

An account of inoculation ... / Translated from the Swedish original [by Edward Archer.

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*May it please your Lordship,
and you Honourable Gentle-
men appointed by his MA-
JESTY'S Royal Commission to
superintend the Health of
his Subjects.*

 I HAVE the Honour to pre-
sent an Account of the pre-
sent State of Inoculation, as
it is practised in *England*, as my Duty
requires, to this Honourable Commis-
sion; if it is composed in a manner
worthy of your Approbation, I shall
have the Satisfaction of knowing that
I have not attempted only, but per-
formed, what my Situation and Obli-
gations required. As it is, I have the
Comfort of reflecting that I have
omitted nothing in my Power, to make
myself Master of this Point, have read
whatever has been published either for
or

DEDICATION.

or against Inoculation, attended diligently such Gentlemen as were most eminent for Practice in *London*, and the Patients in the Hospital, for this Disease, by Inoculation, and in the Natural Way, observed the Progress of the Distemper, and the Method of treating it throughout, with all possible Attention and Application.

Such is the Treatise I have the Honour to lay before you, and if from its Contents it shall appear, that my Endeavours have a Tendency to promote the Views of this Royal Commission for the public Safety and Service, then I hope to have the Honour of your Protection, and to have it thereby in my Power to promote a Practice that may preserve the Lives of many.

I remain, with the most profound Respect,

Your Lordships, and

the Royal Commission's

most Obedient Servant,

DAVID SCHULTZ.

THE
TRANSLATOR
TO THE
READER.

BELIEVING this Translation would be of use to the Public, I undertook the Work and sent it to Doctor *Archer*, the Physician of the Hospital for Small Pox and Inoculation, who returned it with the following Letter, which I have leave to Publish.

Sir,

‘ I AM obliged to you for the
‘ perusal of your Translation of
‘ Doctor *Schultz*’ Book upon Inocula-
‘ tion, who came from *Sweden* to see
‘ this .

‘ this Practice. I can assure you he
 ‘ was very diligent and constant in his
 ‘ Attendance, going with me every
 ‘ Day to the Hospital to visit the
 ‘ Patients, and I believe he took great
 ‘ pains every other way to make
 ‘ himself acquainted with the Sub-
 ‘ ject of his Treatise, and therefore
 ‘ think for these Reasons, as well as
 ‘ the Merit of the Performance, that
 ‘ if published, it will meet with a
 ‘ favourable Reception.

Hatton Garden,
 Feb. 13, 1758.

I am, Sir,

Your humble Servant,

EDWARD ARCHER.



AN
ACCOUNT
OF
INOCULATION.

INOCULATION has been by some praised to that Degree, that they have found themselves not able to make good or maintain, in the Course of Practice, all they had asserted in its Favour. By others again it has been too much condemned from manifest Obstinacy or Ignorance.

The Enemies to Inoculation ground their Objections on the few Accidents which have happened, and the Friends thereto by that Means have learnt to be more cautious. By nice and careful Observations on the Small Pox, both in the Natural Way and by Inoculation, we are now better able to judge, whether a Person is likely to have it favourable or not.

A fit Subject is the first thing that must be carefully observed when we inoculate, healthy People by outward appearance, have not the Small Pox equally favourable.

We have observed, that People of hot Constitutions, who have dark Hair and Eyes, a thick, hard and brown Skin, generally are very full of Pustules, and sometimes have a dangerous Sort, particularly if they have been great Drinkers or have lived much upon Meat and Spices, and likewise have been used to hard Labour and violent Exercises.

Those who are full of Blood of a mild Sort, whose Skin is white and soft, generally have a kind Eruption, especially if they have used a proper Regimen of Vegetables and gentle Evacuations before Inoculation.

Those who have thin and watery Blood, have seldom many Pustules, but are not always

ways free from Indurations of the Glands, and are subject to *Febres lentæ nervosæ*, especially the Womenkind.

People of a heavy Aspect, provided with thick Blood, whose Skin is of a dirty Hue have very often a bad Sort in the Natural Way.

A Mixture of these different Constitutions of Body, makes very often the Subject more fit for Inoculation.

Fat People have frequently a kind Sort, although some are of another Opinion. Doctor *Hadow*, Physician at *Warwick*, in a Letter to Dr. *Pringle*, first Physician to the Army, the Contents of which the latter imparted to me, says, that he inoculated a Man who weighed eighteen Stone. I have also seen very fat Women go through Inoculation very well; and on the contrary, lean People with a dry Skin, light and hollow Eyes, a strong and harsh Voice, are frequently seized with a bad Kind of the Disease. In short those who are moderate Fat, have a soft Skin, a lively Hue in the Face, and a cheerful Countenance, with bright and fiery Eyes, may expect the Small Pox in the kindest and best Manner.

Women, who seldom commit such Irregularities or Excesses in their Way of Living and

Diet as the Men, and whose Flesh is more lax, are generally believed to have the Small Pox in a more gentle Degree. But as there are Diseases peculiar to that Sex alone, it is no Wonder some certain Observations do not agree; Doctor *Hadow*, whom I have just before mentioned, gives an Account that three fourths of the Women in his Neighbourhood die of the Small Pox in the Natural Way, and according to our Accounts most Women die here of that Disease. The experienced (1) Doctor *Sydenham* says, that a Youth in his Bloom runs a much greater Hazard in that Disease than a Woman or Impubes.

It is not yet settled, what Age is most proper for Inoculation, People have been inoculated from the Age of one Month up to sixty Years, and in the *West Indies* even at seventy Years of Age.

It has been thought that sucking Children would have the Small Pox in the gentlest Degree, as the Humours are the most free from any Acrimony, their Excrements have hardly

(1) *Oper omnia Edit. Lips.* p. 144. But in *Sydenham's* Time the Custom was not yet introduced, of correctly noting down those that died, their Age, Sex, Disease, &c. Consequently it could not be asserted with such Certainty as it requires.

any Smell, their Urine insipid, and their Blood barely alcalescent, their Food the most salutary, the external Parts of their Bodies and their Fibres soft (2); they sleep a great deal, and are not sensible of any Apprehension of the Danger of the Disease, yet nevertheless Experience teaches us that the Small Pox at that Time of Life is very precarious. Their *Systema Nervosum* is irritable, though their Juices are free from Acrimony, and the least Agitation may raise fatal Convulsions. Doctor Sydenham's Words, (3) that the *Motus Epileptici*,

(2) Doctor Kirkpatrick in his (Analysis of Inoculation, Lond. 1754, p. 182) is of Opinion, that the Extenuation of the Body's Teguments in the succeeding Years fits them better for the Eruption, and at the same Time he observes, that Perspiration in them is now more plentiful.

(3) *Var. Regul. An.* 1667, 68, 69. *Op. o. p. m.* 162. I cannot easily approve of every Thing Sydenham says, yet it generally happens so to Children when they are turned of three or four Years: But there are many other Accidents that may kill tender Infants under that Disease. The Fault may lie in the Nurse, and nursing she may eat too much Meat, may be Passionate, may be in Love, may have her Courses during the time, she may place herself where there is a Draught of Air and open the Child, or perhaps turn it dry but seldom, although it is wet and hath fouled itself, and perhaps neglects to warm the Clouts and Blankets, or lays the Bed-clothes on the Floor, and takes the Child in that manner to Bed to her. In such Cases it is no Wonder if the poor Infant dies.

(which happen to Children before the Eruption, is the Sign of a kind Sort) are not always verified. Doctor *Kirkpatrick* (4) says, the only one that died under his Care in Inoculation was a Child ten Months old, and that for want of sufficient Strength to force out the Pock. It is evident that the little convulsive Fits which precede the Small Pox

(4) L. c. p. 176, and in Page 75 he quotes three remarkable Cases, which were imparted to him by a Physician of St. *Bartholomew's* Hospital, two of which I will introduce, to show how little Reason we have to preface that Convulsions always are a good Sign. A Girl about six or seven Years of Age having previously had a Head-ach and Back-ach, was seized with a very violent and long convulsion, when it was over her Speech greatly faltered but returned, till being seized with three successive Fits next Day, she lost the Use of her Limbs and Speech entirely. The Eruption notwithstanding appeared, was very distinct, and terminated easily, though she lay speechless and motionless all the Time. Full three Months after she began to recover her Speech, but her Limbs more slowly.

An inoculated Child between three and fours Years old, who had been brought low by a Fever a little before, had violent Convulsions, the Pustules very few and when they finished their ordinary course, he had entirely lost the Use of his Speech and Limbs, and could not keep his Head erect, which on his being set up tumbled laterally or forwards, it was three Months before he fully recovered his Speech, and at the End of five his Limbs had not attained their former Strength.

are often of little signification, but sometimes the Consequences are Lameness in the Limbs and even sudden Death, on the first Crisis or Eruption. If Children are inoculated before they have their Teeth they are exposed to Danger. (5) Sucking is obstructed by the Pustules which come in the Mouth and Throat. (6) A few Pustules in those Parts are of worse Consequences to tender Children than many on the external Parts of their Body. For exclusive of the Restlessness and Uneasiness they create, the Pustules, very often become troublesome Boils and Sores in the Gums. Children of that Age are frequently troubled with Gripes, have green and slimy Excrements that smell sour, by which one may reasonably fear a Derivation of some of the purulent or pocky Matter to those Parts.

(5) That Spasms hinder the Eruption is plain from a Case published by the eminent *Hoffman* (M. R. S. *Tom.* 4. Part I. Sect. I. Cap. 7. Obs. 7.) of a Child that caught the Small Pox whilst it was breeding its Teeth, they broke out first on his Hands, and, contrary to Custom, last in the Face.

(6) *Salmuth* (Obs. Med. Cent. 1. a Obs. 3.) Observes, that Nurses who have sucked Children in the Small Pox have been infected with very bad Ulcers in their Breasts; a Woman in the south Suburb of *Stockholm*, that sucked her own Child in the Small Pox had several Pustules and Sores broke out on her Breast.

Upon being seized with any Complaint these small Infants cannot express what ails them, and if we guess at the Cause of their Moan, still one can seldom bring them to take any Medicines.

By the Bills of Mortality (7) we find that the greatest Number of them that die Yearly of various Diseases, are Children under two Years, and betwixt two and five

(7) I have extracted the Number of those that have died of different Ages out of the Bills of several Years, and found upon a nice Calculation that sixty-five under two Years is equal to one between the Age of five-and-twenty Years. It is at least certain, that the whole Year's Account of them that die under two Years is seldom less than one third of the Number of all that have died in that Year of different Ages and various Diseases, and sometimes are nearly half the Number. By the Learned Doctor *Jurin's* Account of the Progress of Inoculation from 1721 to 1726, and Doctor *Scheuchzer's* Continuation to 1728, we find that out of twenty-four Children under one Year there died but two, out of thirty-four betwixt one and two Years there died four, out of sixty-five betwixt two and three Years there died only one, and the same out of ninety-one betwixt three and four Years, and sixty-five betwixt four and five Years, since that time nobody has given themselves the Trouble to keep so exact an Account. Nor does the Practice of Inoculation in *England* now stand in need of any Advocates for it.

the

the Number is likewise very considerable, then there is a considerable Diminution betwixt five and twenty, but the Number of the Dead increases again betwixt twenty and seventy. In the same Manner we find it appear in the Small Pox either Naturally or by Inoculation, for the greatest Number that die of that Disease have been Children from one Month to four Years of Age. Therefore few think it adviseable at present to disturb such tender Lives, but just now come into the World, with a Disease they have hardly Strength to conquer, but rather chuse to defer the Operation till they are four or five Years of Age; but regard it as the most proper Years for that Operation to be from that time until they are twelve Years old. They have then not began any Excess, they have then a constant and moderate Exercise, their Digestion is good. Obstructions of the Viscera are very uncommon at that Age, the Emotions of their Mind are of no great Signification, and their Fibres are neither too tense or too lax to promote the Eruptions, at fourteen or fifteen other Emotions commences, the Heat encreases, the Mind is more uneasy, the Menfes appear in the Female and the Seed separate in the male Sex. Doctor *Archer*,
Phy-

Physician to the Hospital for the Small Pox and Inoculation in *London*, always hesitates on inoculating the female Sex at that Time, but especially if they have not regularly had their Menfes (8). I have seen many of both Sexes go through Inoculation very well at that Age, but when there is a Liberty of Choice they are Subjects one would not willingly accept of.

The Age then from fourteen to seventeen may be reckoned an Interval, but People from the latter Age to twenty-five are considered again as proper Subjects, after twenty - five or thirty it is not deemed eligible to inoculate: The Fibres then are become tense, the Fluids or Juices sharp, and it is a Period of Life when People take the least Care of their Health, which they destroy by hard Labour, violent Exercises and Journeys, and take no Care of what they eat or drink, beside other Excesses. The Learned injure themselves by a too seden-

(8) The youngest Miss *Chatelain*, the only one that has hitherto died in *France* under Inoculation, died the twelfth Day after the Eruption, had but once some Months before her Menfes, but nevertheless was inoculated by *Tenon*, the Surgeon, contrary to Doctor *Hofly*'s Advice, who came from *France* to *England* to examine into the present State there of Inoculation, *Journal Oeconomique de Novembre 1755*, p. 120.

tary Life, too close Application, late Hours and Perplexity. The Women seldom at that Age stir so much or take the Exercise they do when they are younger. But although the Small Pox in a Natural Way is dangerous to grown People, yet in the Small Pox Hospital none have died under Inoculation, that were above twenty Years of Age, and it is to be observed, that most of the grown People are such as have been used to hard Labour. In the *English* Colonies they have inoculated People of all Ages to escape the natural Infection, which has laid waste whole Towns and Villages. When an epidemic Distemper is upon our Borders it is doubtless adviseable not to be too nice about the Age of those who are desirous of being inoculated.

It is probable that the Small Pox alone would not take away a Life, but as the Infection often mixes with hot, sharp or otherwise morbid Humours, in a Body whose Skin or Fibres either by Nature or hard Labour are become harsh, it is no wonder that the Event is deplorable.

Unhealthy People have not the Distemper always alike, but the Cautious do not think it adviseable to inoculate those that previously harbour any other Disease, at least they will defer

defer it till the first Complaint is removed. In the same Manner if a Woman has missed her Time, she ought not to be inoculated till she is regular again. One of the three that has hitherto died in the Small Pox Hospital in *London*, under Inoculation, had that Obstruction, she had not many Pustules, but died afterwards of a *Febris lenta* from Obstructions of the Viscera; in the Hospital I have seen Women successfully inoculated that have before been turned away on account of those Obstructions. Those that are troubled with Worms are not fit Subjects, exclusively that common Experience confirms it in the Natural Small Pox, from hence proceeded the Cause of the second Person's dying in the said Hospital. Mr. *Frewin* (9), Surgeon, gives an Account that a Worm Fever was the Cause of the Death of the only one Person that died out of three hundred that he inoculated.

I have seen an instance of one that had Worms, both before and after Inoculation, and yet went safely through the Disease. It is a Thing that ought carefully to be enquired into, whether the Person that desires to be inocu-

(9) The Practice and Theory of Inoculation with an Account of its Success in a Letter to a Friend, *Lond.* 1749, p. 43.

lated has perceived any signs of Worms; if so, they ought first to be killed or expelled before the Operation is performed. It is thought advisable always to give Children before Inoculation, such Things as are fit to kill the Worms.

Those that have any Eruptions to a Degree to be looked upon as a Distemper, are not fit Subjects for Inoculation. Doctor *Jurin* (1) gives an Account of a young Lady (2) who had inherited from her Father a Leprous Disorder, and died, and mentions (3) another that

(1) An Account of the Success of inoculating the Small Pox in *Great Britain*, for the Years 1724, 25, 26, with a Comparison between the Miscarriages in that Practice and the Mortality of the natural Small Pox.

(2) Miss *Waller*, she died the thirteenth Day after the Operation.

(3) Miss *Acourt*, a Child four Years old, she died the twenty-second Day after the Operation. The moist Eruption went away by Means of an Issue and gentle Purgation, but by carelessness the Issue dried and the Child had a Rawness behind its Ears; three Weeks before it was inoculated it was likewise attacked with an Inflammation in the Eyes. One of four Children inoculated here at *Stockholm* under the Care of *Archiater Rosen*, had Sores behind one of its Ears, which did run very much, yet nevertheless it had very few Pocks and a favourable Sort, like the rest of the Children who were free from that Inconvenience. One of three Children I inoculated in a considerable

that had a moist Eruption on her Head, whose life also paid for it. Pimples in the Face, particularly if attended with a Redness of the Skin, is a sign of bad Humours, and therefore it is not proper to choose such People for Inoculation.

