I humbly conceive can only be attained to, by ſtrictly purſuing our Reſearches, by the true Method of Induction, *as that is the moſt ſure* Method *of making all the Diſcoveries in Nature, which Mankind can reaſonably hope for.*

AN

AN

ACCOUNT

OF THE

Principal Variations

OF THE

WEATHER, &c.

THE Summer Seaſon of the Year 1726, was in general very warm and dry, till the Month of *June*; and the Diſeaſes reigning during that Time, were chiefly of the inflammatory Kind, in which the Head, in moſt of the Sick, was more than uſually affected. The Months

Months of *June* and *July* were attended with much Rain, and cold North Winds; upon this Change the inflammatory Diſeaſes diſappeared in a ſhort time: But after a few Weeks, ſeveral were ſeized with *Diarrhœa's*, ſome with a *Cholera Morbus*; and a few with Inflammations of the Bowels, tho' not many. The Beginning of Autumn was very temperate and ſeaſonable; but towards the latter End of it, the Weather was variable as uſual; when no Diſeaſe appeared which I could juſtly call Epidemical, the Country being generally healthful.

In the Beginning of *December* we had ſome Snow, with a very hard Froſt, which continued three Weeks; then cold Rain; and in *January* we had Snow again, with a continued hard Froſt for two Weeks, which was followed by cold Rain through the remaining Part of that Month, and ſome Part of *February*.

During this Autumn and Winter, the *Meaſles* were very frequent, and generally of a mild benign kind, attended with no bad Symptoms, but what might be more juſtly attributed to the bad Conſtitution, or wrong Treatment of the Sick, than to any malignant Nature or Diſpoſition of the Diſeaſe.

The *Small-Pox* were no leſs frequent during the ſame time; and were generally of the regular diſtinct kind, accompanied with few or no bad Symptoms, till in the Months

of

of *February* and *March*; in which Months we had very cold dry Winds from the North and Eaſt Points; when the *Small-Pox* began to be very malignant, and changed from a large, diſtinct, full Kind, to a ſmall, ſore, angry one, which ſcarce ever roſe and filled well; and in ſome, they were accompanied with *Purple Petechiæ*, and *Hæmorrhages* by Urine or Stool; few or none of which recovered: In others who were not ſeized with theſe fatal Symptoms, yet had the Diſtemper in a violent Degree, the Fever was generally very acute, and the Sick frequently delirious, *&c.* yet by bleeding in the Foot, and bathing the remote Parts of the Body, *&c.* as mentioned in the preceding Eſſay, the Sick were relieved, the Delirium and and other Symptoms were removed, ſo that I ſaw none (except two who had *Petechiæ* and *Hæmorrhages*) but who recover'd very well. And indeed all thoſe who were prepared before the Acceſſion of the Diſeaſe, and treated in it, according to the Method which is therein deſcribed, got very ſafe and well through the Diſtemper. Which Method I then, and have ſince found ſo ſucceſsful, that I never yet met with any who followed it, who had any dangerous Symptoms, or any one who died under that Treatment, tho' I was this Year called in to above ſixty Patients, and to near as many in the Year 1724; in both which Years I was called in time to

treat

treat upwards of forty each Year in that manner, and they all recovered.

We had alſo this Winter ſome *Catarrhs*, and ſeveral inflammatory Diſeaſes, as Rheumatiſms, Quinſies, Peripneumonies, and inflammatory Fevers; in all which the Blood was much inflamed and ſizy: But by Bleeding, and the liberal Uſe of Antiphlogiſtics, *&c.* they generally recovered.

In the latter End of *March* we had a great deal of warm Rain with a South Wind; after which the Month of *April* was warmer than it is uſual at that time of the Year, and in general dry, tho' ſometimes intermixed with a Day or two of very cold North or Eaſt Winds, then Rain and Warm again: The Barometer generally was from 30 to 30 + ½ Inches high. During this time the above-mentioned inflammatory Diſeaſes were very frequent, eſpecially Pleuriſies and Peripneumonies, both of the nothous and true Kind: I obſerved, that as the Blood of moſt of the Sick in the preceding Months was much inflamed, and cover'd with a thick, tough, ſtarch-like Pellicle, when it had ſtood till cold; that now upon the Continuation of this very warm Weather, with ſudden Intermixtures of Cold and Rain, the Pleuriſies came to be generally of the bilious Kind, or what is uſually called a *Pleuritis ſicca*, or of the nothous Kind, in which the Sick expectorated very little. The Pulſe was ſometimes

times a little hard and very quick; ſometimes not ſo hard, but very frequent; neither was their Blood ſo much inflamed as in the preceding Months; yet the Pains were very acute, and fixed moſtly in the intercoſtal and pectoral Muſcles; the Sick were languid and faint, neither did Bleeding and the Uſe of pectoral Medicines, either alone, or mixed with Volatils or ſaponaceous Medicines as *Fim. Cabal.* &c. relieve them, as they uſually do in theſe Diſeaſes; but a liberal Uſe of ſoft ſmooth Antiphlogiſtics, with gentle Catharticks intermixed, or added to them after moderate Bleeding, were of ſingular Service, and generally relieved the Sick; the Robuſt and Strong, being attended with a greater inflammatory Diſpoſition, required larger Bleeding; but thoſe who were weak, or advanced in Years could neither bear the Loſs of Blood, nor did Bleeding relieve them; but plentiful diluting and gentle Catharticks of the Antiphlogiſtic Kind, gave them great Relief: Bliſtering even in theſe caſes was of no Service, nor did I find that Volatiles were of much.

We had ſome Intermitting and Remitting Fevers, in which, eſpecially the latter, the Paroxyſms and Remiſſions were very irregular, both as to their Times and Symptoms, and frequently were attended with Stitches or Pains in the Side, which increaſed and abated with the Paroxyſms; the Pulſe was very quick, and ſometimes hard; the Urine

crude, and generally without a Sediment. Gentle Evacuations, and cooling Medicines either took the Fever quite off, or brought it to intermit regularly, when it was cured with the Bark, *&c.* without any Difficulty.

During this warm Seaſon, the Small-Pox, which were before of a malignant kind, now changed to a very benign one, being the beſt diſtinct Sort without any bad Symptoms.

This temperate Seaſon continued much the ſame till the middle of *May*, when the Mercury in the Barometer fell to below 29 Inches, and the Wind changed to, and continued in the South with ſome little Variations at times, near three Weeks, with a great deal of Rain: The Thermometer fell to below temperate Weather, and the Air was very cool for that Seaſon of the Year: Upon this Change from Warm to Cool and Rain, the above-mentioned inflammatory Diſtempers very much abated, or almoſt totally diſappeared; and the Seaſon was generally very healthful, except a very few remitting Fevers, which in ſome were attended with pleuritick Pains, but with no other bad Symptoms.

About the 8th of *June* the Barometer aroſe to 30 + ½ Inches; and the Thermometer to hot Weather, and the Seaſon continued very warm till the 26th, when the Barometer fell to below 29 + ½ Inches, *i. e.*

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to below changeable Weather. The Thermometer ſtood between warm and hot Weather; a great deal of Rain fell; the Wind and Weather continued to be very variable till the middle of *July*. During this uncertain State of the Weather, ſome few Inflammatory and Remitting Fevers appeared; but the Seaſon in general was very healthful.

About the middle of *July* the Mercury in the Barometer roſe again to 30 Inches, and the Thermometer to hot Weather, and the Seaſon continued hot and dry till the latter end of *Auguſt*, which brought in with it ſome few Pleuriſies, and an Inflammatory Remitting Fever; in which, moſt of the Sick were ſeized at firſt with bilious Vomitings and Purgings; the Pulſe was very quick and hard, but not large; the Urine high-coloured, and without a Sediment; ſome were *comatous*, others *delirious*, eſpecially in the Paroxyſms; their Blood was generally ſizy, and cover'd with a Starch or buff-like Pellicle, when it ſtood till it was cold. By bleeding and vomiting at the Beginning of the Diſeaſe, and a plentiful Uſe of *Diluters*, and cooling Medicines, mixed with *Vegetable Acids*, as *Acetum*, *Succus Aurant. Limon.* &c. the Sick were very much relieved, and the Fever brought to terminate by a general critical Sweat on the ninth or tenth Day: Some had exanthematous Eruptions towards the latter End of the Diſeaſe,

(eſpecially if they were not treated as above, or did not dilute plentifully) and filled with a clear or yellowiſh Water, which went or dried away without any other Inconveniency to the Sick, but an uneaſy Itching for a few Days, and leaving a little Scurf, or a few dry Scales, which ſoon fell off.

During this hot and dry Time, I obſerved that we had many more Maniacks than in other Years.

This great Drought and Heat continued all the Month of *Auguſt*, except two or three Days towards the latter end of it, wherein we had Rain. The Number of the Sick in the above-mentioned *continued Remitting Fever* daily increaſed, and its Symptoms were more violent: But by proper Evacuations, and plentifully diluting, the Fever was brought to a Criſis in nine or ten Days time, moſt commonly now by two or three looſe Stools, tho' in ſome by a critical Sweat as before: In ſome the above-mentioned Evacuations brought the Fever to intermit regularly before this Period.

Alſo a *Febris Synochus* was very frequent at the ſame time, but not of the putrid kind, tho' during a few Days after its firſt Seizure, it was not without ſome of its Symptoms; the Pulſe was very quick and low; the Urine high-coloured, with a Cloud, but no Sediment; the Tongue brown and dry. Ancient and weak hyſterical People had ner-

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vous Twitchings and Catchings, and were Comatous or Delirious; ſome were very languid, ſick and faint, and had Tremors; the young and robuſt, who had more full Pulſes, were generally delirious, unleſs it was prevented or taken off, by proper Evacuations, and cooling Medicines. I found bliſtering to be of very great Service in this Fever, and the Sick were more relieved by it, than ever I obſerved in any other Fever whatever: People of lax weak Conſtitutions were very low and faint, and had frequent profuſe partial Sweatings, which moſt commonly were cold and clammy: Warming Alexipharmic Medicines with Volatiles, plentiful diluting with Sack or Rheniſh-Whey, and bliſtering freely, were of ſingular Service to theſe, and they often gradually recover'd without any manifeſt Criſis; in others the Fever was terminated by a regular Criſis; ſometimes it intermitted, tho' very rarely.

A Griping and Purging ſeized ſome, and its moſt violent Degree, the *Cholera Morbus*, others; we had ſome few Intermitting Fevers, eſpecially towards the latter End of *Auguſt*.