Those that have just had the Measles are fit Subjects, if their Lungs have not suffered too much, which often happens in that Distemper to those who are full of Blood. We have had Instances of those who have been infected with the Measles before they have caught the Small Pox, and have happily gone through both the Distempers (4).

Those

derable Family here in *Stockholm*, had a kind of scaly Eruption on the Head, and running behind the Ears, but still had very few Pustules and a very good Sort.

(4) In *Fuller* (*Exanthem.* p. 174.) and *Ridley*, (*Obs.* II. p. 49.) are Instances that People have had the Small Pox and Measles together; yet the Measles generally precede, and the Small Pox follows; this was the Case of a Foundling, a Child five Years old. Which Doctor *Hosty* gives an Account of (*Rapport au sujet de l'Inoculation voyez Journal de Medecine, Tom. 3. p. 284.*) who was seized with the usual Symptoms of the Measles the Day after Inoculation, and they took their usual Course; the twenty-sixth Day following the Small Pox appeared pretty numerous, and the Patient recovered without any bad Consequences. Five People that were inoculated while the Measles were pretty Rife (*Phil. Trans. Abridg. Vol. ix. p. 208.*) were seized
the

Those that have indurated Glands are not the best Subjects. *Timoni* in his Letter to Doctor *Woodward* says, that he never saw but two die under Inoculation, and they were two Children that were afflicted with Fits and schrophulous. They seemed to have got over the Small Pox, but the one died the thirty-second Day of a Dysentery, the other of a Wasting and Decay the fortieth Day after the Incision. I have seen a Girl inoculated, after which there was found hard Kernels on the fore Part of her Neck, but still she had a very

the seventh Day with a Fever, and on the eighth the Measles came out, the eleventh they had a fresh Fever, and the fourteenth Day the Eruption of the Small Pox followed. From hence it does not appear, as the Reverend Mr. *De la Faye* has asserted, (a Vindication of a Sermon, entitled, Inoculation an indefensible Practice, *Lond.* 1754.) that by Inoculation the Measles were also communicated. By my Journal it is plain that the Measles may lay hid in the Body some Days, and it is farther confirmed by an Instance which I remember *Archiater Rosen* took notice of in one of his Lectures on the Practice of Physic, concerning a Child that had had three Weeks a Violent Cough, which the said gentleman would have taken for the Hooping Cough, had the Child not had it the Year before, and that it seldom or never affects People more than once; her brother lay at the same Time ill of the Measles, from whence the Doctor concluded, that it was the same Distemper in Embrio, and that the Cough was a Sign of the first Stage, which the Event confirmed.

kind

kind Sort. Doctor *Kirkpatrick* (5) gives an Account of a *West India* Youth of fourteen Years of Age that he inoculated, which was unknown to him, scrophulous, and had been ever very sickly; but yet escaped with Life, although he had an excessive Number of Pustules, and afterward Boils, which actually mended his Constitution.

Few presume to inoculate those that have the Rickets, yet Doctor *Archer* ventured upon a Boy, whilst I was in *London*; the Child had but five Pustules, but had afterwards somewhat of a Fever and a Boil under one Arm. It is exclusive of this observed, that those who have the Rickets are very subject to Boils, and if they are cured by the Help of the Cold-bath (6), their Skin by that means becomes hard, which

(5) Page 213. Doctor *Kirkpatrick* was of opinion, that the same Youth could not have gone through the Distemper by common Infection. Amongst those in the Hospital that had it in the Natural Way, I remember in particular, one Man aged thirty-five (*John Parrot*, stands in the Hospital-book 1755, N^o 196.) his Neck was barely less than his Head, yet he went through the Small Pox, although he had them very plentiful.

(6) Doctor *Huxham* (Essay on Fevers and on the Small Pox, page 138.) amongst other Things relates of a Boy who was by that means cured, that when he caught the Small Pox no Eruption appeared till the sixth Day, although he

which is a bad Circumstance for the Eruption.

All those that have a Chlorosis, Cachexy, Obstruction, Inflammation or Ulceration of the Viscera, ought not to be inoculated. Doctor *Jurin* tells us of a Girl nine Years of Age (7) that had had the yellow Jaundice six Weeks, and the following Spring had a Relapse, she was cured to all outward Appearance, but died nine Weeks after she was inoculated. I have always observed that Chlorotics by natural Infection have but few Pustules, but they seldom escape after it a Febris Lenta, which is frequently mortal (8).

For the same Reason we should be cautious how we inoculate those that are troubled with the Fluor Albus.

he had a Fever somewhat violent from the beginning, and it was then effected by the help of a Bath of warm Milk and Water, they were a kind Sort and plentiful.

(7) Miss *Roll*, the Jaundice no doubt left some Obstructions behind.

(8) A Girl twenty-eight Years of Age (*Catherine Collins* is to be found in the Hospital-Books, Anno 1755, N^o 91.) She had the Small Pox in the Natural Way, her Skin all over her Body was of a yellow brown Colour, was dejected, her Pulse low but quick, she had not above thirty Pustules, they all filled very well; but nevertheless she died of a Fever, which resembled the *Lenta Nervosa*, the thirty-sixth Day after the Eruption.

Those that are troubled with short Breath or Consumptions are never inoculated, for it is well known, exclusive of those Disorders, how much the Lungs are attacked by the Small Pox (9).

Those that are very much troubled with the Scurvy are not allowed to be inoculated, yet I have seen People that have had that Disorder to a great Degree go through the Small Pox in a Natural Way with a great Deal of Safety (1). It

(9) But still Affessor *Darelius* has observed, that Children which have had violent Coughs, when they have had the Small Pox in the Natural Way have not had it the worse on that Account.

(1) A Man twenty-four Years old (*Francis Carter*, N^o 169, in the Hospital-Book, 1755) whose Gums were very much swelled, and in some Places corroded, and in other Places would bleed on the least Touch; having besides more signs of the Scurvy was taken with the Small Pox and had not above one hundred Pustules, they filled very well, and in every respect resembled a kind Sort.

Another Scorbutick (*James Parrot*, aged twenty-nine, N^o 82, the same Year) was taken in the Natural Way with the adherent Pock, they filled very well, but dried flow, as is usual with those that have the Scurvy; several of the Pustules run together and formed a Sore, the Flesh of his Gums was as bad as could be, and his Teeth were all so loose in his Head that he could not even eat Bread, great Boils broke out on his Arms and Legs, and when they opened they grew dry and spongy at the Edges. The Sore

It is not advisable to inoculate those who are infected with the Venereal Disease, though we have Instances of them who have had a Gonorrhæa, Buboes, Chancres, and have gone through the Small Pox with safety. In Doctor *Kirkpatrick* (2) and Mr. *Burges* (3) Writings we find, that such have been successfully inoculated that have previously had Symptoms of the Venereal Disease and have chose to keep it a Secret.

Sore had a greenish Colour, like a Corpse; he had a craving Appetite, but was so weak that he could hardly stand on his Legs when he rose to have his Bed made, Chinchina and *Succi Scorbutici* given him by Turns, cured him, to the surprise of every Body that was able to judge of the state this Patient was in. Much the same Fate had a Boy sixteen Years old (*James Manley*, N^o 183, *ibid.*) the only difference was that he had but few Pustules, and the Matter in the Boils was putrid. He was cured the same way.

(2) L. c. p. 137.

(3) An Account of the Preparation and Management necessary to Inoculation, *Lond.* 1754, p. 5. Amongst others a Lad of twenty (*Stephen Williams*, N^o 63, in the Hospital-Book 1755) that had a Gonorrhæa, Phimosis, Chancre, a Bubo and Tophus on the Shin of one of his Legs, caught in the Natural Way the distinct Kind and was cured. The violent Inflammation it is sometimes attended with may be the Occasion of a dangerous Sort. By the same another died (*Robert Vile*, aged eighteen, N^o 71, *Anno* 1755) of a natural confluent Pock, he laboured under a *Gonorrhæa*, *Phimosis*, *Stranguary* and *Inflammatis testicularum*.

The learned Doctor *Mead* (3) has experienced in St. *Thomas's* Hospital, that those that have gone through a Salivation have afterwards had the Small Pox in a very favourable manner, if it always proved so, it still would be best not to perform the Operation, till the Patient in some measure has recovered his Strength.

Great Drinkers ought by no means to be inoculated, for they generally have a bad Sort of the Small Pox. Doctor *Archer*, who without question has seen the greatest Number of Patients in the Small Pox of any Physician now living, says, it is so general a Rule, that he knows no Exception.

Doctor *Fuller* in a Letter to Sir *Hans Sloane* (4) gives an Account of a Man who was used to drink most immoderately Beer and Brandy, which he persisted in after he was inoculated, but he paid for it with his Life the twentieth Day after Inoculation. Rheumatics full of

(3) *De variolis & morbillis Liber*, Lond. 1747, p. 71. That eminent Professor *Thomas Schwencke*, has assured me that he experienced quite the contrary on a Soldier who caught the Small Pox just after he had gone through a Salivation, yet had them of the worst Sort.

(4) Doctor *Jurin's* Account for the Year 1724, p. 16, this Man, whose Name was *Will Sheffery*, had before Pimples in his Face, a Cough, Shortness of Breath, Stiches in his Breast, and the Rheumatism.

Blood (5) and who have a glutinous Serum, get generally a favourable Kind, and few Physicians hesitate upon inoculating them. The Rheumatism is so universal in *England*, that every fourth Person is afflicted with it.

Pregnant Women are improper Subjects for Inoculation, in Respect to themselves as well as the Fœtus, they for the most part miscarry in the Natural Way, or if the Child is born alive, it generally brings the Small Pox with it, especially if they have begun to suppurate with the Mother (6). Doctor *Langrish*

(5) *Sydenham* (Diff. Epist. ad Gu. bale, Op. o. p. 449.) gives an Account of one with the Rheumatism who was often blooded, but afterwards had a Confluent Pock. He concluded from thence that bleeding was not sufficient to keep the Pock in proper Bounds, though he before thought it would.

(6) *Bartholin* (Ack. Haffn, Vol. IV. Obs. 75.) gives an Account of a Woman who the eleventh Day after her being sick was delivered of a Son, without the least sign of the Small Pox on it. Doctor *Smellie*, (a Collection of Cases in Midwifry, Vol. II. Coll. XII. Case 6.) observes, concerning a Woman which miscarried the eleventh Day after the Eruption, that the Fœtus had no Marks of the Small Pox; and quotes again (l. c. Coll. XVIII. Number VII. Case 2.) an Observation of a Woman that had a Confluent Pock, and miscarried nine Weeks after the Eruption, the Child was eight Months old and had already had the Pock out a pretty while. Doctor *Mead* (l. c. p. 65.) gives an Account of a Woman that had the Confluent Pock and was delivered of

rish (7) gives an Account that out of two thousand inoculated only two died, and both were pregnant Women who were inoculated contrary to the Advice of the Physicians. If the Mother escapes with Life, still the Child generally dies soon of Convulsions or afterwards in the suppuration Fever. Abortions ought to be considered as so many Lives lost. Doctor *Wagstaffe* (8) and Doctor *Dela Vigne*, (9) Enemies to Inoculation, have thrown in this Argument, that vicious Women might risque their own Lives to get rid of the Fœtus; but this Objection grounds itself upon mere Supposition, however it can do no hurt to be cautious.

Doctor *Mead* (1) says, that Lying-in Women so soon as they have tollerably recovered their

a Child, but the Child had not the least sign of the Distemper; after it had lived four Days it was seized in the Morning with Convulsions, and in the Evening died under the Eruption. *Pechlin*. (Obs. p. 234.) and *Hildanus* (Obs. 55. Cent. iv.) gives Instances of Children born with the Small Pox, but could not survive it.

(7) A Sermon preached before the Duke of *Marlborough*, &c. by *Isaac* Lord Bishop of *Worcester*, London 1752, p. 16. Note *

(8) A Letter to Doctor *Friend* shewing the Danger and Uncertainty of Inoculating the Small Pox.

(9) *Quæstio Medica: An variolas Inoculare nefas preside Claudio de la Vigne de Frescheville proponebat Parisiis, Anno 1723, Ludovicus du Vrae. p. m. 18.*

(1) L. c. p. 69.

Strength,

Strength, or such as have just gone through a violent Fit of Sicknefs, and then catch the Small Pox, generally have them favourable.

Doctor *Kirkpatrick* (2) has experienced that fuch who have lately gone through an Ague have had a kind Sort, one ought though

(2) I have known Instances of thofe that have been inoculated with fuccefs after an Ague, but prefently after that the Pock has dried away they have had a Relapfe, I have feen a Tertian, come inftead of the fuppuration Fever, and it is remarkable that when the Small Pox comes it generally expells an Ague, or at leaft it ceafes feveral *Paroxyfms*, *Diomedes Amicus* (*Tract. de Var. Morb. & Scoptulis Venet.* 1599, fol. 151.) gives an Account of a Man aged twenty-five, who on the feventh Paroxyfm of a fecond Tertian Ague was taken with the Small Pox, upon which the cold Fit did not come, and the Patient went through the Small Pox very well. *Archiater Rosen*, has feen two Children that had been three Months ill of an Ague, but the Day they were taken with the Small Pox the Ague ceafed and never returned. *Archiater Bäck*, gave me an Account of a Child in the fouth Suburb of *Stockholm*, that was three Quarters old and had an Ague fome Weeks, at laft it caught the Small Pox, upon which two Paroxyfms elapsed without a return; but what is very remarkable the Nurfe had Shiverings both Times that the Child miffed the Fits, yet this muft be obferved, that the Nurfe immediately took Chinchina, the Ague returned to the Child and continued feveral Months after. *Affefför Strandberg* gives an Instance of a Lady that was taken with an Ague whilft fhe lay ill of the Small Pox, he gave her immediately Chinchina, with good Succefs, as a Remedy proper for both Difcafes.

nicely to consider, whether the Ague has not left Relicks of obstructed *Viscera* behind.

Chronic Diseases, or a bad Constitution does not always cause a bad Pock. But it requires still more Experience to pronounce with Certainty, what Acrimony in our Humours united with the Distemper it is that makes it dangerous. We see that a certain State of our Blood absolutely increases the Pustules, and makes the Matter more acrid, and on the other Hand another Disease will not affect them either in Number or Kind, yet the Pock will irritate the former Disease to a degree of putting the Patient in the greatest Danger. A future close Attention will teach us more. But it is still looked upon as a very great Exception, for a Person to go through the Small Pox safely who was previously afflicted with another Disease. Doctor *Hadow* (3) in one of his Letters to the learned Doctor *Pringle*, gives an Account, that, in a Number that exceeded one thousand two hundred People, which he inoculated, from three Months old to the Age of sixty-two, many of which were afflicted with Rheumatism, Scurvy,

(3) One of Doctor *Hadow's* Letters is communicated to Doctor *Hosly*, wherein some of the latter Questions advanced are answered. They are to be read in *Recueil periodique d'observations de medecine*, Tom. III. p. 341. d'année 1755.

Asthma,

Asthma, Hyſterics and Chloroſis, yet there was but one that died, and that through the Careleſſneſs of the Nurſe *.

The Faculty has not choſe to inoculate at all Seaſons of the Year, Summer has been objected to, but Neceſſity has obliged them to do it in *America*, and it has been attended with ſurpriſing Succeſs. Doctor *Archer* ventured to continue inoculating all Seaſons laſt Year, in the Hoſpital, and I was an ocular Witneſs to it, that the inoculated Pock was as kind in the Winter or Summer as in the Spring or Fall. Our dry Air and burning Heat in the Summer cauſes that Seaſon to be more ſickly here than it is in *England* (4) but

* It ſeems to appear from this, that a Gentleman in private Practice, inoculated more than twelve hundred, many of which were diſeaſed, and only one died by the Fault of the Nurſe——what is to be thought of this Report thoſe who can judge may determine.

(4) The Ventilator they have in the Hoſpital contributes to change, purify and cool the Air, but the Weather in *England* is very variable in Summer and even changes ſeveral times a Day, *Febres continuæ putridæ*, are therefore there hardly known, the Hoſpitals at that time of the Year are empty, and Phyſicians are almoſt without any Employment, the Small Pox then in *London*, is not much heard of and perhaps there is not above fix or ſeven down in the Natural Way in the Hoſpital, whilſt in the Winter they are obliged to turn a great many

but if Summer is equally proper for inoculating, yet I think few will chuse to lay themselves down in the most delightful Time of the Year, as the Choice is in their own Breast, the Heat of the Bed Clothes is then most sensible, and the Smell of the Distemper increases by the Heat of the Air.

The Winters in *Sweden*, are not more proper for Inoculation, for they are not to compare with that Season in *England*, there their Rooms are not so closed up as ours, they keep constant Fires and the Air circulates freely.

Spring and Autumn is without doubt the most proper Seasons for inoculating, the Heat then is moderate, and where there is a free

many away for want of Room to accomodate them. There dies not so many of the Small Pox in the Summer if we judge by Bills of Mortality and for the weak Reason of not terrifying People, they leave out in the Winter, or at the Time when the Small Pox is most rife, and add the Difficiency to the Summers Account, which time of the Year the fewest Number have died. In last Summer I observed in the weekly Bills that they rose to fifty or sixty, at which Time there was not one Patient brought into the Hospital in a Fortnight or more, that the Number of Small Pox Patients are so great in *London* in the Winter, arises perhaps from the many People of Distinction who come to Town with their Families in that Season.

Choice I think the Spring ought to be preferred, for the approaching Summer permits the Patient sooner to go out, he can take gentle Exercise and divert his Mind; on the contrary the Winter is less serviceable, if inoculated in the Autumn, should any attack of a Chronic Disorder happen.

It is best to contrive the Time for inoculating at a Season when the Small Pox is not epidemical, for then one may with much greater Security escape the natural Infection, which at least has been the Occasion of the Death of one tenth, of them that have been thought to die by Inoculation.

One out of three, that have died in the *London* Small Pox Hospital after Inoculation, was infected previously with the Distemper in the natural way, for the Eruption took place sooner than it possibly could by Inoculation, that has induced the Physician of the Hospital to confine them a Time before the Operation.

We are convinced that the Infection lies at least a Week, in our Bodies before it begins to make any Ebullition (5), Inoculation
con-

(5) We hear of some People that have been exposed to catch the Small Pox that have been immediately taken ill, and others that have not sickened till a Month or two afterwards, but a Mistake in such Observations

confirms it. In *London* at the Hospital for the natural Small Pox, there comes frequently People that imagine they have the Distemper, which afterwards turns out only a simple Head-ach, a Cold, Measles, scarlet Fever, or some other eruptive Sickness, all these begin the eighth, or at farthest the twelfth Day, to have signs of the Small Pox.

How unaccountable is it then to suffer People that are to be inoculated to go abroad and be in Company to the last Moment. In *England* they still inoculate old Women, and take young Fellows from the Plough and

tions may be easily made, why should not that remarkable difference happen in Inoculation? it is not to be denied but that there is some difference; that an Infection of the Small Pox may lie hid in our Bodies without any Ebullition, one will not wonder at, knowing how that after the Bite of a mad Dog it may be some Months before a Hydrophobia comes, and even Years. Doctor *Mead*, (*Essay on Poisons*, p. 137.) takes notice of one that was taken with a Hydrophobia eleven Months afterward. *Galenus*, (*Comm. 2. in Lib. 1. Prædict. Hipp. Chart. Tom. 8. p. 735.*) saw one that had the Hydrophobia one Year after the Bite. Doctor *Apperley*, (*a Treatise upon the Small Pox, Lond. 1731, p. 220.*) speaks of one that was taken with a mortal Hydrophobia twenty Years afterwards, and the Reason given does not seem improbable, because the Pain began twenty Years after near the Thumb, the Place where the Bite had been, and who knows how long a Venereal Poison may lie hid in the Body?

inocu-

inoculate them, is it then any wonder if Accidents happen?

Mr. *Maitland*, the first Person that inoculated in *England*, had the Misfortune to lose Lord *Hilsborough's* Son after Inoculation. He sickened the third Day after the Incision, and the Eruption came out the fifth, so that one cannot possibly derive the Infection from the Operation. His Sister was down in the Small Pox before he was inoculated (6).

Mr. *Osborne*, who went through the Operation with his Wife (7), gives an Account of a Woman

(6) Doctor *Jurin's* Account for the Year 1725, p. 61.

(7) Doctor *Jurin's* Letter to Doctor *Cotesworth*, *Lond.* 1723. p. 20, and see p. 6. Their Custom was when the Small Pox came amongst them to go to a Surgeon or Apothecary and had themselves inoculated, hoping by that Means to get a kind Sort, especially as they had previously taken a purging Draught or two, not considering that proper Means to avoid a natural Infection and Excesses was a much securer Remedy for them than all Medicine; but still Inoculation for all their blunders and carelessness has saved the Lives of many hundreds, but the progress Inoculation has made there is very short of what it now makes in *England*. In the Year 1720, the Small Pox was then epidemical at *Boston* in *New England*, it was the heat of Summer, and there was then inoculated old and young from one Year to seventy, healthy and sickly, pregnant and lying-in Women; according to Doctor *Boylston's* Account there died out of two hundred and eighty-two People, six, but

a Woman at *Boston* in *New England*, that was inoculated and died. The Pock came out the third Day after the Incision, which if derived from the Infection communicated by Inoculation, could not have happened till the tenth Day.

Doctor *Jurin's* Remarks (8) are still verified, that in country Places they do not think much on inoculating before the Distemper begins to make some havock with their Neighbours, by that we see how much greater impression, approaching Danger makes upon us, than the strongest Remonstrances of what may happen.

I would not by this dissuade People from inoculating when the Distemper has began

but by the Reverend Mr. *Mather's* Letter to Doctor *Jurin*, five out of three hundred, on the contrary in the natural Infection there died out of five thousand seven hundred and fifty-nine People eight hundred and forty-four. In the Year 1738 there was inoculated at *South Carolina*, eight hundred People, of which eight died. Consult *Kirkpatrick*, l. c. p. 110. In the Year 1752, when the Small Pox was very rife again at *Boston*, there was inoculated one thousand nine hundred and eighty-five white People, of which twenty-four died, which is one out of eighty-two, with an overplus of $\frac{17}{24}$ and as the Negroes generally have a worse Sort there died of them six out of one hundred and thirty-nine. See Bishop of *Worcester's* Sermon in the Preface, p. 8, seventh Edition.

(8) Account for the Year 1724, p. 8, 9.

to

to be epidemical, or when the Small Pox has got into a Family, only that it be done with caution, and deferring the Operation long enough to be assured, that the Person is free from a natural Infection.

By the present Princess of *Orange* having a dangerous Sort of the Small Pox, Inoculation was thought of for the rest of the Royal Family, which was performed with Success, after Experiments were first made on six condemned Malefactors and five parish Children (9). Doctor *Butini's* Account (1) that in the Year 1750, the small Pox killed at *Geneva*, a great many People of Fashion, a few with their own consent or desire were inoculated. Doctor *Tronchin* of *Geneva*, who had successfully practised Inoculation at *Amsterdam* and was lately invited to *Paris*, to inoculate

(9) Of the parish School at St. *James's*, his Royal Highness the present Prince of *Wales*, had the Small Pox in the Natural Way, but Prince *Edward* and Princess *Augusta* were inoculated; and last Year three of the same Royal Family were inoculated, viz. Princes *Henry*, *Frederic* and *William*. See *M de la Condamine's*, Discourse on Inoculation translated into *English* by Doctor *Maty*, p. 7, Not.

(1) *Traité de la petite verole Communiquée par l' inoculation*, a Paris 1752, also *M. Guyot*, *Memoire historique sur l' inoculation de la petite verole dans les Memoires de l' academie de Chirurgie*.

the Children of the Dukes of *Orleans*, was encouraged to inoculate his eldest Son as the other had gone through a very dangerous Sort (2). Doctor *Kirkpatrick* (3) gives an Account of a Child of six Weeks old that died of a natural Confluent Pock, upon which its five Brothers and Sisters were inoculated and with success.

If it is possible one should refrain from inoculating while any other infectious Distemper prevails, or at least avoid all Intercourse with People under the Affliction, Spotted Fevers, Malignant Fevers, Swine Pox, Measles are often mixed with the Small Pox. Physicians have always observed that at some Seasons it is more severe than at others. This does not proceed from the Small Pox alone, but from other epidemic Diseases united with it. Thus Symptoms are perceived that do not properly belong to the Small Pox (4).

Most

(2) *Essay apologetique sur la methode de Communiquer la petite verole par l'inoculation*, p 651. See *Verkandelingen uitgegeven door de Hollandse maatschappij der Wetenschappen te Harlem eerste deel* 1754.

(3) L. c. p. 172.

(4) Doctor *Huxham* (*Essay on Fevers and on the Small Pox*, p. 131,) relates, that in the Year 1740—41, and particularly 1745, there was a *Febris maligna carceralis*, at *Plymouth*, and he observed very obvious Symptoms of this
Fever

Most People are of opinion that the Preference Inoculation has to the Natural Way of taking the Small Pox lies in the Preparation. Before Inoculation was introduced into *Europe*, many of the Faculty had remarked, that those that had used a proper Diet, and gentle Evacuations before they were infected with the Small Pox, generally had them so much the more favourable. *Sydenham* (5) observes, that a repeated gentle purging before the Blood is infected generally produced a kind Pock. *Juncken* (6) recommends *Merc. dulc.* alone or mixed with *Diagryd. sulph.* and confirms it with Experience. *Bohnus* (7) also says, that those that have promoted gentle Evacuations with *Mercurius dulcis* with a design to prevent having a bad Pock, have had them

Fever united with the Small Pox, especially amongst the sea-faring People, Soldiers and Prisoners, which were afflicted with the former Disease; but the People in the Neighbourhood that had no communication with the Hospital, and caught the Small Pox had a kind Sort. How Diseases mix, or as it were borrow the Symptoms of each other, may be seen in *Sydenham's* (Op. omn. p. m. 200) Account worthy of Admiration, concerning a continual Fever that prevailed with the Small Pox in *London*, Anno 1667, 68, 69, and called by him *Febris variolosa*.

(5) Diss. Epist. ad Gu Cole, Op. omn. p. m. 449.

(6) *Prax. Med.* p. 75, he says he has successfully tried the Remedy on two of his own Daughters.

(7) Dissert. de *Mercur. dulc.*

kindly. *Grassius* insists (8) that with *Mercur. dulc.* he has had it in his Power at the beginning of the Disease to prevent the Eruption, or at least to produce a mild kind of Pock. Doctor *Werlhoff* (9) tells us, that his Master *Spissius*, when any epidemic Disease prevailed made use of Pills of *Aloë lota* and *Mercurius dulcis* with a great deal of Success. *Glauber* and *Goblen* (1) recommended for the same Purpose *Sulp. Aurat. Antim. Diemerbroeck* recommended a Purge of *Pilulæ Ruffi* and *Löw* (2) of *Rhubarb.* Doctor *Hillary* (3) recommends as preparatory for the natural Small Pox *Stib. Diaphor. Sal polycherst,* and *Nitr.* mixed together and taken with purging

(8) *Ephem. germ. ann. tert. obs. 56.* His own Daughter about ten Years old, had the usual Symptoms, a coldness in her Limbs succeeded with Heat, Head-ach, Loathing, Stiches and flying Pains in her Limbs, the Small Pox was then pretty ripe, and his Son was down in them and very full; she had taken the Infection beyond doubt. The Loathing induced him, contrary to the Advice of his Physician, to give her a Scruple of *Merc. dulc.* with four Grains of *Scammon. Sulph.* after which in the Evening she had three Stools and a violent Vomiting, and the Small Pox did not appear.

(9) *Disquisitio de Variol & Anthrac Hannov. 1735, p. 59.*

(1) *Praxis Clinica* published by Doctor *Scharfchmidz,* p. 309.

(2) *De Variol & Morbiil Norimberg 1699, p. 110.*

(3) *Practical Essay on the Small Pox Lond. 1740, p. 58.*

Draughts

Draughts. Doctor *Lobb* (4) not only pretends to preserve from, but also to stifle the Infection or prevent the Eruption in the first Stage with *Æthiops mineralis*, either alone or used with Flos Sulphuris, Camphor, Myrrh, &c. Bishop *Berkley*, and after him Doctor *Cantwel* (5) recommends strongly Tar Water as a great Preservative.

But of all the Preservatives against the natural Small Pox, none has been used with such certain Efficacy as *Archiater Rosén's* (6) preserving Pills, they are made of such Ingredients as are particularly found to oppose that exanthematical Disease, likewise of such things as cleanse the Blood and remove Obstructions; for which reason it is not strange that the natural Small Pox is thereby made more mild and favourable.

In *England* almost each Physician has a particular Method of preparing his Patients for

(4) A Treatise on the Small Pox, *London* 1752, § 574. seq.

(5) Dissertation sur L' inoculation pour servir de reponse a Celle de Monfr. de la *Condamine* a Paris, 1755, p. 14, 22, 48, seq.

(6) See his own Description of it in the *Memoris* of the royal Academy of Arts and Sciences, and it is expected more at large in the *Almanac* for 1757. See likewise Professor *Martin's* *Gradual. Disput. de Variolis præservandis Upsal*, 1751.

Inoculation, and many of them make a great Mystery of it, and most think they have found a Specific against the Small Pox in Mercury or Antimony, or both united. The eminent *Boerhaave* (7) likewise with such Remedies, hoped to be able to destroy entirely the variolous Miasmata: amongst the Antimonials, Antimonium Crudum is preferred and is generally given with *Æthiops mineralis* and with Gum Guajac, others give Antimonium diaphoreticum with Calomel.

Cinnabaris factitia or Antimonii in particular mixed with Gum Guajac, or with Nitre and Absorbents is used by some for a Preparation, regardless that of a late date very great Physicians, have suggested that Cinnabar never could dissolve in the Body (8), *Æthiops mineralis* is very common for a Preparation, but this must be observed, that the Body ought to

(7) *Aph. de. cogn. & cur. morbes.* § 1388. seq.

(8) Doctor *Pringle*, first Physician to the *English* army, told me that he mixed Cinnabar with Spittle, other animal and vegetable Substances, and exposed it to a Heat equal in degree to that of our Stomach, he perceived by the Fermentation a sulphurish Smell, from whence he concluded, that the Cinnabar was not entirely so useless as was supposed, that *Æthiops* passes into the Blood is partly seen by its curing the Itch, and has even sometimes raised a Salivation, this I know in particular by the Experience of *Archiater*, *Rosen* and *Bæck*.

be kept open; with the *Æthiops* one generally mixes something that is a Remedy against Worms, if they are apprehended. Some give only a Grain of Calomel every Night, others again more, either alone with Conserve of Roses, or with Camphor every third or fourth Evening, and the following Morning a Purge; as for instance, Infusum Sennæ, or some other mixture of Manna, Cassia, Tamarinds, Rhubarb, Jallap. Others give a Dose of the before-mentioned Alteratives, with the Decoction of the Woods once or twice a Day for a Fortnight, and afterward every third, fourth or fifth Day a gentle Purge; others think they find their whole aim answered in Pilulæ Bellotii or Mercuriales *Lond.* Others again think they have in Chinchina, or its Decoction, a Specific against the Small Pox if the Body is first prepared with it, but many of the Physicians now in *England*, are averse to those which are called Alteratives and Specifics for Inoculation, and find that a proper Regimen and gentle Purgatives three or four times suffices; with People in sound Health, free of all Obstructions, there is nothing else necessary. But where the Blood is thick and fizy, Mercurials are undoubtedly serviceable, which besides are said, not by bare Supposi-

tion, to oppose the Eruption, and on the contrary Chinchina must be beneficial where there is a thin watery Blood and flow Fever, and plentiful Mercurials in that Case must be detrimental, because they occasion a Resolution of both Fluids and Solids (9). Those that inoculate sucking Children give the Nurse some or other gentle Purge, particularly Rhubarb, and prescribe her a proper Regimen. To Children that have green Stools *Magnesia alba* is given.