In the Beginning of *September* the Mercury in the Barometer fell to below change able Weather; we had high Winds from the Weſt, with Rain, and the Air became cool; upon this Change, the above-mentioned Fevers were much leſs frequent, and ſoon

after totally disappeared: But Intermitting Fevers quickly took their Place; we had some few *Quotidians* and *Quartans*, but the most frequent were *Tertians*: Some intermitted from the first Seizure, and were only attended with the usual Symptoms, but in a more violent Degree, and the Sick were frequently delirious in the Paroxysms: These were generally cured with a *Vomit*, the *Bark* and *warming Bitters*, with *Elixir Vitrioli Mynſ.* liberally given. In others the Fever was either very irregular, or continual for several Days at first; many were *delirious*, most were *comatous*, and afflicted with a dull heavy Pain in the Head; their Tongues were at first white, then brown; their Urine crude, of a high inflammatory Colour, with a Cloud, but no Sediment; and before the Fever turned to intermit regularly, it put down a large whitish-brown Sediment: The Sweat in the Paroxysms of this Fever generally had a very particular nauseous stinking Smell, very disagreeable both to the Sick themselves, and to their Attendants. Bleeding, (which by reason of the Violence of the Symptoms in some was necessary) and other suitable Evacuations *pro re nata*, with the Use of antiphlogistick Acids, generally brought the Fever to intermit regularly; after which I let the Sick have two or three regular Fits, and encouraged the Sweating as much as possible,

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by giving diluting aceſcent Liquids, warm to promote it each Fit, before I gave the Bark: I obſerved that thoſe who gave it without this Precaution, often thereby brought the Fever continual again, which was too often attended with bad Symptoms, probably by too ſoon checking the Diſcharge of that putrid ſtinking Matter, which in others was carried off by ſweating in the Fits: Theſe, by bliſtering, keeping the Body open with cooling Clyſters, or proper Laxatives, and the Uſe of cooling acid Medicines, had the Fever brought to intermit regularly again; after which, I found that a ſimple Decoction of the Bark in Water, without any ſpirituous Liquors added, and the common Emulſion of the cold Seeds, anſwer'd the moſt effectually.

From the Beginning of *October* to the latter End of it, we had cold Winds, and frequent Rain; and in the Beginning of *November* we had ſome Snow, with a ſharp Froſt for a few Days. Upon the Coming of this Froſt, the above-mentioned *Febris Synochus*, which was, upon the former Change from hot and dry, to cool and wet, very much abated, now totally diſappeared: And we had ſome continued Remitting Fevers and Pleuriſies, but the Intermitting Fevers continued as frequent as ever, inſomuch that almoſt one third Part of the poorer labouring People in moſt Places were

afflicted with it; but the Sweatings in the Paroxyſms, which were ſo nauſeous and offenſive in the preceding Months, were after the Froſt, no more offenſive than at other times; tho' the *Tertian* and *Quartan Fevers* continued to be as frequent as before; but the *Remitting Fevers* very much abated, ſo that we had very few after the middle of *November*.

In the latter End of *November* the Weather was very pleaſant and warm, almoſt like the Month of *April*; the Barometer ſtood between fair and ſettled fair Weather, the Thermometer a little above temperate, which continued till the middle of *December*, when the Mercury in the former roſe to 30 Inches high, and the latter ſtood near very cold Weather, and we had a good deal of Snow, with a ſharp Froſt which continued three Weeks. Upon this Change the *Remitting* Fever totally diſappeared; and the Number of the Sick in the Intermitting Fever abated very much: But ſeveral were ſeized with inflammatory Diſeaſes, as Quinſies, Pleuriſies, and Peripneumonies, *&c.*

In the Beginning of *January*, the Mercury in the Barometer fell to below 29 Inches; the Wind changed, and we had ſome Rain, which totally diſſolved the Snow and Froſt: Upon this Change, the above-mentioned inflammatory Diſeaſes became more frequent; in moſt of which, and eſpe-

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cially the Pleurisies, the Pains were very acute, the Pulse quick, strong and hard; the Blood was sizy, and when it stood till 'twas cold, it was cover'd with a very thick Glew or Buff-like Pellicle; in the Peripneumonies, the Sick breathed very difficultly, and with great Pain: Those also who had the Intermitting Fever were seized with acute pleuritic Pains during the Paroxysms, from which they could not be relieved without bleeding; and few of these could bear it, except it was in very small Quantities, and especially such as were brought low and weak by the long Continuance of the Intermitting Fever before; some of these, and many of the poorer sort of People, who had not proper Assistance and Necessaries, died. Gouty People were much affected now; and we had some Apoplexies and Palsies. This was the State of the Diseases with us, in the Months of *December* and *January*; during which time the Wind was generally in the East and North-east Points, and the Weather very cold; the Variations in the Barometer and Thermometer were not so great as to deserve our particular Notice.

The Month of *February* was as warm as it usually is in other Years in *April*, and was attended with much warm Rain. Several were now seized with a Diarrhœa, but many more with a suffocating Quinsey, or with a Pleurisy; many who laboured under the

the Intermitting Fever, were ſeized with pleuritic Pains, or violent Head-aches, and were frequently delirious; but bleeding and diluting well, generally relieved theſe laſt, after which the Bark with fixed Salts, and proper Bitters, (of which the *Trifol. Aquatic. & Flor. Chamæmeli* were by much the beſt) effectually cured them; but many of the labouring and poor People, who uſed a poor low Diet, and were much expoſed to the Injuries and Changes of the Weather, died; many of whom probably wanted the neceſſary Aſſiſtance of Diet and Medicines.

The State of the Weather continued much the ſame till about the middle of *March* 1728, when the Barometer which had riſen a little before, now fell again, as did the Thermometer alſo, and we had great and almoſt continued Rains for three Weeks, with cold North Winds, and ſometimes Snow: Upon which the above-mentioned Inflammatory Diſeaſes, *viz.* Pleuriſies, Peripneumonies, Quinſeys, and ſome Rheumatiſms, increaſed both as to the Number of the Sick, and the Violence of their Symptoms; the Pleuriſies and Peripneumonies were ſome of them of the true, and others of the nothous Kind; the Pulſe was generally low, but very quick and hard, the Pains acute, the Blood very ſizy, and cover'd with a thick buff-like Pellicle; the Sick were not relieved without often repeated Bleeding,

diluting

diluting plentifully with Emollients and Pectorals, and Volatiles added to them. Those who before had suffered much from the Intermittent in the Winter, were most liable to be seized with these Disorders; and as they could not bear the Loss of much Blood, many of them died.

The Quinsey, which now appeared, was attended with violent Symptoms, threatening immediate Suffocation, and was soon fatal, if not timely relieved; upon bleeding them once, or, such as could bear it, twice, the Inflammation and Swelling in the Throat abated on the third or fourth Day; and the next Day the Humour by a sort of *Metastasis* fell on the Diaphragm *Mediastinum* or *Pleura*, and sometimes on the *Peritoneum*, or *Viscera*, with violent Symptoms; the Pulse was low and weak, but very quick and hard; the Blood very sizy; the inward Heat and Thirst great; the external and remote Parts but moderately warm, or cold: Many of these dy'd, especially those who were debilitated by the Intermitting Fever before; their Fluids being thereby so much vitiated and sizy, and the Tone of their Solids weakened, that they were not able to bear bleeding in such Quantities as were necessary to remove such violent inflammatory Disorders, attended with such dangerous Symptoms; neither did the Disease yield to a cautious or a liberal Use of Volatiles, as

Spir.

Spir. C. C. &c. with *Pectorals*, &c. nor to Antiphlogisticks, nor cooling Laxatives, nor to Fomentations or other topical Applications; nor did any other Method, which Art cou'd afford, relieve them, insomuch that many of the little Country Towns and Villages were almost stripped of their poor People, not only in the Country adjacent to *Rippon*, but all over the Northern Parts of the Kingdom; indeed I had no certain Account of what Distempers, those who were at a Distance dy'd of, but suppose they were the same as those which I have mentioned, which were nearer to us; *Bleeding*, *Pectorals with Volatiles, and antiphlogistic Diluters*, and *Blistering*, were the most successful. I observed that very few of the richer People, who used a more generous Way of Living, and were not exposed to the Inclemencies of the Weather, were seized with any of these Diseases at this Time.

Intermitting Fevers were also frequent; which the *Bark* alone without *warming Bitters, and the fixed or volatile Salts*, very seldom effectually cured: The *Quartans* were very subject to turn into *Quotidian*, and sometimes to Continual, in which the Sick were frequently delirious; but Evacuations generally brought them to intermit regularly again, when they were cured as above.

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The latter End of *March*, and all the Month of *April*, except two or three Days at the Beginning of it, were in general very Cold, the Wind being in the North, North-eaſt, and North-weſt Points, and accompanied with Rain frequently, and ſometimes with Snow: The Mercury in the Barometer was moſtly between 29 and 30 Inches high; and the Thermometer at cold Weather, which continued till the Beginning of *May*.

During this Time, and eſpecially towards the latter End of *April*, the above-mentioned inflammatory Diſeaſes very much abated; and ſeveral were ſeized with a Fever which ſeemed to be ſomething of the putrid Kind, as it was attended with ſeveral bad Symptoms. The Sick were at firſt ſeized with the Senſe of a Weight and Uneaſineſs all over them, which increaſed with the Fever, and produced a frequent Toſſing to and fro in Bed, accompanied with Heat and Thirſt; ſome were ſeized with Vomiting, others with an Oppreſſion and Reaching to vomit, both with a Looſeneſs after it, which continued moſt of the remaining Time of the Fever: In ſome the Looſeneſs did not come on till the eighth or tenth Day, and then began with a Vomiting; ſome had frequent partial Sweats; but they were not in the leaſt relieved by any of theſe three: Their Pulſe was quick and hard, but generally low and weak; moſt were delirious, others lay in a

comatous

comatous ſtupefied State: Some, eſpecially the Hyſterical, and thoſe of lax weak Conſtitutions, had Twitchings, Catchings, *Tremors*, and irregular unequal Pulſes, with great Sweats, and were delirious (*Urinas et Stercora, involuntarie emittentes*): The Tongue was dry, parched and brown, or black; their Urine was very crude, ſometimes with a thick muddy Cloud, other times without and high-coloured, always without a Sediment. The Fever when judiciouſly treated, was generally terminated, either by critical looſe Stools, a copious univerſal Sweat, or by a well-digeſted Urine with a large Sediment, but moſt frequently by looſe Stools, on the nineteenth Day: In ſome few, it continued a little longer, and went off gradually without any manifeſt Criſis. Thoſe who did not recover, generally had the Looſeneſs not ſo ſoon, and in a greater Degree, with partial Sweats, which were moſtly cold and clammy, and they generally dy'd on the nineteenth Day. Blood taken from the Sick in the Beginning of the Diſeaſe was florid and denſe, but with very little or no Sizineſs. A Vomit given at the firſt, and a gentle Cathartic the next Day, as *Rhubarb*, &c. was of very great Service, and render'd the Fever much more moderate in all its Symptoms during the remaining Time of the Diſeaſe; and the more ſo, if the Sick diluted plentifully after, and towards the latter End of the Diſtemper: If warming

warming Alexipharmics with Diluents were prudently given, the Crisis was sooner brought on, and rendered more complete: For as Nature by the Purging and Vomiting, indicated this Method of Treatment, so I found that those who were thus treated, recover'd soonest. Blistering likewise was of singular Service, as the Sick were much oppressed, languid and weak, especially to those of low weak Constitutions. Those who had warm heating alexipharmic Medicines, given without diluting well with them, had the Fever and all its Symptoms much aggravated thereby; *Laudanum* had the same Effect: Stopping the Loosenes did the same, and was very hurtful; the Loosenes sunk the Patient very much, if it was not curbed and abated by giving *Rhubarb* once, twice, or sometimes three times: This carried off the acrid malignant Humours, which probably caused the Disease.