The Diet ought particularly to consist of Vegetables and opening Things, Porridge, Gruel, Apples, Plumbs, Pruants, Rasberries, Cherries and Sago, weak Meat Broths with Carrots, Parsnipes, Turnips and Potatoes in them, Nettle Broth, &c. Bread, Flower, Rice and Carrot Puddings or Cakes, stewed Spinage, *French* Beans, green Peas and Colliflowers, and for a Change sometimes there is used light Milk Dishes, Hafty Pudding, and all kind of Grain. Some suffer fried Fish, and now and then a Dish of Meat (1). Butter ought

(9) See Doctor *Pringle's* Experiments upon septic and antiseptic Substances, p. 349.

(1) Baron *Ranzaw*, his *Danish* Majesty's Ambassador at the Court of *Great-Britain*, a Gentleman about thirty Years of Age, was inoculated with Success during my

ought to be used very sparingly, and Cheese is hardly suffered. Spices and strong Liquors in general are forbid, but sometimes one is obliged to suffer a glass of Wine at Meals, for without it some would not be able to digest the Victuals. Those that have been used to high living ought to refrain by degrees from their high seasonings and strong Liquors (2).

The old *Grecian* at *Constantinople*, from whom we learnt the Practice of Inoculation, forbid her Patients Wine and Flesh Food, and even Meat Broths (3) *Pylarini* (4) tells us that

my residence in *London*, he was suffered to eat Meat every Day and drink a Glass of *Rhenish* at his Meals, Doctor *D'Argent*, who went to *Denmark* to inoculate the Lady of the Prime Minister, *Bernsdorff* was his Physician, and Mr. *Hawkins*, the King's body Surgeon, was his Surgeon.

(2) Doctor *Wagstaffe* (l. c. p. 6.) was of Opinion that Inoculation was injurious to *England*, because their manner of Living there is so Luxurious. But the Bishop of *Worcester* (l. p. 22, 23,) shows that such an expedient is most wanted in a Country where Extravagance and Luxury has rooted itself and got the upper Hand. The use of Inoculation is already sufficiently obvious, for the Dead in the Bills of Mortality have decreased one fifth in Number since Inoculation has been practised.

(3) *Le Duc de Byzantima variol. insitione diss. habita. Lugd. Bat. 1721, § 17.* He says only that the *Grecian* held them in a proper Regimen some Days before the Operation.

(4) *Nova & tuta variolas excitandi methodus Venetiis 1715.*

he kept them in that Regimen forty Days. But *Timoni* in a Letter to *Woodward* takes off twenty or twenty-five Days.

By virtue of a low Diet, continued and plentiful Evacuations, some People have sacrificed their Lives in Inoculation, which has made some Physicians fall upon another Extreme, which is to reject all Regimen and Preparation.

In *England*, in the country Places, the ignorant Practitioners actually starve their Patients, and the Pock cannot be brought to a Suppuration (5), one ought to consult the
Confi-

(5) Doctor *Fothergill*, an eminent Physician in *London*, gave me an Account of two *West-India* Gentlemen who on their Voyage to *London*, kept themselves very low in order to prepare themselves for Inoculation, when they arrived they had lost their Colour and were very Pale, but as that was judged to be their natural Complexion, after using a few Evacuations they were inoculated; they had the *Variolæ crystallinæ*, and narrowly escaped. I dare not by any means join with Doctor *Tompson* in (an Enquiry into the Origin, Nature and Cure of the Small Pox, *Lond.* 1752, p. 45.) assuring that all those that are subject to the Ague are hysterical, flatulent, and those that have lost much Blood by fresh Wounds, Menses, Hæmorrhoides, Miscarriages, or whose Blood has been impoverished by living low, will always have a mild and gentle Pock, no, on the Contrary those that either by starving, or by other means have thinned or impoverished their Blood too much, they will have an empty Pock that cannot be brought to Suppuration. We ought therefore so to proportion our vegetable Diet, and
the

Constitution of those that are to be inoculated. One that is full of Blood will bear Evacuations and a Regimen of Vegetables, better than he that already has poor Blood. If therefore a Number is prepared at a Time, and all in the same manner, we see in some their Skin loose, and they grow pale and weak, while others again keep their fresh Colour, and only find themselves lighter, or, as if it were, only eased of a burdensome Weight.

Those that are full of Blood have generally more Pocks, and they fill well, and the Patient does not stand in need of any more Medicines after the Eruption; but those that have thin Blood have seldom any great Number of Pustules, and even they will not fill without the Assistance of Cardiacs (6), they are likewise more inclined to get Indurations of the Glands, the Reason of which I agree with Doctor *Mead* in (7) is the Want
of

the Use of Mercurials and Laxatives as to prevent violent Fevers and bad Matter, but by no means to hinder the Separation of a good Pus.

(6) Doctor *Jurin*, who was neither Friend or Foe to the Practice of Inoculation, called those Pocks that did not fill well Immature, of which sort he had calculated in his Table, five out of four hundred and seventy four.

(7) L. c. p. 86. The same Doctor *Mead* has remarked (*ibid.* p. 46.) that those that escaped with Life in the
Natural

of Strength of Body to drive out the Venom of the Pock to the Surface. Mr. *Burges* (8) quotes two Cases which show the consequence of Superfluity and the want of Preparation.

Those that are full of Blood or have hot Blood, ought to be bled the Day before they are inoculated. In the Hospital they breathe a Vein in all almost without exception or distinction, but I have reason to think that bleeding is not necessary with some, and to others detrimental (9). In *Sweden* one may oftener omit it than in *England*, for we do not drink so many hot Liquors nor eat so much Flesh and Spices.

Natural Way, after Bloody Urine at the Time of the Eruption, have afterwards had Boils, Tumours in the Glands, Arm-pits and Parotids, which do not suppurate well, as these last symptoms often appear in those that have very thin Blood, whether what I have here quoted, which is confirmed by Experience, should not deter us from thinning the Blood too much?

(8) L. c. p. 11. seq.

(9) Doctor *Hadow* does not bleed all, but as before has been observed, those that have thick and fizy Blood have not the Pock so plentiful, as those that have it rich and florid with little Serum, this agrees with the Experience that great Drinkers and the Choleric have often a bad Pock, but the Sanguine and Rheumatic seldom.

It is customary to inoculate Women when they have been a few Days well, but in the Hospital they inoculate them at all Times with equal Success (1); but this is to be observed, that no Medicines are to be given them while their Courses are upon them, either during the Preparation or the Eruption.

Bathing has been presumed a long while to be serviceable to the natural Small Pox, I am of Doctor *Hahn's* (2) opinion, that the Reason in a great Measure of the Small Pox being more fatal in some Families (3),

(1) Doctor *Tissot* (*l'Inoculation justifiée* 1754, p. 17 and 47,) says that the Small Pox is dangerous and often fatal if they come to a Woman when she has her Courses, but I declare I never could find any difference if they had the Menfes before, with, or after the Eruption, the Pock does not sink by that, but on the contrary the Patient seems rather to be eased by it; but this is not to be understood of such a Flux that comes in the *Variolæ Sanguineæ* or *cum petechiis*, when the Patient has often had her Courses the Week before. There may be some Exception to those that have them with much Pain and Trouble.

(2) *Variolar. Rat.* §. 96.

(3) *Hoffman* tells us they have been fatal to whole Families (*M. R. S. Tom. IV. Part I. Sect. I. c. 7. p. 61.*) and *Morton* tells us they have been more favourable again in other Families, (*de Variol. Cap. II. Hist. 2. p. 137.*

or at least that it scars more, is the different Textures of Skin. If the Skin can be softened by a Bath it is a great Point, but in the Natural Way it cannot well be done, because the Patient either before or after Bathing, may easily catch Cold, which would be attended with more Harm than Good (4); but in

(4) *Diemerbroeck* (Tom. II. p. 300) rejects the bathing of the Feet in the Small Pox, but it has still been used from *Rhazes* Time the *Arabian* (Cap. VI. p. 143, 160. Edit. *Mead.*) they used also gentle sweating Baths to soften the Skin. Doctor *Meibohm* (*Diff. de variol.* §. 34.) gives an Account of a young Lady that on the Small Pox coming out kept her Feet in a warm Bath to preserve her Face, and it had the Effect; for she had none there, but they came out the more plentiful about her Feet and made her lame; if we can depend upon this Case of *Meibohms* it sufficiently shows the Effect of a Bath. The praise-worthy *Huxham* (Phil. Transf. 390. *ibid.* Essay on Fevers, p. 135, 139) even recommends the bathing of the Feet with Milk and Water, or Water alone, as also Cataplasms of Milk and Bread, or boiled Turnips. Doctor *Hillary*, (l. c. p. 64.) has often experienced a strong Revulsion from Foot-baths and by other Emollients applied to the Feet, especially if Sinapisms are afterwards used. Professor *Gaubius* (*De inenting der Kinderpokjes gedaen, en ter Voller herstellinge toe behandelt. Zee Hollandse Matschappy de Weetenschappen te Harlem, Tweede deel, 1755. p. 319. 325*) did not hesitate to apply Epispastics in Inoculation long before the Eruption. A particular Observation *Archiater Rosen* took notice of in one of his Lectures; a very passionate Woman gave

in preparing for Inoculation it is not to be apprehended, provided there is proper Care taken. Messrs. *Cramer* and *Joly*, that inoculated the Small Pox, at *Geneva* (5), always bathed their Patient's Feet, about twenty Minutes every Night in warm Water. The Surgeon *Guyot* (6) in the same Place made use of a Foot bath, both before and after Inoculation, but he looks upon this Precaution now as unnecessary, for the inoculated Pock is kind enough without it. I do not know any one that makes use of bathing in *England*, though some were of Opinion that it was useful.

The Hair is generally cut or shaved off from the Head to promote a freer Perspiration, it keeps the Head cooler, by which the Pock may sooner descend to the lower

gave her Child a severe Whipping-bout the Day before the Small Pox came out, which had this good Effect, that it had but one Pustule only in the Face, but a great many about the Parts marked, or lacerated with the Rod. This *Archiater* is very much for the Foot-bath in Inoculation, he does not so much presume that the Pock will come down by it, but Experience induces him to think that the Inoculated generally, have by this Means a better Sort, the Skin is kept soft, and the Body is in a gentle Transpiration.

(5) *Mercure de Neufchatel*, also *Tiffot*. l. c. p. 59.

(6) *Memories de L'academie de Chirurgie*, Tom. II. p. 552.

Parts. On the contrary if the Hair is left and any Pocks break out on the Head; the Hair must then, with a good deal of Trouble to the Patient, be cut off (7).

A violent Exercise before, but particularly after Inoculation has been found to be very hurtful, neither ought the Patients to be exposed in the Sun when it shines hot, for we have found that those that have caught the Small Pox on Journeys, have found them fatal, for in the Summer the hot Sun has without obstruction shone upon them.

During the Time of Preparation one cannot be too cautious, to avoid a Natural Infection, for it may imperceptibly be communicated by Goods or Messengers, which perhaps a sick Person in the Small Pox, or such as converse with them may have touched, even Dogs that run from one House to another may bring it. At the Inoculation-House in London, Experience has taught them to prevent all intercourse with Strangers, not even a Letter is delivered to the Persons that are to go through the Operation, till they are assured the Operation has taken effect. Doc-

(7) Consult Hilsseri *Prælusio de amputatione & rosura capillorum in Variol.* See *Edinb. Essays*, Tom. II. p. 241.

tor *Werlhoff* (8) gives an Account of a Girl that had received a Letter from her Brother in a remote Country, where the Small Pox was at that Time epidemical, she carried the Letter about her several Days, and became infected with the Small Pox. The Disease had not been in that Place many Years, she infected four of her Playfellows, who carried it into another House and there it vanished.

The Thread wherewith the Operation of Inoculation is performed, is prepared in the following Manner. The Tops of a few mature Pustules, are opened with a Lancet on the Arms or Legs, a Cotton Thread of the Length one has occasion for, is moistened with the purulent Matter. This Thread is then gently dried by the Fire, and afterwards laid up in a wooden Box.

Some make use of a close stopt Glass, but that is not so eligible, for Mr. *Wall* Surgeon to the Small Pox and *Christ* Hospital in *London*, once perceived a putrid Smell out of the Glass, perhaps because the Thread had not been sufficiently dried. Doctor *Fothergill* told me of such another Instance, if the Thread is not dried the Matter is sooner

(8) *De Variol. & Anthr.* p. 16.

rubbed off, and is much more subject to Putrefaction; others draw a Needle and Thread through several Pustules, but this Method is not so good, because the Part under and about the Pustule may be wounded, and then the Matter mixes with Blood, which ought to be avoided with the greatest Caution.

For this purpose one rather chuses the Pustules on the Arms and Legs than in the Face, for fear of scaring the latter (9).

I dare not affirm with Doctor *Kirkpatrick* (1), that the subtilest and finest Particles of the Small Pox rise up to the Head, like a spirituous Fermentation or Distillation, and that therefore the Pustules on the Extremities should rather be chosen; so much is certain, that the Pustules on those Parts generally fill best, and seldom leave Scars (2). He
is

(9) *Avicenna* (Camon. Medic. Tom. II. p. 75, N^o 58,) advises to open the Pustules with a Gold Needle. *Gesner*, *Helvetius* and *Wintringham*, have followed his Opinion. *Hildanus* (Obs. p. 66.) was also of Opinion that the Scar would be prevented by it, but *Diemerbroeck*, (Tom. II. p. 228.) and *Huxham* (l. c. p. 150.) insists that it occasions a Scar.

(1) He supports his Opinion upon the Assertion of the Privy Councillor *Haller*, Prim. Lin. Physiolog. §. 339.

(2) That the Pustules do not suppurate well in the
Face

is likewise of Opinion that one ought to choose those Pustules which dry last, that the most volatile Particles may evaporate (3).

The old *Greek* Woman applied the fluid Matter, but it is very possible that those that undergo the Operation this way, may more likely by this means receive the infection by fetching their Breath during the Operation. It would likewise be attended with an Inconvenience to collect so much Matter, as would be required to inoculate a Number of Patients, nor could it be preserved so long as there is often a Necessity to do.

Face, may come from this Cause, the Circulation of the Blood in this Disease is more violent there than in the other Parts of the Body, and as in proportion so much Blood goes up to the Head, it is then no wonder that so many Pustules and Scars are produced there. Pock-holes in the Face may also probably arise in a great measure from the Tensity of the Skin, and its being more exposed to the Air and Weather, both before and after, than other Parts of the Body.

(3) *Kirpatrick* makes a comparison from the *Cassadaroten* (*Jatropha*; see *Chevalier Linnaei Spec. Plantar.* p. 1007. 5) the fresh Juice of which pressed out is mortal, but afterwards it loses that Property and its Taste. Doctor *Herbert*, Physician at *Surinam*, (*Diss. de Cassavæ amaræ surinam. radice Marlburgi* 1753) who has found an Antidote for this Poison, has taught us that this Juice does not lose its fatal Property till it has gone through a Fermentation.

It is a certain truth that the Thread retains its Virtue Months, even Years. I have seen twenty-five Persons inoculated with a Thread two Months old, and Doctor *Butini* (4) inoculated with one four Months old, without perceiving any difference. Mr. *Pott*, Surgeon to *Bartholomew* Hospital in *London* (5), has inoculated with the same Success by means of a Thread eight Months old. The Surgeon *Guyot* (6) says that he has saved Matter from Autumn to the following Spring, and successfully inoculated with it; but says the Eruption appears three or four Days later if the Matter is old. Doctor *Hadow* mentions, that he has observed a fresh Thread in a deep Incision, bring about a Head-ach and Soreness under the Arms, as soon as the sixth or seventh Day, and a plentiful Eruption the ninth or tenth, but a Thread that has

(4) L. c. p. 70, Doctor *Kirkpatrick* (l. c. p. 176) tells us of a Gentleman that received a Natural Infection, by coming into a Room where one had lain ill of the Small Pox three Months before.

(5) Verdeedinge proeve over de manier van't meede-deelen der Kinderpokjes door inenting door Carolus Chais blade 559. Not io de Maatschappy de Weeten-schappen te Harlem, eerste deel.

(6) Memoires de la Academie de Chirurgie Tom. II. p. 552.

been kept two Months or longer, raises the Fever not till the tenth or twelfth Day, and upon that a very thin Eruption. By what I have before mentioned and experienced, they generally sicken after Inoculation the seventh or eighth Day.

Mr. *Frewin* the Surgeon (7) is of Opinion, that the Matter while it is thin and immature raises the Distemper later, others again think that immature Matter cannot bring on the Small Pox. Doctor *Nettleton* in the Year 1723, told Doctor *Jurin* that Matter taken from old Pustules, which were almost dried up, as also Matter from an Incision was not fit for Inoculation. But on the contrary Mr. *Frewin* tells us, that Matter still has the power to operate, though taken from the Foot of a Person when all the rest on the upper Parts is dried, and the Patient has taken two or three Doses of Physic, and adds, that for want of Matter in the Pustules he has taken it out of Incisions, when the Distemper has been at its height, which has full as well raised the Distemper in others; but he says, it has failed when he has made use of Matter out of Pustules ten or twelve Days after they have began to dry up, we have many

(7) L. c. p. 23.

convincing Proofs that the Matter from an Incision, taken before the Eruption, hath answered the Purpose (8).

It is all the same if the Matter is taken either from the natural or inoculated Disease, provided only the Pustules are well filled with a yellow Matter. The old Woman believed that the Matter of an inoculated Pock was not powerful enough, but *Pylarini* soon found the Error of that Opinion. Mr. *Ranby*,

(8) Doctor *Kirkpatrick* (l. c. p. 70) presumes that even the Saliva may contain the Infection. In the same manner as in the *Rabies Canina*, nor is it entirely improbable, for we found in *England* and *Holland* that the Distemper which prevailed there among the Cattle, could by the Slaver be communicated to the sound Beast, and as it were inoculated by it. Mr. *Wespr'emi* has proposed to inoculate the Measles and even the Plague in his *Tentamen de peste inoculanda London. 1755*. In this little Treatise it is true he does not take notice, wherewith the Inoculation should be performed, but he told me that if an Opportunity should offer, he would inoculate the Measles with Scurf that comes upon the Body in that Distemper, or with the Saliva or the Tears; the Plague he would inoculate with the two latter, or the purulent Matter out of the Boil, or a drop of Blood. In these our Countries certainly none will follow his Example in the last Disease, but in his native Place or *Hungary*, where the Plague often prevails, perhaps some might be moved to the Experiment. A Physician that made the Experiment on himself, by that means could Visit his Patients afterwards with unconcern.

one of the Sergeant Surgeons to the King of *England*, has found that the Matter possessed the same Efficacy to the fifth in Rotation, from its being taken from the natural Disease. Doctor *Kirkpatrick* has experienced the same, another told him that he found the Matter as good the seventh or eighth, which certainly might be extended to the seventh and eighth hundred Time.

We all chuse to prepare the Thread with a good Sort of Pock, yet nobody doubts Doctor *Mead's* (9) word, that it depends more on what Body it is applied or communicated to, than from what Body it is taken; in the Hospital they inoculate twenty or thirty at a Time, with one and the same Matter, and yet the number of Eruptions on each Person is very unequal.

Mr. *Frewin* of *Rye* (1) says that he has inoculated, from a confluent Sort of which
the

(9) *De Variol & Morbill*, p. 84. *Huxham* (Essay on Fevers, p. 129) says, that a Scratch with some will fester and become an obstinate Ulcer, and a great Wound on another will heal with little or no trouble.

(1) L. c. p. 22. Doctor *Wagstaffe*, l. c. p. 31, relates, that the Felons in *Newgate*, on whom the Experiment was first performed, were inoculated with Matter taken from a young Fellow who died of the confluent Pox,

the Person died, twenty-one Persons in one Day, and they all had the very best Sort of Pock; he also says, that he has even inoculated with Matter of a bad Sort, without any bad consequences (1). Doctor *Kirkpatrick* relates, the first Inoculator he knew assured him, that he had happily inoculated People with Matter taken from a confluent Pock: But hardly any will unnecessarily follow these enterprising Gentlemen, as long as there is an opportunity to have a kind and good Sort.

The Enemies of Inoculation (2) have insisted that with the Small Pox Matter other infectious Distempers may be insinuated. Doctor *Kirkpatrick* (3) on the contrary insists, that the Principia of the Small Pox and other infectious Diseases, are as different from

before the Operation of inoculating was performed, but I cannot depend on this Man's assertion, especially as neither *Jurin*, *Maitland* or *Mead*, takes any notice of it. I should not chuse to inoculate with the acrid Matter of some kinds of Small Pox, which corrodes to the Muscles and lays them naked, and even frequently after a Crust has been formed above.

(1) p. 135.

(2) *Wagstaffe*, l. c. p. 45, Sir *Richard Blackmore's* Treatise upon the Small Pox in two Parts, *Lond.* 1723, p. 106. *De la Faye*, a Sermon entitled Inoculation an indefensible Practice, *Lond.* 1753, p. 9. *Cantwel*, l. c. p. 29.

(3) L. c. p. 136.

each

each other as the Seed of different Vegetables, which produce the same Kind in all sorts of Earth, and he says he should not be surprized if some, who think that any other Distemper may be insinuated with the Matter of the Small Pox, did imagine that a Woman inoculated with Matter taken from a Man would change her Sex by it, or become an Hermaphrodite *. The Surgeon *Guyot* (4) one of the Defenders of Inoculation says, that he has heard that they believe in *England*, that no other Disease can be communicated with the Matter than the Small Pox, and insists upon it that he has a decisive Piece of Experience of the contrary; but every Body is surprized that Mr. *Guyot* has never thought proper to mention it, especially as he before relates that the thirty-three, which were all that had been inoculated at *Geneva*, to that Time or the Year 1752, had all had a kind Small Pox without the least bad Consequence (5). *Lues*

* Doctor *Kirkpatrick*, page 139.

(4) *Mem. de l' Acad. de Chirurg. Tom. II. p. 552.*

(5) Doctor *Tissot*, has at last (*Inoculat. Justif. p. 119*) learned from Mr. *Guyot* this decisive Piece of Experience, the Matter was taken from a young Woman, that was afflicted with an Eruption which they call *Dartres*, the Patient afterwards had a Humour settled in his Eyes. But is it not likely that a great fat Man (about twenty-

Lues venerea is the Disease that has been most apprehended in this circumstance. Doctor *Kirkpatrick* quotes a Case that a Surgeon communicated to him, of a young Woman who was inoculated with Matter taken from a young Fellow, who had a kind Sort of Small Pox, but it afterwards appeared contrary to expectation, that he was afflicted with a Venereal Bubo and other Symptoms of that Disease; the young Woman had a kind Sort, and has never since, although there are many Years elapsed, ever perceived the least Symptom of any Venereal Taint. Mr. *Burges*, gives an Instance of Matter that was taken from a Girl, that came to St. *Thomas's* Hospital to be salivated for the *Lues Venerea*, (a Circumstance not known then) but was immediately taken ill of the Small Pox, three were inoculated with this Matter, and nothing remarkable happened thereby (6).

five Years old, who was a good deal in the Air, especially at *Geneva*, where it is sometimes excessive burning Hot, and perhaps an Hour afterwards extreme Cold) might possibly get a Cold which settled in the Eyes, without attributing it to the Matter of the Small Pox wherewith he had been inoculated.

(6) L. c. p. 5, the three Children mentioned all grew up healthy and well, two were still alive in the Year 1754, but the Third died of a burning Fever many Years since.

There

There are hardly any of the Faculty now, that are under the least apprehension of communicating any other infectious Disorder, provided due care is taken that no Blood Vessels be wounded in preparing the Thread; besides, none make Use of the Matter from a Person, that has any other Distemper when they know it, but on the contrary nicely examine, whether the Parents or any of the Kindred have been subject to any Eruptions, Boils, Scrophula, Rickets, or any other Disease, and to avoid any venereal Taint, we generally take the Matter from a Child.

Still less Weight has Doctor *Wagstaffe's* (7) Objection, that applying the Matter of the Small Pox was similar to the *Transfusio Sanguinis*, where the half stagnated Blood in the Body is made to circulate through the rest of the Veins, but here is applied to the Surface of the Body a small Part of mature Matter, which always raises the Disease it only resembles.

The Incision has been performed various ways and in different Places. The old Woman in *Constantinople* used with a Needle to prick the Forehead, Cheeks, Chin, the Joints of the Arms and Legs, when the Blood

(7) L. c. p. 11. also *De la Faye's* Sermon, p. 10.

appeared she applied some of the fresh Matter she had received, brought warm to her in her Servant's bosom, from a Person in the Small Pox of a kind Sort, she humoured the Superstitious and made believe, that by virtue of her Prayers and Zeal, the Sore would come where she had pricked, which was in the form of a Cross, and for each Patient she offered two Wax Candles at the Altar of the Virgin *Mary* (8). *Timoni* and *Pylarini* found easily, that the Places the old Inoculatress chose, were the most proper. Mr. *Maitland* sometimes made an Incision on both Arms, and sometimes on the Legs. Some chose for the purpose an Arm and a Leg, but Experience soon taught them to avoid it on the Legs, for bad Sores were occasioned by it, which have sometimes opened again after the Incision had healed up, as Doctor *Hadow* observes (9). Now-a-days we make but a superficial Incision with a Lancet about the length of this Line——on the Arm under the Insertion of the Tendon of the *Deltoide* Muscle, where the *Biceps* and *Brachiaeus* in-

(8) *Le Duc de Byz.* Var. Inocul. §. 14.

(9) Fresh and old Sores on the Legs, are not alone difficult to cure at *Rome* (*Baglivi Prox. Med.* l. 1. cap. xv. 6.) but in all Places in *Europe*.

ternus meet. The under Part of the Arm is grasped with the left Hand in order to brace the Skin. The Incision is performed with the right Hand, it is cut but very slightly, and it is best to hold the Lancet on the slope to raise the *Epidermis* on one Side, the least sign of Blood is a sufficient Mark that the Incision is deep enough. Doctor *Fothergill* showed me an Instrument, invented by an Apothecary on purpose for this Operation, particularly for Children that are much frightened. It is like a scarifying Instrument, but with only one Tongue or Blade, and which in the same manner may be shifted higher or lower, according to the Depth required for the Incision.

From too deep Incisions, especially if the Muscles that lie underneath are wounded, some have observed bad consequences. Mr. *Burges* (1) speaks of an Incision made too deep into the cellular Membrane, which caused Swellings in the Interstices of the Muscles, they subsided after proper Evacuations, but returned in different places on the least Cold or change of Weather. Doctor *Hadow* also takes notice of a violent Inflammation, that arose from a too deep Incision in the middle of the *Biceps*.

(1) L. c. p. 35. seq.

Doctor *Kirkpatrick* (2) gives an Account of a young Gentleman in *Kent*, who by having some of the Tendons wounded had a violent Exulceration in his Arm, that they thought it must be amputated. But as Doctor *Kirkpatrick* (3) thinks that the advantage of Inoculation, chiefly consists in the Discharge by the Sore, therefore believes Doctor *Mead* was in a Mistake in being of another Opinion, he judges it to be most advisable to cut entirely through the Skin, and to lay the cellular Membrane naked on both Arms, that according to Doctor *Grassius* Theory the Suppuration may be increased, nay, he thinks it of advantage to make an Incision in the Leg, to promote a Revulsion of the Matter of the Pock, where there is reason to apprehend a violent Eruption: I will only just mention that at this present Time in the Hospital, they never make more than one Incision, and yet the Patients have the Small Pox in as mild a Degree as ever. In the same Place I have seen an Incision heal up before the Eruption, and yet the Patient had a very mild

(2) L. c. p. 159.

(3) L. c. p. 118, 152.

and kind Sort (4), on others again the Sore has hardly been moist and yet the Pock has been very favourable. It is true that from the few Drops that run from the Sore many Pustules might be filled, and that much Serum is required to make a few Drops of Matter, but it remains still uncertain whether the running of the Sore ought, to be considered as the principal Cause of a mild and kind Pock, as the Sore yields but little or no Matter before the Eruption, or the actual Suppuration of the Pustules.

Doctor *Kirkpatrick* (5) has found it unnecessary to make fresh Incisions for Inoculation on

(4) *Jane Pavey*, a Girl of nine Years of Age.

(3) L. c. He even judges it necessary for People that have not had the Small Pox to have an Issue in consequence of *Diemerbroeck* (*de peste*, p. 150, 357) and *Hodges's* (*Lomolog.* p. 240.) Experience of the Benefit of Issues in the Plague, in the Preface p. 24, he relates concerning a Physician at *Blandford*, who cut Issues on the Arms of his Patients, and did not lose one of them in the Small Pox, which was then Epidemical at that Place, although he did not inoculate. But Doctor *Kirkpatrick* did not know the Number of them. An Anonymous (some Remarks on the Reverend Mr. *De la Faye's* Vindication in a Letter to a Friend, *Lond.* 1754, p. 52.) says that, those that have had the Small Pox in the Natural Way and have an Issue on their Arm, when it draws near the Crisis it yields more Matter than usual. Doctor *Meibom.* (*Dissert. de Variol*) gives an Account

on those that beforehand have Issues, for he thinks it most advisable to let the Humours take their accustomed Course.

When the Incision is made, a Thread that is infected by Matter of the Small Pox is laid into the Wound the length of the Incision.

However well the Thread is dried, still before they make the Incision, a Handkerchief is tied about the Head, under the Eyes before the Mouth and Nose, in order to prevent the Infection being drawn in with the Breath.

Doctor *Wagstaffe* (4) insists on it, that we do not know the Dose of Matter or Thread that ought to be applied, but this is an

Account of a Boy, that had often Boils, and when he was infected with the Small Pox, had four Boils on his Body, and yet had so plentiful a Number that hardly a Place was free from them, I ought to mention that he had had the Itch two Years; on the contrary I saw a Man in the Small Pox Hospital twenty-four Years old (*Thomas Neighbour*, N^o 203, Year 1755) that by some external Violence, six Weeks before he had the Small Pox had wounded the Shin of his Leg, which occasioned a very bad Sore and several Pieces of the Bone separated, he had in the Natural Way not above sixty Pustules, which is actually very rare in a Man of his Years, especially a Brewer's Servant.

(4) L. c. p. 19.

Objec-

Objection of no great weight, for a Spark will blow up a Powder Magazine, and a great Fire-brand can do no more. Doctor *Nettleton* has sometimes only taken a little Lint, which has been dipt in Matter of the Small Pox, and rubbed it over the Sore, without tying it fast, and yet the Small Pox was produced. Mr. *Ranby* has an Observation of a Woman thirty Years of Age, who was inoculated, but repented after the Operation was performed, and when she was left alone took away the infected Thread, and put a Bit of common Thread in the Room of it; she hoped by that means to avoid the Infection, but found herself, to her own Advantage, deceived. Mr. *Frewin* (5) gives an Account of one *Dutton* a Surgeon who infected a Woman with a Lancet, which he had used nine Days before to open some Pustules with, and had not wiped it, that it came by the Lancet appears by this, the Sore would not heal up but acted in the same Manner as it does in Inoculation. By this we may see how little is required to communicate the Small Pox. Doctor *Wagstaffe* might easily discover, that we are as ignorant of the Dose in the natural Small Pox.

(5) L. c. p. 25.

In certain Countries they make use of other Methods to communicate the Infection. The *Chinese* Method, which the Jesuit *D'Entrecole* (6) tells us has been used in *China* time out of mind, is to put up the Nose some Reeds or a little Cotton, that has been infected with Matter of the Small Pox, either without or united with a little Musk. This Method was tried on a Woman in *England*, who was one of the seven condemned Felons, who by the Experiment of Inoculation saved themselves from undergoing the Sentence of the Law, she had a more violent Head-ach, and was more sick than any one of them that were inoculated in the present usual way (7). The *Chinese* Method of Inoculation has no preference to the natural Infection, provided the Body has been previously prepared for the latter.

The *African* manner, or that which *Cassim Aga*, the Ambassador from *Tripoli* to the Court of *Great-Britain* (8) relates, and has been successfully practised not only at *Tripoli*, *Algiers* and *Tunis*, but amongst the

(6) *Lettr. Edif. & Cur. de Mission* xx. *Recueil*, p. 304. See also, *Journ. Oeconom. d'otobre*, 1755, p. 122.

(7) See *Mead de Var.* Cap. v. p. 78.