During the Months of *May* and *June*, the Weather was very warm, and the Winds changeable, tho' the Barometer generally stood at fair Weather: Upon this Change from Wet and Cold, to Warm and Fair, the Pleuritic and other Inflammatory Fevers almost totally disappeared; some few Intermitting Fevers still remained; and the abovementioned *Febris Synochus* continued, and about the Middle of *June* it either changed in its Symptoms and *Diathesis* to a more

putrid

putrid Nature, or elſe it was ſucceeded by an epidemical ſlow putrid *Synochus* (or a ſlow nervous Fever, as it is now called): Its Symptoms, during the firſt four or five Days, were a ſlight Pain and Uneaſineſs all over the Body, with a Coldneſs on the Surface and remote Parts; a low quick Pulſe; a dry parched brown Tongue; not much Thirſt; ſome were ſeized with a Vomiting and Purging at the Beginning of the Diſeaſe, as before, which did not relieve them: On the fifth, ſixth or ſeventh Day, the Fever and Heat generally increaſed, the Pulſe was very quick, low, often unequal, and accompanied with Catchings, and great *Tremors*; moſt were either comatous and ſtupid, or delirious; ſome had purple *Petechiæ*, and partial Sweats about the Head and Breaſt, tho' dry and hot in the other Parts; all theſe Symptoms increaſed, and were aggravated as the Diſtemper advanced: The Urine was crude, and not higher coloured than uſually it is in a State of Health, and ſometimes put down a yellowiſh white Sediment; in others it was thin and clearer: Thoſe whoſe Strength cou'd bear the Vomiting and Purging, which ſeized ſome of them at the Beginning of the Diſeaſe, recovered much ſooner, and had the Fever and all its Symptoms in a much more moderate Degree. I found that giving a Vomit at the firſt, and *Rhubarb* once or twice afterwards, were of ſingular Service to

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the Sick, as it render'd the Diſeaſe and all its Symptoms, more mild and favourable: After the ſeventh or eighth Day, Bliſtering relieved them very much, by attenuating the Fluids, and ſtimulating the Solids; and ſo rouſing the low Pulſe, and cauſing it to beat with more Freedom and Strength, they contributed to bring on the Criſis; eſpecially if they were aſſiſted by giving gentle *Alexipharmicks*, as, *Lap. Contrayervæ, Rad. Angelic. Serpent. Virgin. Confec. Raleigh. Sal Succini vel. C. C. vol.* &c. towards the latter End of the Diſeaſe, with Anodyne Emulſions; and the Sick diluted plentifully, with Sack-whey, or *Rheniſh*-whey, or other ſuitable aceſcent Liquids: Thoſe who had any tolerable Share of Strength, and were treated in this manner, generally recover'd; but the low, hyſterical People, and thoſe who had weak Conſtitutions, eſpecially if advanced in Years, were the moſt violently afflicted with the Diſeaſe, and were attended with the worſt Symptoms, and many of them died. Too hot a Regimen aggravated the Symptoms: *Laudanum* I durſt not venture to give; and I obſerv'd that thoſe who did take it, were more injur'd than relieV'd by it: But *Diacodium*, prudently given, and ſoft Anodyne Emulſions, were of great Service to the Sick. But the moſt effectual and moſt ſalutiferous Method was, carefully to obſerve and *aſſiſt Nature by ſuch Evacuations as ſhe indicated*; for ſhe always indi-

cates and points out ſome, if we do but diligently obſerve and attend to her; and 'tis both the ſafeſt, and our Duty to follow her, where it is practicable.

The ſame hot, dry State of the Weather, and the ſame Diſeaſes, continued till near the latter End of *July*, when the Barometer and Thermometer fell conſiderably; the Wind changed into the North, and it was much cooler, accompanied with Rain; after which the above-mentioned Putrid Fever abated much: But we had ſome Remitting Fevers, Quinſies and Pleuriſies, and ſome few Intermitting Fevers.

It continued to be dry and warm, from the Beginning till about the Middle of *Auguſt*, when the Wind changed, and it became more than uſually cold, tho' without Rain. After this Change, the before-mentioned Putrid Fever abated very much, and before the End of the Month it totally diſappeared; but the Remitting Fever ſtill continued, with its Symptoms ſomewhat aggravated.

In the Beginning of *September* the Barometer fell to below 29 Inches, which was followed by much Rain and cold Weather. Upon this Change the Intermitting Fevers became very frequent, and were often accompanied with pleuritic, or other Pains of an inflammatory Nature; in which Caſes Bleeding was neceſſary, as alſo were ſaline and ſaponaceous Medicines, either before or with the

Bark,

Bark, without which the Bark would ſeldom cure the Fever, without ſome ill Conſequences attending; and in others who had not theſe inflammatory Symptoms, the Diſeaſe was difficult to cure; nor did the Bark, when given in the common way, do any thing more, than put off the Fits for a Week or ten Days, when it returned again, unleſs the ſaline and warming aromatic Bitters, *&c.* were given with it, which generally cured it.

The continued Remitting Fever was ſtill very frequent, in which the Pulſe was generally low, quick and hard, and the Sick, in the Height of the remitting Paroxyſm, were frequently delirious; in all, the Head was very much affected, and thoſe who were advanced in Years, often laid in a comatous State, and ſome were ſpeechleſs, during the Fit; moſt of theſe laſt died. Thoſe who had Strength to bear Bleeding, and gentle Evacuations by Clyſters, *&c.* had the Fever brought to intermit regularly by them, and a liberal Uſe of Antiphlogiſtics; after which it was ſafely and eaſily cured by the *Bark*, *Elixir Vitrioli Mynſ.* &c.

The Weather was cool and wet moſt Part of the Month of *October*, and till the Middle of *November*; during which Time the Intermitting and Remitting Fevers were frequent; and in the Beginning of *October* a Fever ſeized ſeveral, which began with a cold ſhivering Fit, ſucceeded by a Heat and a violent Pain

in the Head, with a florid high Colour in the Face; a very quick Pulſe, generally about 120 Vibrations, or often more, in a Minute's Time, tho' not very ſtrong nor high, yet a little hard: The Thirſt was not great; the Tongue in ſome was dry, and ſeveral were delirious or comatous; all had a great Dulneſs and Pain in the Head; for both in this, the Remitting and Intermitting Fevers, the Head was more affected than is common at other times in the ſame Diſeaſes: Wherefore I found that Bleeding *pro re nata* at the Beginning of this Fever, (as alſo in the others) and a Vomit, where it was indicated, and cooling *Clyſters* afterwards, diverted the Tendency of the Humours, or febrile Matter from the Head; when the Uſe of Antiphlogiſtics in the firſt five or ſix Days of the Diſeaſe, kept the Fever ſo moderate and regular, that by the proper Uſe of gentle Alexipharmics and Volatiles, added to the former for two or three Days more, a Criſis was generally brought on about the ninth Day: By this Method the Fever generally was at its *Acme*, and began to abate on the fifth, and was finally determin'd on the ninth Day, by a general warm Sweat for ſome Hours, or by a few critical looſe Stools; or in others, by a large Sediment in the Urine: And to which of theſe ways ſoever I obſerved the morbific Matter tend, I endeavour'd to aſſiſt the Diſcharge, by giving the Patient ſuch Medicines as tended to pro-

mote those Excretions: In those who were not treated in this manner, the Fever continued three, or sometimes four, Weeks; in which Time the Sick were sometimes delirious, sometimes had a few loose Stools, and sometimes had partial Sweats; and at last the Fever gradually left them, in a weak, lingering, low Condition; from which, after some Time they gradually recovered: In a few the Fever intermitted at last; and thus the State of the Weather and Diseases continued till after the Middle of *November*.

In the latter Part of *November* we had a good deal of Snow, and a sharp Frost for two Weeks, which then dissolved, by the Wind changing into the South-west, with very little or almost no Rain; and about the Middle of *December* a great deal of Snow fell again, followed by a very severe cold Frost, which continued above six Weeks, *viz.* till the Beginning of *February*, when it went off as the former did, with very little Rain: The Barometer stood during this Frost at 30 + ½ Inches high, and the Thermometer at very cold Weather. Soon after the Accession of the first Frost, the above-described Fever, and the Remitting Fever, both ceased, and very few Intermitting Fevers appeared after the Accession of the second Frost. The Distempers which were most frequent during this very cold Season, were of the inflammatory Kind; as, Quinsies, Rheumatisms, inflammatory Fevers, Pleurisies, and

Peripneumonies, both of the true and nothous Kind; and upon the Diſſolution of the Froſt, we had ſome Apoplexies and Palſies: The Blood of all theſe was very much inflamed; and when it ſtood till it was cold, it was covered with a very thick, ſizy, ſtarch-like Skin; the Pulſe was very hard, and very quick, and generally had above an hundred Pulſations in a Minute's Time, eſpecially in the inflammatory Fever, which now ſeized many; they complained of great Pain, Heat, and Uneaſineſs all over the Body; ſome were delirious, and ſome were ſeized with pleuritic Pains in that Fever; the Urine of Children was clear, ſomewhat pale, and put down a milky, whitiſh Sediment; in Adults it was a little higher coloured, tho' not ſo high as it uſually is in inflammatory Caſes. The Pain in Pleuritics and Rheumatics was very acute and ſevere; yet the Sick could not in general bear Bleeding ſo plentifully and freely as they requir'd in the ſame Diſeaſes in the Year 1727; neither did it relieve them now ſo much as it did then; for in that Year I order'd ſeveral Perſons to loſe 120 or 140 Ounces of Blood, at ſeveral times, in theſe inflammatory Diſtempers, with great Relief and Succeſs; whereas this Winter I met with few, not even the ſtrong and robuſt, who could bear the Loſs of above 40 or 50 Ounces of Blood, at three or four times; but in general, moſt of the Sick could not bear Bleeding oftener than

twice,

twice, and then not toexceed ℥ xxx or ℥ xxxiv at most, at two or at three times; and especially those who had been afflicted with, and debilitated by the Intermitting Fever in the Autumn before, these could not bear Bleeding oftner than once, or twice at most, and in very small Quantities too, tho' the Acuteness of the Pain, and the other Symptoms in all, seem'd at first to indicate much larger Evacuations that way; but the first Bleeding often sunk the Pulse and Strength of the Patient so much, that I durst not repeat it more than once, and in some not at all; and those who repeated it oftener, were generally unsuccessful therein; yet by cautious and moderate *bleeding*, plentiful diluting with *pectoral, emollient, antiphlogistic, and saponaceous Diluters*, and *external emollient Fomentations*, during the first Days of the Disease; and more subtil and volatil Medicines added to these towards the latter End of it, they generally recover'd, tho' not without great Care and Caution.