(8) *Kirkparrick's Analysis*, p. 147, 160.

wild *Arabians* for Time out of Mind agrees nearly with ours. They draw a Needle and Thread through a mature Pustule, and afterwards through the Skin betwixt the Thumb and the first Finger of the Person that desires to go through the Operation. The method that a Friend of Mr. *Chais* (9) gives an Account of to have been used at *Bengal* a long while, is the same, excepting that they do not confine themselves to one particular Place for the Operation.

The method of being infected voluntarily, or as it is vulgarly called, buying them, is an ancient Custom in various Parts of *Europe*, in many Places of *Germany* (1) it is used, and we know that it is not entirely laid aside in *Sweden*. They buy for some Pence, as they say, but the same Money is returned again to the Purchaser after it has been infected with the pocky Matter, this Money is tied to the Feet or given into the Hand of

(9) L. c. p. 170. *Harlemse, Maatschappij eerste deel*. most People will require a Confirmation before they believe that the People in *Bengal*, preserve the infected Thread, down from their Grandfathers and Great-grandfathers.

(1) See *Ephem. Germ. An. 2. Anni. Scilicet. 1671. Obs. 165. Fol. 264. It an. 8. i. e. Anno 1677. Obs. 15. Fol. 22, Werlthof de Variol. & Anthr. p. 19.*

the Person who is desirous of receiving the Small Pox, they generally have a kind Sort, for they live very regular both before and after the Infection. Doctor *Williams* and Mr. *Wright*, tells us this way of buying it is practised with good Success in *Wales*, but their method is not much different from Inoculation, they either rub the Matter of the Small Pox on several places of the Arm, or pricking previously those Parts with a Pin or scrape them with the back of a Knife.

Some have believed that rubbing the Matter in was preferable to the usual way of making an Incision. *Brooke*, the Surgeon, in a Letter to Doctor *Parsons* (2) relates his Experience of it; in *America* he has often rubbed a Drop of Matter of the Small Pox, upon the Arm in the middle of the *Biceps*, and applied to it a common Plaster, and even to keep the Operation secret to Children, he has greased their gloves with Pomatum, and mixed a Drop of Small Pox Matter with it, but although this method has often communicated the Small Pox, still it has failed in the *London* foundling Hospital, where all Children who have not the Distemper by the

(2) Philosoph. Transact. Vol. XLVI. Art. LXXV.

fourth or fifth Year of their Age are inoculated.

By Friction the Patient is more likely to take the Infection with the Breath, and it would be inconvenient to collect so much Matter, as it would require to inoculate a Number with, the Matter cannot be preserved for it soon corrupts, and by Friction one would imagine that an Inflammation might be raised in the Arm, as there is no drain for the Matter. The bare Application of it on the external Parts of the Body, cannot possibly so certainly communicate the Infection as when there is an Incision, and nothing can be more disagreeable to a Person that is desirous of having the Small Pox than such a Delay, for which reason many Practitioners only in respect to that, advise a double Incision if no other Advantage was to arrive from it.

In *Geneva*, sometimes, they have made use of small Blisters of nine or ten Lines diameter instead of an Incision, with those that have been afraid of the latter, some may be afraid of a Lancet, but it is certain that this method does not hurt so much as the Scratch of a Pin, a Veficatory on the contrary creates much greater Pain, and the Sharpness of the *Spanish* Flies, united with the Venom of the

Disease may raise an Inflammation. Mr. Guyot (3) tells us, that he has laid aside Vesicatories, because they have occasioned very troublesome Ulcers.

To fix the Thread (4) and keep the Sore soft they apply a little Lint, upon which they spread some *Ung. digestiv. Ung. Basilic. flav. or e gum. elemi Lond.* upon it they put a little square Plaister, for which purpose, *Empl. diachyl c. gum*, may be used, the Thread generally lies in two natural Days, but in the Hospital for Inoculation it is sometimes left in till all the signs of the Distemper have appeared, sometimes they put in a fresh Thread within the eight Days, if sufficient signs of the Small Pox has not appeared, or else they dip the first Thread in the Sores of those that are become moist,

(3) *Mem. de l' Acad. de Chirurg. Tom. II. p. 552*, yet Doctor Tronchin inoculated the *Duc de Chartres* and *Mademoiselle Orleans*, by the Means of small Vesicatories.

(4) Doctor Kirkpatrick, l. c. p. 9. proposes the Experiment of applying to the infected Thread some strong scented Things, to see if they could oppose the Infection, afterwards one might try to give the same Things upon or presently after Inoculation (for instance a Criminal) with a view to prevent the Eruption, that Musk is not sufficient we see by the *Chinese* manner of applying it to the infected Cotton, the Experiments that has been made, of the Small Pox Matter being mixed with Camphire, requires farther Trials.

but

but nevertheless the Pock always appeared in its proper Time, and did not at all change its kind by it. The learned Doctor *Maty* (5) gives an Account that in his own Family, the Incision happened to be rather more superficial, on the youngest of his Children than the two eldest, this induced him to believe that the Inoculation had not taken effect, for which reason it was renewed, the Symptoms appeared for all that on all three at a Time, and the youngest on whom the Operation was twice performed had the Small Pox the most favourable.

After Inoculation is performed no Medicines ought to be given till the Eruption (6), excepting a Glyster, which ought to be applied if the Inoculated has not a Stool at least every third Day, all strong Motions or Exercise ought to be entirely forbid, and the inoculated Person ought not to be exposed in the Sun-shine in warm Weather, nor in Winter to the Cold; for a too profuse Per-

(5) *Journal Brittanique pour les Mois de Maj. & de Juin 1745, Tom. XIV. Art. VI.*

(6) Doctor *Gaubius* gave though in this interval, every Day, some Powders of *Sal Mirab.* three grains to the Patient, whose Case he has given in *Harlem Handb.* 2. Deel. p. 325.

spiration, as well as the want of it, has made the Disease dangerous.

The Patient ought now to be more cautious of what he eats and drinks than he was before, bad kinds by a natural Infection often proceed from false Steps taken during this interval, which is the true *Stadium Contagii*.

Now one ought to be cautious in chusing ones company, for although it is credible that the natural Infection cannot operate on us, or at least not injure some Hours after Inoculation (7). But still we are in doubt if the Operation has actually taken effect; has it failed, which sometimes happens on the first Inoculation, then the Patient may take

(7) In a Number of twenty Girls that were inoculated the second of July 1755 in the Inoculation House, there were five that were obliged to have the Operation repeated, they were inoculated all the seventeenth of July in the Morning the second Time, and were sent the same Day in the Evening to the natural House. Doctor Archer strongly presumed they would escape the Small Pox, since it never happened to him but once from the first Establishment of the Hospital, that the Small Pox came out after the second Inoculation, but two of them actually had the Distemper, although very mildly, which would hardly have happened, if the natural Infection from the Hospital could have operated on these People, who were but a few Hours inoculated before they were sent there.

the Infection by his Breath, exclusive of that, Strangers may bring in other infectious Diseases that then may prevail.

When two Days are elapsed the Sore begins to look red and to itch, and sometimes it is a little moist, and it is usual then to change the Plaister and take out the Thread; but it does not much signify if one observes this last Circumstance or not.

The fourth Day the Itching increases, the Sore grows moister and whiteish at its edge.

The fifth Day there generally is a white Streak in the Sore, some complain of a Shooting in the Arm or as if something was crawling down to the Fingers, others of a Stiffness in the Shoulder Joints, or a tenderness in the Arm-pits.

The sixth Day the Sore generally runs with a little thin Matter, some say the Sore itches, others that it smarts, the Urine is of a Lemon colour, it happens very seldom or never that this Day and Night any complain of the Head-ach, but many of a Weight on their Shoulders, and a tenderness under their Arms, and sometimes the Glands under the Arm are a little swelled, as a strong Mark that the Infection is going that way, and first

affects the nearest Parts (8). This Day or Night one may pronounce with some certainty if the Patient is infected or not.

The seventh Day the signs of Suppuration in the Sore are plainer, many complain now of a Soreness and Swelling under their Arms, which often subsides on the Eruption, this Day, and sometimes before, one may perceive the Small Pox smell in their Breath (9) and Perspiration, some now begin to complain of a Heaviness, Sleepiness and Head-ach, and towards the Evening have a quick Pulse.

On the eighth Day it is most usual for the inoculated to sicken. The greater part have cold and hot Fits at intervals, which Torment ends with a Burning in the Skin, some complain of a Shivering all Day, and some of a Paroxysm not unlike an Ague. Others have a Flushing in the Face, a Weariness comes upon them sometimes attended with a

(8) In the same manner after the Bite of a mad Dog, the Place that was bit begins to smart first, and then flying Pains are felt in the Parts adjacent, which is a sure sign, even a long Time after that the *Hydrophobia* is near at Hand. See Aurelian. de acut. Morb. Lib. 3. Cap. 14. p. 226.

(9) It is said that this Smell is such as is perceived in the *Angina*, and that the Small Pox Smell is not observed till the third Stage, but the Perspiration has a peculiar Smell.

Puking.

Puking. The Eyes are dim and look dead, and some can hardly bear Day-light; till the Pustules appear they become light-headed, and their Behaviour is like that of drunken People (1). Afterwards this Frenzy turns into a violent Head-ach, the restlessness increases, and they startle in their Sleep.

The ninth Day those that have not had the foregoing Symptoms generally have them. In the Morning they are for the most part pretty well, but towards the Evening they have a fresh Increase of their Disorder, they grow fainter, and sometimes complain of flying Pains like Rheumatism in the Limbs. The external Parts of their Body is hot, and the Head-ach increases. Some complain of terror of Mind and the Back-ach, but not very acute, and by no means always a sign of a plentiful Eruption. Their Pulse is hard, and their Skin generally still dry. They complain of a violent Thirst, which ought to be sufficiently quenched with diluting Drinks, for ordinary People thin Water-gruel or Beer-whey is the

(1) The Servants in the Inoculation Hospital knew it was the Time for the Inoculated to sicken when they began to make an uncommon Noise in the House. Dr. *Kirkpatrick's* Daughter had such a confusion in her Head that made her ask, if drunken People did not find themselves so.

properest.

properest. The Sore now runs with a yellow Matter, sometimes many Drops, when the Plaister is changed, which ought to be every Day. The inoculated are seldom light-headed, but when it happens it is a sign that the Pustules will not be very plentiful, as I have often observed. Tremblings and little Convulsions sometimes Children are attacked with, but generally subside of themselves on the Eruption, or with a Glyster (2). If we find that they seem to want Strength to force out the Pock, then, as Doctor *Mead* (3) has forbid, no Vein ought to be opened on any account, but the reverse Sinapisms and Vesicatories ought to be used, and the latter is ge-

(2) See *Preussius* in E. N. C. Cent. 3. Obs. 16. Doctor *Kirkpatrick's* (L. c. p. 263,) eldest Son, eleven Years old, had a strong Convulsion, and his Body was not open, therefore a Glyster was apply'd, a Fever somewhat high followed, upon which the Pock came out very plentiful, but distinct Convulsions that do not depart upon the Eruption generally are of troublesome Consequence; but Mr. *Ranby* has an Observation of a Child that was inoculated at seven Years of Age, Convulsions were the first Symptoms, which continued during the Eruption and whilst the Pock ripened, though not so violent as before their appearance, the Pock were of a kind sort and the Fever moderate. The Child was something weaker than usual for about six or seven Weeks, but thrived afterwards very well.

(3) *De Var.* p. 58.

nerally

nerally applied to the back part of the Neck, and the former on the Feet. If the Fever grows very high and the Patient is full of Blood, especially if a Woman that has had too few or irregular Menses, then a Vein ought to be opened, but yet in this Circumstance one ought to be very cautious that it does not totally suppress the Fever requisite for the Eruption (4).

The

(4) Inoculated People that previously have taken Purges and used low Diet, will not so well, in this Stage, bear bleeding as those that have the Distemper in the natural Way; the three or four Pustules perhaps intended may be prevented by the least loss of Blood. I saw in the Inoculation-House a Boy (*James Smith*, sixteen years old) taken with a bleeding at the Nose the tenth or eleventh Day, and no Pocks appeared, although the usual Symptoms had preceded it; a Swelling under the Arm was felt before, and did not subside till three Weeks were elapsed. He took no Infection afterwards although he was brought into the natural House. Doctor *Fuller* (*Exanthem.* p. 305.) tells us yet a more remarkable Instance concerning a Doctor of Physic, who thirty Years before the relation, whilst he was at *Oxford* on his Studies, was taken with a violent Head and Back-ach, and succeeded with a Delirium, at a Time when the Small Pox was very rife, several little Pimples appeared on his Body, which the Physicians that attended him called the Small Pox; they however, with the aforesaid Symptoms, vanished upon his losing two Pound of Blood from his Nose, and he never was afterwards infected with that Distemper.

The ninth Day the Eruption seldom or never happens.

The tenth Day before the Eruption the Pulse is hard, but the Skin begins to soften and grow moist, and the Patient often complains of a beating or thumping in the Head, others have a cracking in their Back, and others again say they are sick all over their Body. Those that get the most Pustules, complain chiefly before that they fetch their Breath with difficulty, and have sometimes Tremblings, which are signs of Oppression; this Day few are able to rise from their Bed, and on that account, in the Inoculation-House, they leave them to do as they please. In the inoculated Pock, at least, one need not at all apprehend those bad Consequences from the Heat of the Bed which *Sydenham* (5) infers; on the contrary

Distemper. This is further confirmed if we may depend upon *Botallus's* (*De Venæsect.* Cap. 5.) account of a young Fellow eighteen Years of Age, that was bled to the Quantity of *lbj.* two Days after the Eruption, upon which the Pock vanished; he even says that he has cured People of it that way. But daily Experience shows us that Phlebotomy or a Bleeding at the Nose often does not prevent the Eruption in an Inoculated, much less in a natural Small Pox.

(5) P. 184, 446, 692, Op. o. He forbid his Patients to go to Bed, excepting the Night before the fourth Day

trary by that means catching Cold is avoided, the Skin is softened, by which the Eruption is promoted, and this is the only expulsive Means one has occasion to take. Instead of hot Things cooling and plentiful Drinking, quenching Julips and Emulsions are proper, one ought not to force but leave the Pock to come out of itself, and according to the same *Sydenham's* words (6), not increase the Fire under a boiling Pot, but if it lasts longer than three full Days reckoned from the Hour the Inoculated sickened, and no Pock appears, but the Pulse is low, quick, and unequal, no great Heat or Thirst, the Urine pale, the Patient low-spirited and sighing, and a heaviness and pain in the Head with trembling, and has a continual loathing and inclination to puke, then one ought to assist the Eruption with gentle Expulsives, particularly Powder of Camphor and Wine-whey. An experienced Practitioner knows how to take care not to confound the weak beating Pulse with the oppressed, which those People that are very full

Day after the Eruption, or sixth after the first being taken sick. I should doubt whether the Sick are able to sit up so long, especially those that get a confluent Pock, if *Sydenham* had not said it.

(6) O. o. p. 448. He speaks, p. 178, of an obstructed Pulse.

of Blood are subject to. By Phlebotomy the Pulse then is relaxed, becomes more free, the Eruption promoted, and the anguish and uneasiness of the Mind vanishes. Amongst the Inoculated some complain of loathing, but few puke or have such a Soreness and Pain across their Stomach, and at their Heart as in the natural Small Pox, the reason of that may probably be that the Infection is not swallowed with the Saliva, and partly the good Diet used before. Inoculation leaves no Crudities or foulness in the Stomach. Vomits therefore are unnecessary if not hurtful (7), since the Loathing

(7) Mr. *Burges* (l. c. p. 27,) says, that he never knew the Delirium to continue after a full Eruption, excepting where Emetics have been used; he gives us upon that two Cases, in the first the Patient died with all the signs of a good kind. Dr. *Hadow* relates in a Letter to Dr. *Pringle*, that he formerly gave a Vomit one or two Nights before the Fever ought to come, but as he often observed that the Fever came presently after the Vomit, and did not depart till the Eruption was over, it deterred him from that Method. In the natural Small Pox I have often seen, that the Patient has had a violent Fever with a Delirium and Inflammation in the Eyes, when they have taken a Vomit, and a Vein has not been previously opened. That it acts like an Expellant may be seen by the strong Perspiration that attends it, during the Time it operates. Doctor *Huxam* (Essay on Fevers, p. 142,) says also that he has found a gentle Emetic, a most useful thing to assist the Eruption in weak and dejected People, where the Pus-

tules

ing and Reaching with the Inoculated, chiefly arises from the Sympathy of the Nerves. For the same reason Purging in this and the next Stage, is unnecessary with the inoculated Distemper although it is used in the Natural, to cleanse the Stomach and Intestines (8). This and the following, or,

Eleventh Day, the Pock generally breaks out, but before the Patient usually has gentle Sweats with it, and with some a little before the Eruption the customary Symptoms subside, such as the Head-ach, Fever, and Restlessness, the Pulse softens, and the Patients have generally from that Hour nothing to complain of but being tired of lying a Bed;

tules lie buried in the Skin will not rise, and are hardly seen or felt. *Sydenham* himself (*Op. omn.* p. 461,) who was so fearful of forcing Methods, would sometimes use for this purpose *Infus. Croc. Metall.* after Bleeding had been performed.