Blistering did not abate the Pain and Uneasiness, nor relieve those who were delirious in these inflammatory Cases, as they usually do in the latter End of the Disease, at other times. I did not find that the Number of the Sick did either increase or decrease upon the Change from Frost to Rain, *&c.* tho' I grant it was but a few Days before the Frost return'd again; for the State of Diseases con-

tinued much the ſame, till about the Middle of *February*, when we had more Rain; upon which theſe inflammatory Fevers became leſs frequent, and quickly after diſappear'd.

Soon after this Change, I obſerv'd ſome few were ſeiz'd with a ſlow Fever; they were firſt attack'd with a great Uneaſineſs all over the Body, with Reſtleſneſs and continual Toſſing, yet with no great Pain; an inward Heat without much Senſe of Thirſt; a dry parched Tongue, at firſt white, then brown and chop'd; the Skin all over dry and parched in ſome; others had large, profuſe Sweatings; a languid, low Pulſe, but quick, and in ſome a little hard: Their Urine was generally pale, or not high colour'd; and put down a thick, whitiſh curdled or Flock-like Sediment, ſometimes a little yellowiſh, or in others of a Bloom or faint Pink-colour: In thoſe who did ſweat much, the Urine was higher colour'd, but its Sediment whitiſh; for in moſt it put down a Sediment all the time of the Fever: Thoſe who were bled, and uſed cooling Medicines, had the Fever continued fbr thirty Days, or more; and then it did not go off with a regular Criſis, but gradually, and left the Sick in a weak, lingering State: But in thoſe who were vomited in the Beginning of the Diſeaſe, were treated with alexipharmic Medicines after, and diluted plentifully at the ſame time, the Fever generally came to a Criſis on the ninth or eleventh Day;

when

when it went off by a general critical Sweat, and in ſome few by two or three looſe Stools, or by Urine, tho' moſt commonly by a copious Sweat. I alſo found, that thoſe who had a little *Rhubarb*, or other gentle Cathartic given a Day or two after the Criſis, recover'd much ſooner than thoſe who had not; for in ſeveral the Criſis ſeem'd to be imperfect, and this Purging intirely reliev'd thoſe.

In the Months of *March* and *April* 1729. the Weather was more than uſually cold and dry, the Wind, during the greateſt Part of them, being in the Eaſt, or Eaſterly Points: The above-mention'd Fever, which was frequent in the Month of *February*, and Part of *March*, diſappear'd in the Month of *April*; and the Small-pox became very frequent, but was of a diſtinct benign Kind in general. Rheumatiſms, Peripneumonies, Pleuriſies and Quinſies alſo became very frequent again, during this cold, dry Seaſon, eſpecially the two laſt-named Diſeaſes; in which few of the Sick, except thoſe who had robuſt, ſtrong Conſtitutions, could bear the Loſs of ſo much Blood as is often neceſſary, and is uſually taken in thoſe Diſeaſes; and particularly thoſe who had been much reduced and debilitated, by the Intermitting Fever in the Autumn or Winter; who now were very ſubject to be ſeiz'd by theſe Diſtempers, and were able to bear the Loſs of very little, or no Blood; and thoſe who injudiciouſly treated

theſe

these Diseases in the common Method, by bleeding, and giving cooling Medicines liberally, did somewhat abate the Inflammation thereby; but on the third or fourth Day it remov'd by a sort of *Metastasis*, from the Throat or *Pleura*, and fell upon the *Diaphragm*, *Mediastinum*, or *Pericardium*, and prov'd fatal; whereas those who were cautiously bled, and treated with emollient antiphlogistic Medicines, and Volatiles given more liberally with them, assisted by suitable Fomentations applied to the Parts affected, and Blistering, *&c.* generally recover'd. Gentle attenuating Sudorifics were of great Service to some: Their Blood was mostly sizy, tho' the Pulse was not very hard, nor strong, but very quick, as it usually was in the Winter and Year before. We had also some Quotidian and Tertian Fevers, which were difficultly cured, and seldom without the Addition of warming Bitters, and fixed or volatile Salts, *&c.*

In the Beginning of *May* we had a great deal of very cold Rain, which continued till after the Middle of it, when the Weather became a little warmer, tho' not so warm as it usually is at that Time of the Year, the Wind being generally all this Month, and most of *June*, in the East; and altho' it was somewhat warmer, yet the Rains continued very frequent, till near the Middle of *July*. Upon this Change from cold and dry to moist wet

Weather,

Weather, the Country in general became more than usually healthful; and we had very few Diseases, except some in the above-describ'd inflammatory Diseases, during the Month of *May*, in which I found the Sick could bear larger Evacuations very well, and were much easier cured than before: We had also some few Intermitting Fevers; but as the Season became warmer, tho' wet, all these Diseases became less frequent, and of a more benign Kind too, and soon after almost totally disappear'd, and the Country was very healthful.

From the Middle of *July*, till after the Middle of *September*, we had very warm, clear, dry Weather, excepting two or three Days at the latter End of *July*, in which we had a great deal of Rain, the Mercury in the Barometer being generally about 30 Inches high: During this Time the Country continued to be very healthful, till near the latter End of *August*, when a slow continued Fever invaded several: They were seiz'd at first with an unusual Weight, and uneasy Pain all over them; after which a cold shivering Fit came, succeeded by a burning Heat, tho' not intense, which continued till another cold Fit came on: And thus the cold and hot Fits came alternately, in some once, in others twice a Day, during the first two or three Days of the Fever: Most were seized at the first with a Vomiting and Purging, some

with

with the latter only, but neither were violent, nor of any Service to the Sick, when suffered to continue: They had a frequent, low, quick Pulse, attended with great Inquietude and Tossing, but the Pain not violent; not much Thirst, tho' the Tongue was either white and furred, or parch'd and brown; but most commonly the latter, as the Fever advanc'd; the Sick got little Sleep, and what they did get was much troubled and uneasy, and they were not refresh'd by it; some had nervous Twitchings, *subsultus tendinum*, and great Tremors: Their Blood was of a florid red Colour, but not sizy; their Urine was not high-colour'd, and in some did put down a Sediment all the Time of the Fever; in others it did so till within four or five Days before the Crisis, when it became somewhat higher colour'd and clearer till the Crisis: Bleeding, even in those who could bear it well, and whose Strength, Pulse and Pain indicated it, did but abate the Pain, and relieve the Patient very little; but a Vomit at the first, and moderate Diaphoretics for some time after, were of singular Service; for these, with *Anodyne Emulsions*, and *Diacodium*, at proper Times, generally brought the Fever to a Determination by a copious critical Sweat, or a few loose Stools, tho' most commonly by the former, on the fifteenth Day: In those who were not treated in this manner, but were blooded, and had the usual cooling Methods

thods applied; it continued near thirty Days, and then came to no perfect Crisis; but the Sick being brought low and weak, the Fever became intermittent, which also it sometimes did in those who had the Crisis sooner, and more regular: Where the Fever did not intermit, I found that the Patient recover'd slowly, unless a gentle Purge or two of the warmer kind were given, and aromatic Bitters after them: Probably the same Causes having produc'd that languid, inactive State of the Solids and Fluids, might be the Reason why the febrile Matter was so inert, viscid or unactive, and consequently produc'd the above-mention'd Symptoms, and indicated and requir'd such Remedies; and also was the Reason why *Laudanum* was more hurtful than useful in this Fever. We had also several Remitting and Intermitting Fevers, whose Paroxysms were very long, and sometimes ingeminated and irregular; but suitable Evacuations generally brought them to a regular Intermission, when the *Bark*, with warming Bitters, and fixed Salts, easily cured them.

The Small-pox were likewise now frequent, but of a benign, distinct Kind in general: But I was told that they were more malignant at *Leeds*, about twenty Miles distant from *Rippon*.

Towards the latter End of *September* we had a great deal of Rain, and the Weather continued to be very wet during the Months of

of *October*, *November*, and almoſt to the Middle of *December*; the Mercury in the Barometer ſeldom riſing above 29 Inches, with ſome little Variations, higher or lower at times. Upon the falling of the Rain, or ſoon after, the above-mention'd Fever totally diſappear'd; for I ſaw none in it after the End of *September*, and the Country continued all this wet Time more than uſually healthful; more ſo than ever I knew it, excepting the very wet Summer of 1725, which was as uncommonly healthful, as it was wet.

During *October*, the Weather ſtill continuing very wet, a few were ſeiz'd with a ſlow Fever towards the latter End of the Month; they complain'd of a violent Pain, which almoſt continually moved from one Part of the Body to another; an Oppreſſion and Loading at the Stomach, with vomiting and purging, which did not relieve them; the Pulſe was quick, but very ſoft; the Blood was not in the leaſt ſizy, but of a good Colour, and had its due Quantity of Serum; the Head was affected with a Heavineſs and *Stupor*; ſome were delirious; they had little or no Sleep; their Urine was high-colour'd, but broke all the time, with a moderately large Sediment of a brown Colour; the Tongue was dry, and in ſome was brown and a little parch'd, tho' with very little Thirſt: Bleeding was of no Service, that I could obſerve; in ſome it abated the Pain for a few Hours, but

it

it did not relieve the Sick, as usual in Fevers attended with such violent Pains; but a Vomit repeated once or twice, and a gentle breathing Sweat, continued *pro re nata* for two or three Days, by warming Sudorifics and Volatiles, generally carried it off; for I saw none but who were perfectly cured by this Method.

The Season continuing very wet, and the Wind generally in the Southern Points; about the Middle of *November* an Epidemical Cough seiz'd almost every body, few escaping it, for it was universally felt over the Kingdom; they had it in *London* and *Newcastle* two or three Weeks before we had it about *Rippon*. Its first Seizure was generally with a Weight, Dulness, and Pain in the Head and Back; a Loss of Appetite, with a Sickness and Load at the Stomach; a slight Feverishness, but no Thirst; a violent and almost perpetual tickling Cough; they expectorated little, and what they got up, was a clear viscid Phlegm, which was raised and discharg'd with hard Coughing and great Difficulty; some had a Hoarseness and Difficulty of Breathing; others had pleuritic Pains, and some complain'd that a Weight and Pain in the Head made them almost blind for a Day or two at the first. The greatest Part of the People, and especially those of robust good Constitutions, got quit of it by the Use of Sack-whey, and other small Liquors taken warm,

warm, with Spirit of Hartſhorn, and ſuffer'd little from it: The Plethoric, and thoſe who were more violently affected by it, were cured by Bleeding, Pectorals, and encouraging a breathing Sweat for ſome time, and keeping the Body open, in five or ſix Days time; they never expectorated much, tho' the Defluction of ſerous Humours ſeem'd great by the Symptoms, till a Day or two at the laſt; and then it was a viſcid, thick Phlegm, not like the concocted Matter which is uſually ſpit up in common Colds. Weak, *cachectic*, *conſumptive*, *aſthmatic*, and ancient *pituitous* People ſuffer'd grievouſly by it; ſeveral of theſe were ſeiz'd with pleuritic Pains, and peripneumonic Suffocations, and many of them died. I did not obſerve any material Alterations in the Barometer or Thermometer, at that Time.

Whether this Diſtemper was ſolely cauſed by the long-continued Rains, relaxing the Solids, occaſioning thereby an Obſtruction of the perſpirable Matter, and thence a Defluxion of ſerous Humours on the Head, *Bronchia*, and Lungs; or it proceeded from ſomething of an infectious Nature in the Air, I ſhall not aſſert, but leave it to others to determine: To me the former ſeems more rational, and ſufficient; however I call it an Epidemical Diſeaſe, as it then ſeiz'd the Generality of People in *England*.

Excepting

Excepting this *Epidemic* Fever or Cough, and its Conſequences, and ſome few Intermitting Fevers, the Country in general was in a very healthful State, and continued ſo till about the Middle of *December*.

About that Time the Rains began to abate, and were much leſs frequent, and the Weather became very warm, pleaſant, and ſerene, more like to *April* than *December*. The Wind being generally in the Southern Points, we had neither Froſt nor Snow till near the Middle of *January*, when the Wind changed into the North, and we had a little Snow, which did but continue two or three Days, when it became warmer again, and continued to be very temperate, ſometimes intermix'd with a little Rain, till the latter End of *February*; at which Time we had ſome Snow, the Wind being in the North; this was ſucceeded by a great deal of cold Rain, which continued till the Middle of *March*. All this Winter likewiſe continued to be more than uſually healthful; only during the little cold Weather we had, ſome few inflammatory Diſtempers appear'd; but as they were in no reſpect violent, they were eaſily cured: It was alſo obſerv'd, that during the warm Winter, after ſuch a wet Summer, the *aſthmatic* and *conſumptive* People were more than uſually affected. We had alſo ſome *Miliary* or *Eruptive* Fevers, but they were not attended with any bad Symptoms. Intermittents were likewiſe ſome-

what more frequent; their Paroxyſms were frequently irregular, ſometimes ingeminated, and if injudiciouſly treated, they often became continual and dangerous; yet by Bleeding, or other Evacuations *pro re nata*, and proper *Antiphlogiſtics*, they were generally brought to intermit regularly; when they were cured with the *Bark*, proper *Bitters*, and the *Fixed Salts*, but ſeldom ſucceſsfully without the latter: Probably, as theſe helped to attenuate the Viſcidity of the Fluids, and at the ſame time gently ſtimulated the Solids; ſo they removed or prevented any Obſtructions being formed, which too often produce *Cachexies*, *Jaundices*, and *Dropſies* after this Diſeaſe, and were more eſpecially ſubject to do ſo this Year, than in others.

About the Middle of *March* 1730. the Wind changed into the Weſt, the Weather became more warm, and continued increaſing to be ſo, till the latter End of *April*; in which Time we had very few inflammatory Diſeaſes, in Compariſon of what uſually attend the Spring in other Years; and but few Intermitting Fevers.

At the Beginning of *May*, the Wind changed into the North-eaſt, and the Seaſon became colder and more dry; ſoon after this Change a Griping and Purging ſeiz'd ſeveral, and ſome were attack'd with an Inflammation of the Bowels.

About

About the Middle of *May*, the Wind changed again, the Weather became much warmer, and we had frequent Showers of Rain: Upon this Alteration the laſt-mention'd Diſtemper and Inflammation abated, and ſoon diſappear'd; but Intermitting Fevers became ſomewhat more frequent, and often were accompanied with the Jaundice, or an Icterical Diſpoſition, which requir'd *ſaponaceous* and *ſaline Medicines* to be given, either before, or with and after the *Bark*, *pro re nata*.

About the latter End of *May* the Wind changed again into the North, and the Weather became more cold and wet, and continued ſo in general, but ſometimes a little variable, till the Beginning of *Auguſt*. During this Time we had few or no Epidemical Diſeaſes, the Country in general being healthful, only ſome few Intermitting Fevers.

About the Beginning of *Auguſt* the Weather became very pleaſant, ſerene, and warm, the Wind being generally in the Weſt. During this Seaſon ſome few were ſeized with a Purging and Griping, ſome with a *Cholera morbus*, which was not violent, and was eaſily cured, if taken in time: Probably theſe may be more juſtly attributed to eating Fruit, and the Variations made in Diet at this Time of the Year, than to any Change or Influence of the Weather. We had alſo ſome few Intermitting Fevers, with the uſual Symptoms, and not difficult to cure. Ex-

cepting theſe, the whole Summer, and moſt of the Autumn, were more than uſually healthful, and without any Epidemical Diſcaſes; as I have obſerv'd wet Summers in our Iſland generally are.

From the latter Part of *September* to the Middle of *November* we had a great deal of Rain, and the Country was in general very healthful.

Towards the End of *November* the Mercury roſe to above 30 Inches, and the Thermometer fell to below cold; when we had very cold, foggy Weather, for three or four Days, followed by a good deal of Snow, and a ſharp Froſt, which continued about a Week with a very cold North Wind. Upon this great Change, ſome few were ſeiz'd with a Griping and Purging again; and ſeveral, eſpecially the *aſthmatical* and *ancient phlegmatic* People, were ſeiz'd with Peripneumonies; ſome few of the true, but moſt were of the nothous Kind: The firſt was generally accompanied with pleuritic Pains, which were very acute, and a great Difficulty of breathing; ſome of theſe, eſpecially the Aſthmatic and Weak, it took off.

The Froſt and Snow ſoon return'd again, and continued moſt of the Month of *December*, except a few Days, with a little Rain, which once or twice intervened; and in the Beginning of *January* abundance of Snow fell, which continued with a very ſevere, ſharp

ſharp Froſt, the greateſt Part of this Month alſo: The Mercury in the Barometer was generally at 30 or 30 + ½ Inches high, and the Thermometer was almoſt at very cold. During this ſevere Froſt, many were ſeized with inflammatory Diſeaſes, eſpecially Pleuriſies, ſome with Quinſies, and Rheumatiſms; in all which the Pulſe was generally very hard and quick, often full and ſtrong; the Blood was very ſizy and denſe, and cover'd with a thick Pellicle, which was very tough; the *Craſſamentum* was black and denſe; the Pains were very acute, and the Fever high; all which Circumſtances and Symptoms were moſt probably either produced, or at leaſt much increaſed, by the ſevere Coldneſs of the Air contracting the Solids, and rendering the Fibres more tenſe, elaſtic and rigid, conſequently the State of the Fluids more compacted and ſizy. Theſe Diſeaſes were not cured without large and repeated Bleeding, and the liberal Uſe of *emollient*, *antiphlogiſtic Medicines*, both internally taken, and externally applied; with attenuating ſaponaceous, or ſaline Volatiles added to the former, *pro re nata*, towards the latter End of the Diſeaſe: To this Method theſe inflammatory Diſeaſes generally yielded, and were effectually cured. Excepting theſe inflammatory Diſtempers, the Country was in general pretty healthful.

Towards the latter End of *January* the Small-pox and Measles began to appear; both were of a benign Kind.

The Month of *February* was very cold, and accompanied with a good deal of Frost and Snow, but not so much of either, as we had in the two preceding Months; for some ancient Men told me, that we had more Snow this Winter, than they had ever known to fall in any Winter, in sixty Years past. The State of Diseases continued much the same as in the two last Months.

From the Middle of *February* to the Middle of *April* 1731. the Weather was uncommonly cold and dry, the Wind generally in the East and North-east Points. The above-mention'd inflammatory Distempers continued with very little Variations in their Symptoms, during this cold, dry Season; neither did they abate before, or upon the Dissolution of the Frost. The Small-pox now became both more frequent, and much more malignant, than they were before; tho' very few died, and none that were treated after the manner as proposed in the Treatise of the *Small-pox*, *Chap.* VI. Several were seiz'd with *Ophthalmia's*, and some with an *Erysipelas*; but Evacuations and a proper Treatment generally cured them soon. The Chin-cough also was very frequent; in the Cure of which, Bleeding was most commonly necessary, and the Blood was very florid or sizy.

A little after the Middle of *April* we had ſome cold Rain for a few Days; after which the Wind changed into the South-weſt, and the Weather was very warm till the Beginning of *May*. The inflammatory Diſeaſes rather increas'd than diminiſh'd upon this Change, as they had done in the Winter before, upon the Diſſolving of the Snow and Froſts; at which times ſome were ſeized with dull, heavy Pains in the Head, and others with Palſies or Apoplexies.

In the latter End of *April* we had at *Rippon*, and ſeveral of the adjacent Villages, an uncommon Diſtemper; which ſeem'd to be of an epidemical Nature, as it infected almoſt all Children and young People under twenty Years of Age, but few who were elder, and none who were well advanc'd in Years: and as it ſeems to be a new Diſeaſe, I ſhall exactly deſcribe its Symptoms here.

They were ſeiz'd with a cold, ſhivering Fit, which was ſucceeded by a moderate feveriſh Heat, with a little Pain in the Head and Back, and ſometimes all over the Body; the Pulſe was quick, but neither ſtrong nor hard; a little Thirſt; all which continued a Day or two, and in thoſe who were worſe, for three or four Days, when the Face and Neck began to ſwell: The Neck generally ſwell'd in a hard Roll or Ridge two or three Inches broad, almoſt round it, but moſt commonly on the left Side only, ſometimes on both Sides; the

Swelling ſeem'd to be chiefly in the *Membrana adipoſa*, and ſome Part of the Muſcles externally, and not in the leaſt internally; for neither their Breathing nor Swallowing was in the leaſt affected: The Face ſwell'd very much, ſo as to make the Face of a Child of five or ſix Years old, as large as a Man's Face, and was of a freſh, florid Colour, even tho' the Child was naturally a little pale: This generally continued five or ſix Days, but without much Pain; the Head internally was very little, or not at all affected. Bleeding in thoſe who were of a ſanguine, plethoric Conſtitution, or had more of the Fever and Pain; and a Doſe or two of cooling, antiphlogiſtic, purging Phyſic, with a ſuitable Regimen, carried it quite off; others who were not ſo much affected by it, only requir'd the two laſt; none died of it, whom I ſaw or heard of.

About the ſame Time ſome were ſeiz'd with a *Diarrhœa*, attended with a Fever, griping Pain, Sickneſs, Faintneſs, and a low Sinking of the Spirits, and ſometimes with copious, profuſe Sweats: A few Doſes of *Rhubarb*, and corroborating Diluents with Anodynes, *&c.* generally cured it; in a few, it at laſt turned to intermit.

In the Beginning of *May* the Wind changed again into the North and Eaſt Points, and we had ſome cold Rain; after which the Weather continued cool and dry the remaining Part of that Month. During the Months of *June*,

July,

July, and till near the latter End of *August*, the Wind was very variable, and the Season in general continued to be dry, often cool, and sometimes intermixt with a good deal of Rain, for a Day or two; then dry and more temperate again. Tho' the Weather was thus variable, the Country in general was very healthful; for very few Diseases appear'd, and none which were epidemical: Those few Distempers we had, were Intermitting and Remitting Fevers, which were very seldom attended with any bad Symptoms: We had also some few inflammatory Distempers, but they were not violent.