(8) One might really apprehend from Purgatives what I have said of Bleeding. In the natural Pox there cannot so easily be a Change in the intended exanthematic Eruption; yet Doctor *Meibohm* (*Diss. de Var.*) tells us of a Boy that was in a House where many lay ill of the Small Pox. He had, till the fourth Day, all the Symptoms that precede this Disease, but was taken with a Diarrhæa, attended with a most excessive Stink, this way he was cleared of the Small Pox. That a Diarrhæa brought on by purging Medicine has the same effect may be seen in the Case that I have already quoted of *Grassius*. See p. 32.

the greater Part are able to sit up, and even some are suffered to do it, but it is better to keep them in Bed. The Soreness or Swellings under the Arms subside with most of them at this Time, but returns again in four or five Days. The Pustules appear generally like small Heads of Pins first round the Incision, on the upper Lip, about the Nose, and more places of the Face (9), afterward on the back part of the Neck, on the Breast, and low down on the Arms towards the Wrists, where the Heat is stronger, than higher up on the Arms, and lastly they break out on the Feet. The Eruption seldom stops till the third Day is over, and as many Days passes generally first with a kind Sort before they begin to break out (1). The usual Number by Inoculation are from thirty to fifty Pustules. Three or four Hundred, which in the natural way are considered but as few, very rarely happen in

(9) We judge of the danger or favourableness of the Distemper by the Number in the Face, according to Doctor *Sydenham's* assertion, and not by that of their whole Body, although Doctor *Friend* would insist upon it, to support his Theory of the use of Purgatives in the Small Pox.

(1) We must without doubt reckon natural Days of twenty-four Hours, not bare artificial Days, as Doctor *Thomson* (l. c. p. 5.) remarks, for otherwise one might make very great Mistakes in the Prognosis.

Inoculation.

Inoculation. I never saw any that have been inoculated have the Sort that is called Adhærent, much less the Confluent, though some Observators say it has happened.

With few the Eruption stops longer than the twelfth Day; it is looked upon as something very extraordinary for the Pock to come out the thirteenth or fourteenth Day (2).

These

(2) *Archiater Rosen* told me of a Child eight Years old that was inoculated at *Upsal*, under the Inspection of Mr. *Aurivillii* the Body Surgeon, but did not sicken till the tenth Day, and the Pock came out the thirteenth. Doctor *Hofst* (*Journ. de Medicine*, Tom. III. p. 282, 1755.) gives an Account, that upon the Daughter of Lord *Dalkeith* the Pock did not come out till the fourteenth Day. Doctor *Kirpatrick* (l. c. p. 260.) who has seen the Pock come out the fourteenth Day says, that it was assured him that out of three People inoculated at one Time, the Pock on the two first did not come out till the seventeenth Day. At *Egham* a Boy seven Years old did not sicken till the twenty-third Day after Inoculation, he had them very bad, but escaped with Life. His Brother was inoculated at the same time with the same Matter, and sickened in right time and had a kind Sort: It may, without doubt, be uncertain whether the first Boy was infected by Inoculation, or if it missed, and he afterwards took the Distemper in the natural way.

At first they thought that the Small Pox after Inoculation might appear the third or fourth Day, but by long Experience we are convinced that they are mistaken, and that the inoculated Persons were before infected in the naturay way. It was the same with *Le Duc* (l. c. §. 26.)

These Symptoms for each Day, as I have laid down here, are taken from what happens ofteneft, but sometimes I have wondered how the Small Pox can break out, without the Patient having any Complaint, or at most of a little Restlessness. Sometimes a Head-ach or Fever will precede it, but the (3) incision Wound heals entirely.

Sometimes

who was inoculated at *Constantinople*, and afterwards defended that Practice at *Leyden*, he sickened the third Day, and the Pocks came out on the fourth Day after the Operation, so that one cannot believe the Distemper came from Inoculation; nay, he says the Eruption appeared on some the first, second, third, fourth, fifth, and sixth Day after Inoculation; the last term the seventh Day is even too soon: Why do not such Things happen now-a-days? He makes the same Remark as Mr. *Le Camus* (*Journ. Oeconom. d' Octobre 1755*, p. 123.) on the *Chinese* method of Inoculating, that the Eruption that comes out the first Day is more dangerous than that which comes later: But we are not greatly induced to believe either of these Accounts, for the first never practised Inoculation, and the latter does not tell us from what Authority he has his report.

(3) Concerning the Sore, Doctor *Hadow* makes a remark in one of his Letters that I never found from any other, and what I never could discover, for I have never seen such a bad Sort by Inoculation as he speaks of. He says if the Sore looks red and inflamed then it is likely to do well, but if it has a livid Colour, is flabby, and a thin Humour runs from it then he is assured it will be a confluent Pock; nay, he has even seen the Pock in that Case

united

Sometimes after Inoculation, the sixth, seventh, or sometimes some other Day, there comes a red Eruption called a scarlet Fever (4), either all over the Body, or only round the Incision, which in that case emits a deal of Matter; the Patient has a quick Pulse and burning in his Skin, but seldom has any other Complaint: The whole Cure consists in warm diluting Drinks, and keeping the Patient in Bed; if it is necessary to promote Perspiration it is then rather done with some or other Champhor Powder. This eruptive Disease makes no change in respect to the Small Pox, but they generally come in right Time, and are not at all altered by it in their kind, or become

unite with *petechiae ampullae lymphaticae*, and that they did not dry till the twentieth Night, but he says he has not seen such Accidents but when the Patient has caught Cold, or committed some Irregularities, he then has, with Success, made use of *Cort. Peruv.* and mixt *Salin River*. The mentioned Symptoms in the Incisions agrees with what happens with recent great Wounds, for it is always looked upon as a dangerous Symptom if the Lips are dry and crusty, and shew no sign of Suppuration.

(4) This Eruption is called by the *English* a Rash, and they do even by that Denomination signify *Febris Scarlatina*, *purpura rubra*, *Phlogosis erysipelatoſa*, and the *French* Pox comprehends as many Diseases under *Ebullition de sang*, and the *Germans* confound them generally under the Name of *rothe Friesel*. It may be of very little benefit to be nice about the Distinction of these Diseases.

more mild. I have sometimes seen the Scurf that attends this Disease, scale off when the Pock has been at its height. In *England* I have observed that other small watry Blisters or Pimples come, which are of no consequence. These Blisters are quite clear till they dry away; and therefore are improperly called a Rash; they appear both before and after the Eruption, they likewise come in other Diseases where Perspiration is obstructed, or the Diseased has used any hot Things.

From the Inoculation-House (5) the Patients are removed as soon as the Pock comes out, in a Coach or Chair, to the natural House.

(5) The Pock does not sink or strike in by this removal as many would imagine, nor is the Patient fatigued by it, but rather the contrary, one has enough to do to get them to Bed when they come to their new Habitation. The intent of moving them is to keep the Inoculation-House clear of the Infection. We have the greatest Reason to believe that the Small Pox does not infect till they begin to suppurate; but as a farther Security they generally smoak the Room and Bed-clothes with Sulphur. Formerly they had three Houses for the Small Pox in *London*, the one was for the Inoculated when the Pock was come out, but it is found that this is an unnecessary expence. The Public is likewise better assured that the Inoculated actually get the Distemper, for otherwise they would be infected by those that have the Distemper in the natural Way.

Every Practitioner that understands attending the natural Small Pox, will not be at any great loss to know what ought to be observed, after the Erruption in the Inoculated, especially as several do not want the least assistance. My Intent is not here to talk of the Cure of the natural Small Pox, only I will just mention the difference that a previous Preparation makes, between the natural and inoculated Small Pox, which in itself is one and the same Disease.

By Preparation the tense Parts become relaxed, the Humours milder and thinner. If the Patient before had a watry Blood, then the Fever may be often too low to promote the destined Eruption, and Suppuration will hardly be effected. If one in this Circumstance would make use of the *Arabians*, and of *Sydenham's* once more introduced cold Regimen, which is necessary when the Fever is too violent, then the little Pimples would dry away without yielding any Matter; and if sometimes, when the Eruption is almost over, the Fever is not encreased with a little Art, the inoculated Pock would often be imperfect.

Every one should esteem it best not to go too far with Preparation, but as it is not always easy to hit upon the Medium, most reckon it more advisable to err in the first

Point, when for want of Preparation they may see a bad kind of Pock, with a violent Fever break out, which afterwards can hardly be remedied.

A Stimulant or a Corroborant is therefore oftener required, in the inoculated than natural Small Pox. The first Intent may be obtained by such means as, *Contrajerva*, *Serp. virg.* *Crocus*, *Myrrha*, *salja volatilia*, *spirituosa*, *vinosa*, *moschus*, *flor. Sulphur.* *Camphora*, *vesicatoria epispastica*.

The other Intent is gained by *Cortex Peruv.* which is so eminent for its Virtue in promoting Suppuration, and may be used from the Commencement of the Disease (6), or the first or second Day give the preference to Camphor joined with Nitre, and continued afterwards during the whole Sickness with China. The second Time again one mixes it with Perspirantia; on the contrary, is the Fever too high, then Bleeding, *Nitrosa*, and *acida vegetabilia* ought to be used. In this

(6) See relating to this Prof. *Monro* in Medical Essays of Ed. Vol. V. p. 102. *Malcolm Flemmyng* (Proposal for improving the Practice of Medicine, illustrated by an Example relating to the Small Pox, *Hull* 1742,) Doctor *Wall*, *Philos. Trans.* N^o 486, and see Doctor *Bergii*, *Disp. de Var. Cur.* *Upsal*, 1754. The Eruption is not obstructed by it as *Morton* (*Pyretholog.* p. 134,) so great a Lover of the Cortex, apprehended.

manner the Method may be according to Dr. *Huxham's* Words (7); sometimes *Sydenham's* and sometimes *Morton's* may be useful; *Potus diluentes saponacei* are in both circumstances proper, although we have no intent to promote Spitting, which seldom or never comes in Inoculation (8). Paregorics are seldom wanted

(7) Essay on Fevers, p. 128.

(8) I saw in the Hospital an inoculated Girl (*Ellis Hatt* twenty-two Years old) have a Spitting who had not more than a hundred and twenty or a hundred and fifty Pocks. Her Face was swelled and Eyes closed for three Days, but she had at the same Time a violent Tooth-ach, which she said she was often troubled with; the Pocks were as if they were braced, and most numerous in the Face, but no Swelling came in the Arms, for there were but very few Pustules. Sir *Richard Blackmore's* (l. c. p. 38.) Thoughts seems to be true, that the same Matter that occasioned the Swelling in the Face is not moved to the Arms, although the latter succeeds immediately the first, for the Swelling is only the consequence of the inflamed Bases of the Pustules when the Suppuration begins. We see sometimes Swellings in both Places together, and on the contrary none on the Hands if there are but few Pocks, although the Face before had been swelled. Another Time we shall see the Hands violently swelled when they are very full of Pocks and confluent, although hardly any before has been in the Face, because the Pocks there were distinct. Others look upon a Swelling in the Hands and afterwards in the Feet as a critical *Metastasis materiæ morbificæ & saniei variolacæ*. *Blackmore*, on the contrary, thinks it inconsistent to insist on, that a Boil's ripening on

wanted in Inoculation because the Patient is less restless, and the Irritation is not so great, but should there come a suppuration Fever, which in Inoculation is seldom seen, then without doubt they ought to be used (9).

When the Pocks are dried, to prevent what the Arm can occasion the Swelling of another on the Foot that raised itself two Days later. According to these two different Opinions it is dangerous when the Swelling in the Small Pox sinks, in the same manner as it may cost a Person his Life when the Swelling in the Gout or Podagra hastily subsides.

(9) I can hardly believe that Mr. *Ranby* has hit upon the true Cause, of the bad consequences mentioned in the following Case. A Girl seven Years of Age sickened the seventh Day after Inoculation, and had forty Pocks in her Face which grew very large and sore, so that the little Patient grew restless; a certain Physician prescribed for it a Draught with a proper dose of Diacodium, to be taken every Night till the Pock dried. The Conclusion was, that although the Child seemed to keep its Senses it lost its Speech and the use of its Arms and Legs, which lasted three Years with very little Amendment. The Father inoculated her Brother, but forbid the use of all kind of Opiats, it terminated according to Desire. I cannot ascribe the Lameness to the Opiat, as mentioned in the first Case, because I have seen a Child that had a few Pustules have the same Symptoms, although it had not taken Opiats or any other Medicine. Two Cases that strengthens what I experienced are to be read in *Kirkpatrick*, l. c. p. 75, and one in *Van Juchem* in his *Diss. de Variol.* L. B. 1756, p. 16.

they call After-Pocks or Boils (1), they give a purging Potion three Times every third Day, and use for that purpose a simple purging Draught, or a *Catharticum mercuriale*, of which the latter has the preference. Bleeding after the Distemper is over is hardly or ever necessary in Inoculation.

An old Objection against (2) Inoculation is, that the Inoculated have often Boils, but in the natural Small Pox a plentiful number of Pustules does not save the Patients from them, and we ought not to hope every thing from Inoculation. Those that have seen any Number of Small Pox Patients, know that those which have the confluent Pock, have also very frequently Boils, though before their Body had hardly a free Place left without a Pock, so likewise there is scarcely a Limb without a Boil; the Reason is, that the Quantity was too plentiful, and the Sti-

(1) *Archiater Rosen* has seen a Child, four Years old, which had a very severe natural Small Pox and afterwards a Boil, and was obliged to be purged after the Small Pox was over more than twenty Times, for when it was omitted the Child was heavy and faint, but brisk as soon after Purgation; but what is most particular the Excrements each Time had the same smell as the Pock during Suppuration.

(2) *Wagstaffe*, l. c. p. 15. *De la Faye's* Sermon, p. 28.

mus too violent to admit a proper separation of the Pocky Matter. After Inoculation, Boils are seldom seen in any other Place, than under that Arm where the Inoculation was performed. The Matter affects the nearest Place first. In the natural Infection the Lungs suffer, and from thence arises the short and quick breathing, and unequal proportion betwixt Respiration and the circulation of the Blood, which is observed in the natural Small Pox (3). A *Peripneumonia oppletio bronchiorum* & *exulceration* in the Lungs does not kill the inoculated Person, as it happens to an innumerable number, that have the misfortune to be naturally Infected.

The very Structure of a Gland is the reason, that a Swelling of the Kernels under the Arms at first appear. When the Circulation is slower, and the pocky Matter is drove to the surface of the Body, and there forms small Abscesses which are called Pocks, then this Swelling general subsides; but as sometimes the grounds of Obstruction are too deeply laid, then the Swelling begins again to rise, especially if the Body does not clear itself of the Infection by Eruption.

(3) Doctor Hillary on the Small Pox, p. 53.

We find it always difficult to disperse a Swelling in the Kernels, and their Suppuration is seldom good, but always slow. Some make as light of dispersing a variolous Tumour as a venereal Bubo; if it is small it may often be done with small Doses of Calomel in the Evening, and a purging Draught the next Morning, or instead of this Draught Sea-water, according to the Age, from half a Pint to a Quart, in consequence of Doctor *Russell's* (4) Discovery. Others make use of *Pill. merc. Lond.* or *Æthiopic. Edinb.* for this purpose.

Externally they use *Ung. Cærul. fort. Lond.* or *empl. ex ammoniaco c. merc.* or else a discutient *Fotus* applied with woollen Cloths. When they see that Nature will not take that Course, then resolving Means are laid aside, and one uses instead warm Emollients, and ripening Applications.