Towards the latter End of *August*, the Wind changed into the South, and we had a great deal of Rain, which continued till *September*, when the Weather was warmer, tho' it was moist: Upon this Change the *Diarrhœa* return'd again, and several were seiz'd with the *Cholera morbus*, which Disease I have observ'd to appear almost every Year towards the latter End of the Summer, either in a greater or less Degree, accordingly as the preceding Summer Heats are greater or less, and as the Changes of the Weather at the latter End of it are more or less sudden and great; which is sometimes augmented by Peoples too inadvertently and voraciously eating Fruit at that Time of the Year.

The Account for the remaining Part of this Year 1731, *and to the latter End of the Year* 1732, *I have lost.*

In

In the latter End of the Summer 1732. and in Autumn, ſome few Intermitting, and ſeveral Remitting Fevers appeared; the Remitting Fever ſeemed in the firſt two or three Paroxyſms to intermit, and almoſt totally go off, with Sweating as uſual; but each Fit, inſtead of being more regular, became worſe, and more irregular and ingeminated, than the preceding Fit, whether left to *Nature* herſelf, or treated with *Evacuations* and *Antiphlogiſtics*; ſo that after two or three Fits, the Fever never went quite off; but remitted and returned with greater Violence, attended with Pain in the Head and Back, a burning Heat, great Thirſt, violent Toſſing, and great Uneaſineſs all over the Body, and many were delirious in the Paroxyſms; ſome had a Looſeneſs which relieved the Sick very little, or abated the Symptoms; others had profuſe Sweatings, which tho' continued for ſome Hours, did not abate the Pain and Symptoms much, and that no longer than the Sweat continued; their Urine was high-coloured with a Cloud ſuſpended, but no Sediment; the Tongue was dry, parched and brown; theſe continued and gradually increaſed till the twelfth or thirteenth Day, when it was determined by a general critical Sweat, or by a few looſe Stools, and in ſome it became Intermittent.

In the latter End of *November* we had a little Snow with a Froſt, which continued

near

near two Weeks; after which the Weather was uncommonly warm, dry and pleasant, till the latter End of *December*; when it was interrupted with a little Snow, and moderate Frost, which continued about a Week, after which the Weather returned to the same State as before. The *Small-Pox* were very frequent this Autumn, and generally of a malignant anomalous Kind, and in some they were attended with purple *Petechiæ* and *Hæmorrhages*, &c. But soon after the first Frost the *Small-Pox* became more benign, and before the latter End of *January* they quite disappeared. No other epidemical Disease but the *Small-Pox* reigned this Winter; for except them, the Winter was very healthful till the latter End of *January*.

We had very little Rain during the Month of *January*, and the Weather was uncommonly warm and pleasant, all that Month, except a few foggy Mornings at the latter End of it, like those usual in Autumn; and on *January* the 31st, the Mercury in the Barometer fell very low, *viz.* to 29 Inches; the Winds were in the South-west, very high, and accompanied with a great deal of Rain, which continued three Days; when the most universal epidemical Distemper seized almost all People, of all Ages, and all Nations, both in *Europe*, *Asia*, *Africa* and *America*, (as our public Papers informed us) that of late

has

has appeared; few escaped it in *Yorkshire*, where I then was, and I suppose it had the same Effect in other Countries, some of which it invaded before, and some after it did ours; they had it in *Germany*, *Holland*, and *New-England*, before we had it in *Great-Britain*; and in *Edinburgh* before it was in *London*; and they had it in *London*, and in some of the South Parts of *England*, and I think in *Newcastle* upon *Tyne* three Weeks, and at *York* about one Week, before we had it at *Leeds* or *Rippon*. The Symptoms were much the same in all Countries, by the Accounts from various Places; but were very different in their Degrees of Violence, in different Constitutions; I think more so, than I ever observed in any other Disease: It first began to spread its Infection, with us, on the Day following the above-mentioned three very wet and windy Days, being the 3d of *February*; and in three Days time, above one third Part of the People *in the Town of* Leeds, were seized with it.

They were commonly attacked with a small *Rigor* or Coldness, which was followed by a feverish Heat and Thirst, in some greater, in others less, with Pain in the Head, Breast, and sometimes in the Back and Limbs, or in the Side like a pleuritic Pain; a *Catarrh* with a violent Coughing, and in some a Sneezing; a *Coryza* or Running at the Nose; and a quick hard

hard Pulſe: The Blood was inflamed either more or leſs in all, and when it ſtood till it was cold, 'twas covered with a thin ſizy ſtarch-like Pellicle. What they expectorated, was at firſt thin, clear and viſcid; but afterwards became white or yellowiſh, yet more viſcid, clear and phlegm-like, than what is uſually ſpit up in the latter End of a Cold, or by thoſe who have ulcerated Lungs; tho' in ſome few it was not unlike it, eſpecially in *Phthiſical* People; for theſe, the *Aſthmatic*, and the *Hectical Conſumptive* People, ſuffered grievouſly by this epidemical *catarrhous* Fever, and in ſome Places many or moſt of theſe dy'd, as alſo did ſeveral who were ancient. Bleeding and diluting plentifully with tepid warm *antiphlogiſtic* and *pectoral* Diluters, to encourage the Excretions, eſpecially *Sweating* and *Expectoration*, carried it off in five or ſix Days time; gentle *antiphlogiſtic Cathartics* were of great Service. Some were ſeized with Pain all over the Body, but chiefly in the Head, which was followed by an Inflammation and Swelling in the Face almoſt like a beginning *Eryſipelas*, but without Bliſters; which was ſoon carried off by Bleeding, and a Doſe or two of purging antiphlogiſtic Phyſic. Theſe recover'd the ſooneſt of all, *viz.* in four or five Days time: Thoſe in whom it went off by plentiful Sweating for two or three Nights, encouraged by proper Medicines and diluting well,

well, after Bleeding, recovered the beſt and ſooneſt next after the others, *viz.* generally in five or ſix Days time. In thoſe who could not be brought to ſweat freely and plentifully, it was longer in going off by Expectoration; for, tho' they were much better in ſix or ſeven Days time, yet the Cough continued many Days, and ſometimes Weeks, after that; and left a *Languor* and Lowneſs of Spirits for ſome time. This *Catarrhous Fever* continued not above five or ſix Weeks in the Town or Country; for moſt had got over it in that time, and very few eſcaped it. In the two or three laſt Weeks of its Reign, *viz.* towards the latter End of *March*, it appeared like, or elſe it was ſucceeded by, a ſlow continued *Nervous Fever*, with Pain in the Head and Breaſt, *&c.* without a Cough, a low quick Pulſe, pale clear Urine, nervous Twitchings, and frequent large Sweats without much Relief from them, except a little during their Continuance; a continued Pain in the Breaſt, with a Faintneſs, Sinking, and a great Dejection of Spirits; an inward Heat, tho' ſeldom hot to the Touch outwardly, not much Thirſt. Theſe required more warming and ſaponaceous Medicines, as *Sal. Abſinthii*, *Succus Limon.* &c. and *Volatils*, with which and pectoral Diluents liberally given, they were relieved: Bliſtering was alſo of great Service to theſe. Many of thoſe who had good health-

ful

ful Conſtitutions, got through this Diſeaſe without any other Aſſiſtance, but taking ſomething that was ſmall and warm, as Sack-whey, Wine and warm Water with Sugar, or ſuchlike ſmall warm Liquors, at going to Bed for two or three Nights, and encouraging a breathing Sweat.

During all this time, we had an uncommon Number of *Hyſterical* and *Hypochondriacal* Symptoms, attending both this and moſt other Indiſpoſitions, and eſpecially this Fever, or a Relapſe of it; for in *March* ſeveral had a Relapſe, tho' ſeemingly perfectly recovered before. I have been more tedious and exact in deſcribing this Diſtemper, becauſe it ſeemed to be a Diſeaſe *ſui generis*, and was moſt probably cauſed by ſome contagious epidemical *Miaſmata* contained in the Air: How much the long continued Drought, and the unuſual warm pleaſant State of the Weather in Winter, and this ſudden Change to cold foggy Mornings, immediately followed by high Winds and Rain, might either contribute to its Generation, or at leaſt to its being conveyed to us, I ſhall leave to others to determine; however, I ſaw none who were ſeized with this Diſtemper, before the above-mentioned high Winds and Rain.

During the Months of *March*, *April*, *May*, *June*, *July*, *Auguſt*, and till after the middle of *September*, 1733. the Weather was more than

uſually

uſually dry; for we had very little Rain all that time. The Barometer during all theſe Months was very high, *viz.* from 30 to 30 $+\frac{1}{2}$ Inches, excepting the Days on which we had Thunder and Rain. The Springs were many of them dry, and the Rivers much lower than ever I ſaw them at any time before. Tho' theſe Months were thus unuſually dry, yet the Heat was very moderate and temperate, excepting two Weeks about the middle of *July*, which were ſultry hot, attended with Thunder, and ſome Showers of Rain. During this long continued dry time, the Country in general was very healthful, and without any epidemical Diſtempers, as far as I could obſerve; and other Diſeaſes were leſs frequent than uſual: Hectical and Conſumptive People ſuffered much during this dry time, and it was fatal to many of them. Some were attacked with the *Cholera morbus* in the latter End of the Summer, as uſual.

A little after the middle of *September*, the Mercury in the Barometer fell to about 29 Inches, or lower: We had a great deal of Rain, and the Weather was very cold. Soon after this Change, an epidemical *Pleuritic Fever* ſeized many; the Pain was very acute, the Pulſe hard and ſtrong, tho' ſeldom very full; their Blood was very much inflamed, its Quantity of Serum very little; and that was conſtantly glutinous and ſizy; their Skin was hot,

dry,

dry, and parched; they expectorated very little, and that with the greateſt Difficulty; and were generally *delirious*. Bleeding plentifully in the Beginning of the Diſeaſe, and diluting very well with emollient, antiphlogiſtic and pectoral Medicines; and the frequent Application of ſuch kind of Fomentations to the pained Part externally, were of great Service; but when theſe were too long deferred or neglected, neither they, nor Bliſtering, nor the Uſe of Volatiles, would anſwer as they uſually do at the latter End of this Diſeaſe, at other times. We had alſo ſome ſimple or true *Peripneumonies*, tho' the *Pleuriſy* above deſcribed was generally accompanied with a *Peripneumony*; and ſeveral were ſeized with *Rheumatiſms*, in which the Pains were very acute, the Pulſe ſtrong and hard, the Blood very much inflamed. Bleeding largely, *Antiphlogiſtics* and *Emollients* both internally taken, and externally applied, were very ſucceſsful; but Cathartics of any kind were not of ſo much Service, as they uſually are in this Caſe at other times. We had alſo ſome few *Tertian*, but more *Quartan Fevers*; in which there generally was ſome inflammatory Diſpoſition in the Fluids, eſpecially in plethoric Conſtitutions. Theſe generally required Bleeding; after which, the *Bark*, with *Elixir Vitrioli Mynſicti*, generally cured them.

The Weather continued much the ſame till the Latter-end of *November*, when the Barometer roſe; and the Thermometer fell to very cold, and we had a ſharp Froſt for ſeveral Nights: The above-mentioned inflammatory Diſtempers ſtill continued, and upon this Change rather increaſed. Alſo ſeveral were ſeized with a *Catarrh*, accompanied with a violent Cough and pleuritic Pains; which required nearly the ſame Methods of Cure as the inflammatory Diſtempers, *viz.* Bleeding, Anodynes, and Emollients.

The Month of *December* was uncommonly warm, even more ſo than the Winter before was, being more like *April* than *December*; inſomuch that ſeveral Birds began to build their Neſts, and I was credibly informed ſome had laid their Eggs: The Weather continued to be thus warm and pleaſant till the Latter-end of the Month, when the Barometer fell to below 29 Inches, and we had very high Winds, with a good deal of Rain. During this pleaſant warm Weather, the before-mentioned inflammatory Diſtempers abated very much, both as to the Numbers of the Sick, and the Degree and Violence of the Symptoms, and after this Rain they almoſt totally diſappeared. A little before, and during this warm Weather, ſeveral were ſeized with a Fever accompanied with a Looſeneſs, and in ſome with a Vomiting. Nature having thus diſcharged the peccant

Humours

Humours in ſome, they recovered without any Aſſiſtance; others to whom Nature or Strength of Conſtitution were not ſo benevolent, or who had the Diſeaſe in a greater Degree, were cured by Bleeding, a Vomit, and Rhubarb after it, and gentle Sudorifics with Stomachics afterwards.

I obſerved, that during the Latter-part of this Summer and Autumn, and in the Fore-part of the Winter, the Humours had a more than uſual Tendency or Diſpoſition to fall upon the Lungs or Breaſt; for all in general, who were indiſpoſed, complained more or leſs of Pain and Stitches in their Breaſts.

About the 3d of *January* the Barometer roſe to 30 + ½ Inches high, and the Spirits in the Thermometer ſettled lower than I ever ſaw them in the preceding four or five Years; when it began to freeze very hard, and continued ſo till the 16th of the ſame Month. During this Froſt ſeveral were ſeized with an Inflammation of the Inteſtines, attended with a feveriſh Heat and Thirſt, a ſmall quick hard Pulſe, griping Pains in the Bowels, and ſome with erratic and pluritic Pains. Some had a Looſeneſs at the Beginning, and in ſome it continued, in others not longer than two or three Days at the firſt; others were coſtive from the Beginning to the End of the Diſeaſe; their Urine was turbid, and put down a thick Sediment, moſt of or all the time. Tho' the Pulſe in this Diſtem-

per was generally ſmall and low, (even in plethoric Conſtitutions) yet Bleeding once or twice was abſolutely neceſſary; which, with proper *antiphlogiſtic Medicines* given inwardly; emollient, cooling and relaxing Fomentations to the *Abdomen*, and Clyſters of the ſame Nature frequently repeated, not only gave immediate Relief; but by the timely Uſe of them, I ſaw none but who recovered. Moſt of thoſe who were not bled, and treated in this manner, dy'd with the evident Symptoms of a Mortification of the Bowels. It is very probable, that the unuſual Lowneſs of the Pulſe in this Caſe had deterred ſome Practitioners from Bleeding, as I obſerved that they did not preſcribe it, and other Remedies without it proved unſucceſsful; for their Blood was generally very ſizy, and in all it was either more or leſs ſo. We had likewiſe at the ſame time ſome few *Pleuriſies* and *Rheumatiſms*; but I obſerved that in almoſt all Indiſpoſitions at this time, the peccant Humours had an uncommon Diſpoſition or Tendency towards the Bowels, as in Summer and Autumn they had towards the Breaſt.

On *January* the 17th the Barometer fell to changeable Weather, and we had a little Rain, after which we had three Days of ſerene pleaſant Weather, then three Days Froſt, which was totally diſſolved by a good deal of Rain; after which the Barometer roſe to

above

above 30 Inches, the Weather became unusually warm and pleasant as before, and continued so all the remaining Part of the Winter, and the Spring, till the Month of *May*. During which time, the Country in general was very healthful, and without any Epidemical Distempers, as far I could observe.

The Weather, during the Months of *May* and *June* 1734, was mostly much colder than the two preceding Months had been, and much more variable; for we had very short Periods of Rain, Warmth, Cold, *&c.* succeeding each other till the latter End of *June*. This inconstant State of the Weather in the Beginning of *May*, was attended with an Epidemic *Pleuritic Fever*, which first seized the Sick with a *Rigor*, or shivering Coldness, succeeded by a moderate Heat at the first, a quick, full, soft Pulse, but seldom either very strong or hard; a great Uneasiness all over the Body, and a Pain in the *Side* and *Scrobiculo Cordis*, as the Fever increased; which Pain either abated much, or went quite off, upon once Bleeding: They had large profuse Sweats, (which in some had a fœtid Smell, but it did not relieve the Pain, or universal Uneasiness, nor much abate the Fever) tho' it continued throughout the whole time of the Disease. They frequently complained of a low, dejected Fainting and Sinking of their Spirits, and were sometimes delirious; their

Urine was high-coloured, and without a Sediment; the Sweating continued, and the Fever at laſt either went off gradually that way, or without any manifeſt Criſis; their Blood was ſomewhat ſizy, but not much ſo. Gentle *Alexipharmics* with *Volatiles*, given with moderate *antiphlogiſtic* and *antiputreſcent Medicines*, and ſometimes proper Anodynes after once Bleeding, were the moſt ſucceſsful, and in general perfectly recovered them: Bleeding was very rarely either indicated, or required, more than once in this Fever. Some were ſeized with a Purging and Vomiting almoſt like a *Cholera Morbus*, but not ſo violent; for by giving a gentle Vomit, or waſhing the Stomach with Chicken Broth, or any other proper Liquid, a little Rhubarb with an Anodyne after it, and Anodyne Diaphoretics afterwards, they recover'd in four or five Days time. Some few had a *Cholera Morbus*, and ſeveral were ſeized with an *Ophthalmia*, or Inflammation of the Eyes; and towards the latter End of *June* the above-named Epidemic Pleuritic Fever abated much, and then totally diſappeared.

In the Beginning of *July*, the Mercury in the Barometer roſe to about 30 Inches high, and the Thermometer to warm Weather: But neither of them kept their Station long; for the Weather was ſometimes hot, and ſometimes cold; then a good deal of Rain, and ſo continued changeable till the Beginning

of

of *August*. During which Time ſeveral were ſeized with an *Exanthematous*, or *Eruptive Fever*; firſt with a *Rigor*, which was ſucceeded by a burning Heat; a Sickneſs and Vomiting, and in ſome with a Purging; Pain in the Head and Back, and ſometimes flying all over from one Part to another; this continued two or three Days, and then a Raſh broke out over the whole Body with great Itching, in ſeveral, which continued two or three Days more, and then went quite off with the Fever; in others, after a Vomit given, gentle *Sudorifics of Rad. Angel. Sal. Prunel. C. C. Vol. &c.* given in Sack-whey, or any other proper Liquid, warm, ſo as to continue a moderate *Diaphoreſis* for 24 or 40 Hours, the Fever and all its Symptoms went quite off by Sweating. But when Nature was not thus aſſiſted in the Beginning of the Diſeaſe, or was hindered by improper Treatment, the Fever continued ten, twelve, or thirteen Days, and then turned to intermit; when the Bark eaſily cured it. Some were ſeized with the *Cholera Morbus* above-mentioned, almoſt in the ſame manner, and were cured by the ſame Methods; we had alſo ſome few inflammatory Diſtempers, as Pleuriſies, *&c.* but they were leſs violent in their Symptoms, and more eaſily cured.

In the Beginning of *August*, the Mercury in the Barometer rose to 30 Inches, and the Spirits in the Thermometer to warm Weather, and we had a fine pleasant, dry, warm Season, which continued till about the Middle of the Month, when the Barometer fell again; and we had almost daily frequent Rain, which continued the remaining Part of this, and during the Months of *September* and *October*; and indeed the whole Summer and Autumn, excepting two Weeks in the Beginning of *August*, were uncommonly wet and cold, but now and then intermixed with a warm Day or two. In *September* a *putrid Synochus*, or a slow *putrid Fever*, appeared; in which the Sick were first seized with a cold shivering Fit, followed by a feverish Heat, which continued till another cold Fit came; and thus they had three or four cold and hot Fits, which came alternately without any Regularity as to Time, or Duration; after which, the Fever continued with a great Lassitude and Uneasiness all over the Body, attended most commonly with a burning Heat, a small, low, but very quick Pulse; with Exacerbations of the Fever, in which they were *delirious*; their Skin was generally hot and dry, at other times they had profuse partial Sweats; their Urine was high-coloured, and inflamed; their Tongue was dry, parched, and brown; some had Startings, Twitchings, and a *Subsultus Tendinum*; some had almost

almoſt a conſtant Hiccough for ſeveral Days, which cauſed a great Pain and Anxiety; and at other times they lay in a comatous ſtupified State; they did not complain of any Pain or Sickneſs, though ſome had a Vomiting and Purging at the Beginning, others only a Purging; in ſome the Heat was very moderate, not much exceeding that in a State of Health; the Pulſe was low, and ſometimes as ſlow as when in Health, tho' generally it was quick and low; few complained of any Sickneſs, but moſt, of a great Laſſitude, and lay in a ſtupid Condition, as if they were unſenſible of any Uneaſineſs or Pain. It continued at leaſt thirteen or fourteen Days before it came to a Criſis, and in ſome above twenty, or near thirty Days; and then went off at laſt, without any manifeſt critical Diſcharge.

Bleeding once at the Beginning of the Diſeaſe, eſpecially in ſuch as had plethoric Conſtitutions, and a Vomit after that, were of ſingular Service; then diligently obſerving to keep the Fever equal and regular, which indeed was very difficult to do; for a few, tho' ſmall Doſes of warming alexipharmic or volatile Medicines, which might have been expected to have aſſiſted Nature to throw off the peccant morbific Matter, ſoon raiſed the Fever, aggravated the bad Symptoms, and produced a *Delirium*; and too cool Medicines eaſily brought the Fever too low, and ſunk the Patient: But by keep-

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Advertiſement.

AN ingenious Acquaintance, in looking over theſe Sheets, having collected the following Aphoriſtical Obſervations, and added ſome explanatory Remarks, permitted them, at my Requeſt, to be annexed to this Treatiſe; intending them only as an imperfect *Specimen* of the Advantage which may reaſonably be expected from a continued and regular Series of Obſervations; and not as Sentiments indiſputably true.

APHORISM I.

Continued warm, dry Seaſons, are productive of inflammatory Diſeaſes, in which the Head is chiefly affected. *Maniac* and melancholy or hypochondriac Affections, are likewiſe more frequent after ſuch Seaſons, p. 1, 7, 21, 31.

RE-

REMARK.

Heat relaxes the Solids or Fibres of an animal Body, but if long continued, without Moiſture, it renders them criſp and elaſtic; it at the ſame time exhales the thinneſt Parts of the Fluids; the reſt are hereby inſpiſſated, and render'd leſs fit for Circulation, and the other Offices of Life. Whence ariſe Obſtructions, Inflammations, Fevers, *&c.* That the Head is ſo liable to be affected in this Caſe, may be owing to the delicate Texture of the Blood-veſſels of the Head, leſs capable of reſiſting the *Momentum* of the Fluids, and leſs able to force the inſpiſſated Fluids forward, than thoſe of any other Part; to which we may add, that the Head is more expoſed to the Influence of the ſcorching Solar Rays, than any other Part of the Body.

APHORISM II.

Continued cold and dry Seaſons, are productive of inflammatory Diſeaſes, in which the Head is ſometimes, but more frequently the Bowels are, affected, p. 3, 17, 25, 29, 38, 41, 55.

REMARK.

Cold contracts an animal Fibre, and renders it more firm and elaſtic; it corrugates

the Skin, and the perſpiratory Organs are conſtricted. If this State of the Air is long continued, it neceſſarily diminiſhes the Secretion of the Skin, by contracting the Veſſels: It's true, the Elaſticity of the Solids is increaſed, and conſequently the Expulſion is promoted by the Cold; but if the Quantity of perſpirable Matter retained, is ſuperior to the moving Cauſe, the *Æquilibrium* is deſtroyed, the Circulation becomes irregular, and the acervated peccant Matter, being *ſerous*, is carried to thoſe Parts that are deſtin'd for the Secretion of this kind of Fluids: The Glands of the *Fauces*, *Bronchia*, the inteſtinal Tube, and the Kidneys, are moſt frequently the Paſſages by which this Matter is excreted; but if the Part to which the Matter is determined, is not capable of giving it a Paſſage, the Glands and adjacent Veſſels are obſtructed and inflamed. We may tranſiently obſerve, that taking Cold (as it is called) frequently brings on a Fit of the Gravel in thoſe who are troubled with this Diſorder, not that the ſtony Concretion is inſtantaneouſly formed, from this Change in the Habit; but becauſe a Torrent of *ſerous* and ſometimes acrimonious Fluids diſlodges the Stone, and drives it into a more ſenſible Part. This Difference is generally obſervable in the Cure of inflammatory Diſorders, proceeding from continued Heat, and continued Cold, that in the former, Bleeding freely repeated,

repeated, and Diluents without any *Stimulus*; but what is neceſſary to procure a Mixture with the denſe ſizy Blood; is the moſt effectual Remedy; in the other, very moderate Bleeding, Emetics, gentle Cathartics, and whatever promotes the thinner Secretions: Veſications after the firſt Emotion, and warm Aromatics, are the only proper Aſſiſtants. Bliſters applied at firſt would be more deſtructive, by increaſing the Elaſticity of the Solids, and conſequently the general Inflammation, than they could do Service by attenuating; but after the Strength is in ſome degree ſpent in the Struggle, they very opportunely maintain that Force, which is neceſſary to attenuate the remaining Viſcidity, and diſcharge the Reſidue of the morbid Humours.

APHORISM III.

In warm moiſt Weather, epidemical Diſorders are gentle and moderate, p.4, 5, 31, 34, 40, 56. and Perſons are diſpoſed to ſlow continual Fevers with little Heat or Thirſt, p. 35. This Conſtitution likewiſe takes off Diſeaſes which owe their Riſe to a cold dry Seaſon, p. 39, 54.

REMARK.

A warm moiſt Air relaxes the Solids, and hinders rather than promotes, the cuticular Secretions:

Secretions: The circumambient Air being likewiſe replete with humid Vapours, part of theſe are conſtantly imbibed by the *abſorbent* Veſſels on the Surface of the Body, and added to the reſt of the Maſs. The Veſſels being thus relaxed, and the Quantity of Fluids ſomething increaſed, theſe are moved with more Difficulty. From this languid Motion ariſes that Sizineſs which produces the Diſorders above-mention'd, according as the Habit is prediſpoſed. Hence it appears why Bleeding in theſe Caſes is hurtful, and alſo what Advantages may be expected from gentle Evacuations, ſaponaceous Aperients, and warm Alexipharmics.

APHORISM IV.

Continued cold and moiſt Seaſons produce Diſeaſes attended with *ſerous* Defluctions, and Inflammations of the glandular Parts; Quinſies, catarrhal Fevers, Aſthma's, Peripneumonies, Diarrhœa's, with remitting and violent intermitting Fevers, Apoplexies and Palſies, p. 2, 4, 14, 23, 28, 30, 33, 44, 57.

APHORISM V.

Fevers cauſed by ſuch a Conſtitution of the Air, for the moſt part are attended with *Stupors*, frequent ſymptomatical Diſcharges by

by Stool, partial and univerſal Sweats, (but without any Relief) rendering the Habit infirm, and obnoxious to long Intermittents, and tedious chronical Diſorders, p. 37, 57, 60, 61.

REMARK.

Nothing more effectually interrupts a regular Perſpiration, than the Cauſes here mention'd, *viz.* Coldneſs and Moiſture: The Pores are conſtricted by Cold (*Obſerv.* to *Aphoriſm* II.); the Moiſture likewiſe reſtrains the perſpirable Matter (*Obſervation* to *Aphoriſm* III.). Whilſt the Increaſe of Elaſticity in the Solids, and Increaſe of the Maſs of Fluids, are in due Proportion, no conſiderable Diſorder appears. But when this *Æquilibrium* is deſtroy'd by the Augmentation of one of theſe, the Danger is great; for the ſerous Fluid being amaſs'd in too great a Quantity, and the Action of the Solids being vigorous, the Matter is often thrown upon ſome Part which cannot diſcharge it. The Head is in this Caſe liable to be affected, both, as was obſerv'd before, from its peculiar Texture, and from the great Number of excretory Glands, in the Mouth, Throat, *&c.* by which this *ſeroſa Colluvies* is frequently, when the Cauſe is not violent, ſucceſsfully evacuated: But if theſe excretory Glands are over-charged, it is very eaſy to conceive why

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the Head is in Danger of being affected; why *Stupors* and *Coma's* are frequent, with Apoplexies and Palſies; and whence it is that Diſcharges are frequently attempted by Nature, but unſucceſsfully; theſe ſeeming to be produced rather by an irregular Motion of the Blood, excited by a *Stimulus* in the Brain or other nervous Parts, than a perfect Concoction of the morbid Matter. Here Bleeding leſſens the Quantity of the Juices, but it at the ſame time diminiſhes the Strength in too great a Proportion to uſe it very freely. For as the increaſed Elaſticity was only owing to an accidental Cauſe, (*viz.* Cold) and not to any real Increaſe of Strength in the Body, it would be injurious and imprudent to leſſen this Strength, ſince the Violence of the Diſeaſe will probably be more than ſufficient to conſume it. Catharticks are here uſeful, and whatever will powerfully promote the thinner Secretions with the leaſt Commotion.

APHORISM VI.

A Change from Hot and Dry, to Cold and Moiſt, puts an End to thoſe Diſorders which proceed from the firſt-mention'd State of the Weather; or changes their Appearance in proportion to the Quickneſs in which they ſucceed each other; violent inflammatory Fevers are now alſo frequent, chiefly affecting the membranous Parts, as the *Larynx*, *Pleura*,

Lungs, Stomach, and the membranous Coverings of the Joints, occaſioning Pleuriſies, Rheumatiſms, *&c.* p. 9, 12, 14, 40, 52.

REMARK.

Contraria contrariis medentur. The Effects of Heat and Dryneſs, as well as of Coldneſs and Moiſture, have already been mention'd. In the firſt Caſe, the Blood is inſpiſſated, and paſſes with Difficulty thro' the minute Veſſels; by this Change the Solids are contracted, and the propelling Force very much increaſed. If the *Momentum* of the Blood is ſuperior to the Reſiſtance ariſing from its Spiſſitude, no conſiderable Inconvenience enſues; the perſpirable Matter now probably, by the Effects of a cooler and moiſt Air, ſerving as a very proper Diluent, whereby the Fever and Diſorders ariſing from the contrary State of the Weather are baniſhed; but if this is not the Caſe, it is eaſy to conceive what muſt be the Conſequence of ſtrong elaſtic Solids, acting upon denſe viſcid Blood, obſtructing the minute Veſſels, *viz.* Inflammatory Fevers of the moſt violent Kind.

The Reaſon why the membranous Parts are in this Caſe particularly affected, ſeems to be, becauſe the Blood itſelf is here too denſe, its Quality being more vitiated than its Quantity. The Veſſels upon theſe Parts are the moſt ſubtle, and generally lie near ſuch Parts

as are moſt ſubject to Conſtriction from he immediate Acceſs of the Air; whereby a larger Quantity of Fluids already too much inſpiſſated, muſt either be forced thro' Veſſels, whoſe Diameters are ſomething leſſened in the ſame given Time, or an Obſtruction and Inflammation be produced. Bleeding copiouſly and diluting with a liberal Hand, are found neceſſary in Diſorders proceeding from ſuch Cauſes. See p. 53, 54.

APHORISM VII.

When a hot and dry Seaſon ſucceeds a cold and moiſt one, if the Change is gradual, it takes off the Diſeaſes produced by the preceding Conſtitution, and occaſions Intermittents: But if it is ſudden, it renders thoſe Diſtempers malignant. The Small-Pox in ſuch a Conſtitution moſtly become of a worſe kind, p. 5, 19, 39, 43, 47.

During the cold and moiſt Seaſon, a Redundancy of Humours is amaſſed: If the Cold ſo far contracts the Solids as to keep the Balance equal, no Diſorder appears, as has been already obſerved (p. 68.); and if the Approach of warm Weather is gradual, what is taken from the Strength of the Solids, is likewiſe made up by an Increaſe of Perſpiration; but if the Change is ſudden, the former are affected by it much

more

more than the latter; whereby the *Moles movendorum* conſiderably preponderates, and various Diſorders enſue; in ſome Habits *Tertians* or *Quartans*, in others *continual* Fevers: Where the Juices, in this laſt, in particular, being diſpoſed by the Increaſe of Heat to Putreſcency, gives Riſe to a Variety of terrible Symptoms. Hence it appears how juſtly the moſt celebrated Practitioners have cautiouſly avoided, or delay'd exhibiting the Bark in vernal Agues, as the Secretions are leſſened by it, which in this Caſe ought to be increaſed; well knowing that every Day will naturally deſtroy ſome part of the Cauſe; that the Paroxyſms are neceſſary to diſcharge the vitious Redundancy; and that this being once evacuated, the Solids will eaſily recover their priſtine Vigour.

Probably from theſe Remarks the Reaſons will appear, Why temperate, moiſt and gradually variable Weather is moſt healthful: Why ſudden Changes of the Seaſons are, on the contrary, moſt ſickly: And, Whence it is, that each Seaſon, if it obſerves its common Courſe, is attended with Diſorders peculiar to itſelf.

F I N I S.

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