When the Boil under the Arm is ripe, then some open it with a Knife, but it is better to do it with *Causticum com. fort. Lond.* for by that the Stiffness and Contraction is prevented, which often succeeds the opening with a Lancet, after a Caustic more Matter is se-

(4) *De tabe Glandulari.* He generally makes use of *Æthiops min.* instead of *Calomel*, either mixed with his *Æthiops vegetalis*, or else *Spongia usta*.

parated. Hence the most eminent Surgeons now-a-days, seldom open Swellings that suppurate flow and imperfectly with a Knife. One ought to take great care, not to defer applying the Caustic too long, that the Boil may not unfortunately open itself into the Cavity of the Breast (5). For the same Reason when the Caustic has operated, one must not wait till the Eschar falls off of itself, but directly make a cross Incision, on taking off the Caustic, that the Matter may have a free discharge. There is less reason to hesitate on doing it, as the Patient does not feel this Incision, four or six Days after the Eschar generally falls off, and the Wound is bound up with common Digestive.

It is true, a Sore is longer healing made by a Caustic than one by Incision; but I am certain that even that Circumstance tends to the

(5) In one of *Archiater Rosen's* Lectures I heard him speak of a Child that had the natural Small Pox, but unexpectedly was suffocated and died, they were already dried on the Face. By the Nurse's account the reason afterwards was found out to be, that the Child had a Boil under its Arm-pit, which had opened itself into the Breast, as appeared upon opening the Child after it was dead. Had the Doctor known this Circumstance, previously, in all probability he would have prevented this Death.

Patient's benefit. If Inoculation is performed on both Arms, then it happens even sometimes that a hardness arises in both Arm-pits. Some may insist that the Practitioners who promote Suppuration in both Arms, are most careful of the Restoration of their Patient's Health, but it is uncertain whether ten Issues would benefit more than one. Experience has learnt us that one can seldom keep more open, or at least one cannot bring more than one to run plentifully, and an old Sore will often heal when an Issue is cut. Sometimes an Inflammation comes, and a Hardness round the Sore, but that is soon remedied with warm sweet Oil, Applications, and Poultices. The Sore generally runs more plentifully, and is longer in healing, when the Edge is inflamed (6). Sometimes one finds

a
(6) The Surgeon *Guyot*, l. c. relates that amongst the small Number he has inoculated, the Sore has not healed till the latter end of the second Month. I have even seen the Sore open so long, but then it has been somewhat inflamed, or a hardness round about it; some have chose to keep it artificially open, like an Issue, a fortnight afterwards, or longer: but as they find that seldom any Matter comes from it after the Pocks are dried, the greater Part let the Incision heal of itself, without doing any Thing for or against it, and then the Sore is generally clean, and throws off small Threads of the cellular Membrane. When the Pustules dry in the Face it heals up
along

a hardening near a Hand's Breadth above the Sore, and round about it. Warm Applications ought to be used here, for it promotes the way that Nature herself finds to be most fit. Sometimes this Swelling comes lower down, and is carried off by the incision Sore, but sometimes the assistance of a Caustic, or a Knife, is necessary.

It sometimes happens that after People have been inoculated, and had as usual the preceding Symptoms, as Head-ach, Fever, and signs of Suppuration in the Sore, yet no Eruption succeeds; in vain is the attempt by a second Incision to bring on the Distemper. I have seen seven such Incidents in the Hospital, in which neither renewing the Inoculation, or moving the Patients to the natural House could excite the Distemper, but the Sore discharged after the first Inoculation plentifully, and these People sweated more than usual (7). There is a Boy spoke of by Mr. *Burges*

along with the rest of them, drying also at the same time over the whole Body, or sometimes somewhat later.

(7) May we not then, with some certainty, conclude that the pocky Matter is carried off by these two Excretions. The Inoculated that have but few Pocks also sweated pretty much, and their Sore sent forth abundance of Matter. *Sydenham* (Op. omn. p. 168, 741.) in his time observed

Burges (8) that, in the usual Time after Inoculation, had a Fever, and the Sore discharged copiously a long Time, but no Eruption appeared; he was put in his Brother's Bed that had the Small Pox, and likewise in both his Sister's Beds, who had it at separate Times, but still he did not take the Infection afresh.

Le Duc (9) gives an account of a Girl that was inoculated, on whom one of the Sores festered and run, but no Pock succeeded. The Mother, who was still doubtful whether her Daughter by that was freed from the Small Pox, repeated the Inoculation next Year, but no Symptoms of Small Pox appeared. In the same manner it was with Lord Chancellor *Yorke's* fourth Son who was inoculated by Mr. *Hawkins* the King's Surgeon, he repeated the Inoculation, but in vain (1). That the Matter taken from the Sore of such People, will give the Small Pox to others we have proof of. Mr. *Wall*, Surgeon to the Small Pox Hospital, infected a Child, seven Years

observed that those that had the distinct Pox sweated much, and therefore he actually looked upon it as a sign that they would not be Confluent.

(8) P. 41. l. c.

(9) L. c. §. 34.

(1) *Journal Britanique Mois de Jan. & de Fevrier 1755.*
Art. ix. Tom. xvi.

old,

old, with Matter taken from the Sore of a Woman that had not a single Pock, but had a Head-ach and gentle Fever, the Child had a pretty considerable Eruption of the distinct kind. Mr. *Middleton*, chief Surgeon to the *British* Army, inoculated a Parliament-man, about thirty-two Years old, he was lusty, and had a thick Skin; he was not the least sick, nor had any Pustule, but the Sore suppurated: and to be assured that he should be freed from the Distemper for the future, a Child was Inoculated with the Matter taken out of the Sore, and actually had the Small Pox (2). Doctor *Mead* (3), along with many others, has wondered that *Boerhaave* could expect a Specific to be found against the Small Pox, and to prevent the Eruption; but by what has been said it seems that the variolous Fever can exist without any Eruption. None can doubt but that the Small Pox was in the Blood in the Case I quoted (4), where the Swelling came under the Arm, but yet no Eruption succeeded. We are sensible that in a natural Infection sometimes only two or three Pocks arise, and sometimes two or three thousand: May not these too stay away, and

(2) *Journ. Britt.* Tom. xv. Art. ix.

(3) *L. c.* p. 51.

(4) See p. 75, note 4.

the Fever, with the running of the Sore (5), clear us of the Distemper or any other further Infection? Doctor *Hillary* (6) is assured that the Eruption is often prevented, when the Physicians do not know that the Small Pox is about in the Town, by Bleeding or the use of cooling Things, as against an inflammatory Fever. I do not doubt but it may have happened sometimes, but I cannot be of his Opinion that it may as well be done in the natural Small Pox, as to prevent a Suppuration in a Pleurisy (7). The *Arabians* also prevented sometimes

(5) Doctor *Meibohm's* Account seems to belong here, (*Diff. de Var.*) of a Boy that lived in a House where several were sick of the Small Pox; he sickened and took to his Bed with the usual Symptoms that precede the Disease, but no Eruption succeeded. The third Day he had a Pain in his right Buttock, which turned on the fourth Day into an Inflammation followed with an Abscess, which freed the Patient of the Small Pox.

(6) L. c. p. 148.

(7) Doctor *Thompson* (l. c. p. 28.) reproves Doctor *Friend*, for not passing the same judgment on the Small Pox as he did on the Pleurisy, without having a view to the Expulsion of the morbid Matter. Doctor *Thompson* thinks that by this Hypothesis he is kept from the true knowledge of the properties of this Disease. I am of Opinion that the Small Pox raises an Inflammation, whose nature is to form small Abscesses on the external parts of the Body; to their separating and suppurating I believe every Practitioner ought

sometimes the Eruption by Bleeding till the Person fainted away, cold Bath, Ice-water, Butter-milk, together with the use of Acids, and other cooling Things (8), but I think it would not be prudent to follow their Opinion, for it might cost some Lives. Exclusive of all this the Eruption tends more to the Satisfaction both of the Patient and Physician. *Boerhaave* and after him *Löber*, *De la Metrie*, and *Hillary* recommend Methods to quell the Fever and Inflammation in the beginning, but *Cleghorn* (9) in the long run has not found his account in it. Where very few Pocks are designed, I believe the Eruption may be prevented without Danger; but I do not see the possibility of it, when a numerous and confluent Pock is in Embryo, in which Case the greatest Assistance is necessary.

Sometimes again it happens that neither Eruption, Fever, Head-ach, or Suppuration in the Sore appears, I believe the Reason of this is frequently, that such People have had the Small Pox without knowing it in their Infancy, being very mild it has been to give assistance, but yet not to hurry the Body, but both before and after to remember the Fever and Inflammation, that their Violence may not injure the Patient.

(8) *Rhazes de Var. & Merl.* p. 125, *seq. ex Ed. Meadii.*

(9) On the Diseases of *Minorca*.

taken by their Parents for Heat-Spots, or Pimples of the Itch. Others again may perhaps have had a Small Pox Fever without the Eruption, which we see happens pretty often in Inoculation, and possibly in the Womb they may have gone through the Distemper. *Archiater Rosen* in one of his Lectures, quoted the Story of a Child that was born with Scabs and Marks of the Small Pox. When the Mother was almost full gone, her eldest Son was taken with the Small Pox, six Years after the rest of the Children in the House had the Small Pox, excepting the last born, who had it in the Womb (9). There may also be such People, with whom there may be wanting what is called the *Causa prædisponens*, the Nature of which has puzzled the Brains of many, and others entirely deny it. Inoculation fails the oftenest with full-grown People, but generally speaking there are several that cannot be infected, amongst eight hundred and ninety-seven People that were inoculated from 1721 to 1729, which the Doctors *Jurin* and *Scheuchzer* give us an Account of, there were thirty-nine that could not be infected; in the Inoculation-

(9) See even p. 21.

Hospital there is seldom twenty-five inoculated, but three or four out of the Number will not take the Infection *, and we often hear People advanced in Years give assurances that they have never had the Small Pox, but it remains always somewhat uncertain, if these People have not had them in some of the foregoing Ways, nor are they yet certain whether they may not still have them (1).

We

* Out of nine Children in the House for charity Children in this City, there was not one that took the Infection. But it is to be observed that the Children had been in the House sometime before, and while the Small Pox had been pretty rife, there, and did not catch the Distemper, besides they are taken into this House at six or seven Years of Age, and as they are then separated from their Parents, the Pock-holes are the only signs by which one can be assured, whether the Children have had the Small Pox or not, nay some of these Children just mentioned believed they had had it, but they were nevertheless inoculated, because we are certain that by Inoculation they cannot have them a second Time. They were inoculated twice with Matter that gave the Distemper to others in the Town.

(1) *Löw*, l. c. p. 33, had for a Small Pox Patient a Woman of seventy Years of Age, and a Man of eighty. In the *English. Transact.* N^o 390, one may read of a Woman that caught the Small Pox in the sixty-second Year of her Age and died of them. Doctor *Wherlhof* (l. c. p. 21.) saw a Peasant that had all his life-time enjoyed perfect Health, taken with the distinct Sort in the eightieth Year of his Age. *Diomedes Amicus*. (l. c. p.

We ought not to assure any Body who after the first Inoculation have not the Small Pox, that they have henceforth nothing to apprehend from a natural Infection, before the Operation has been a second Time repeated, and then one chooses to make the Incision in both Arms. I and many others have seen that People have taken the Infection after the second Operation. The Small Pox Matter may have been good for nothing, or the Thread on that Place has been rubbed off, or the Incision too superficial; it is also credible that our Bodies are not always susceptible of the Infection, for we see sometimes, that when the Small Pox is in a House a Child shall then escape, and yet catch them another Time.

To conclude it ought to be observed, that those Persons that before and after Inoculation have lived upon low Diet, should by no means begin at once with the use of Meat and strong Liquors (2).

145,) gives an Account that he saw a Man ninety Years of Age taken with the Small Pox.

(2) Doctor *Mead* (l. c. p. 52.) advises that those People that have lately had the Small Pox should reside sometime in the Country, eat light Food and drink Asses Milk, and for want of that Mares Milk should be preferred.

A R G U M E N T S

FOR and AGAINST

I N O C U L A T I O N.

I SHOULD hardly think it worth my while, to answer the Objections that are made against Inoculation, if I did not see the old ones revived in those Countries, where Inoculation is upon the Point of being introduced.

This Practice, as a Novelty, found in the beginning many violent Adversaries, both amongst the *English* Clergy and the Practicers of Physic. Amongst the first they are not all yet quiet, but all their Opposition has not been able to prevent its Progress. Amongst the latter its Practice has not had any Opposers for some Years. The Proof served with them instead of many Treatises in vindication of it, they wanted no farther conviction

tion of its Excellence, than to see fifty People inoculated and fifty in the Natural Way. It is doubtless unreasonable to introduce any thing that opposes Moral and Divine Laws. The Theologians that supposed these were violated by Inoculation, have been answered by their Brethren, amongst which I will particularly name the Bishops of *Worcester* (1) and *Norwich* (2). The Reverend Mr. *Some* (3) and the Reverend Mr. *Chais* (4) Minister of the *French* Congregation at the *Hague*. But these Reverend Gentlemen have not been able to convince, those that would not bear Conviction, and who could not be made to believe any other Truths but what are to be found in the Bible; in the Places where that was compiled our Small Pox in those Times were not known, and so much less could Inoculation then

(1) In the Sermon already quoted.

(2) Sermon preached before the President, &c. *Lond.* 1756.

(3) The Case of receiving the Small Pox by Inoculation impartially considered, in a religious View, by *D. Some*, &c. and published by *P. Doddridge*, D. D.

(4) Essay *Apologetique*, &c. this pretty Work which has been printed in the *Haarlem Acterne*, has lately been translated into *Swedish*, by the Reverend Mr. *Rosen*, Chaplain to his *Swedish* Majesty.

therein be confirmed or rejected. I imagine few will believe Parson *Masse* (5), who in his zeal insisted that *Job* was inoculated with the Small Pox by his Persecutors.

Amongst the theological Arguments perhaps the most important is, that Inoculators take upon them a Right that belongs to God alone, in being the Authors or Cause of a Distemper in People at pleasure (6).

But do not Practitioners in Physic frequently without any Blame cause Sickness. An Emetic raises a Sickness which is called Vomiting, a Purge brings on a Diarrhæa, Bleeding a Hæmorrhage, cutting an Issue makes the beginning of an old Sore; but Practitioners in Physic have made use of these Sicknesses, to prevent or to remedy those Ills that are much worse. In this manner often Reachings and Vomitings are cured by an Emetic, a Hæmorrhage is stopt or prevented by Bleeding, and Inoculation prevents the bad Effects of the natural Infection; therefore it was ill said by Doctor *Wagstaffe* (7), who was a Physician, that the Practicers of Physic should cure but not raise Diseases.

(5) Sermon, p. 6.

(6) *De la Faye*, p. 9.

(7) L. c. p. 13.

It is further mentioned, that we ought to leave every thing in the Hands of God, and be contented with Good or Evil (8), and not of ourselves tamper with our small Understanding. But before these Words can have any weight as an Argument against Inoculation, it ought to be proved that it is a Sin to make use of any Remedy. We see though still those that acknowledge an unavoidable Fate, and a certain Hour of Death, send for a Physician when they are sick, and keep themselves out of the way when the Plague or any other Danger is at Hand, and I think they act consistent with their Duty as Men. “The prudent Man fore-
 “ seeth the Evil and hideth himself, but the
 “ Simple passeth on and are punished (9).”

Parson *De la Faye*, who is not sparing of his furious Exclamations (1), makes use of the following Words, let us do Evil that Good may come (2), I construe these Words that we ought not to rob another to en-

(8) *De la Faye's* Sermon p. 7.

(9) *The Proverbs of Solomon*, Chap. xxii. v. 3.

(1) It is the old Custom, says *Kirkpatrick* (Pref. p. 12.) to mix Heaven and Earth and even Hell in the Disputes, and when they have quoted these terrible Things then they believe they have given Conviction.

(2) *Rom.* Chap. 3. v. 8.

rich our own Purse, but I cannot find any Evil in preserving our own Lives as long as possible. The authority of the following Question seems to be on my side; I will ask you one thing, Is it lawful to save Life or destroy it (3)? To save it we lay hold of any Means, and are contented with the least Hopes of their good Effects, when a Mortification is in the Leg, or a Cancer in the Breast they are amputated, although at least one in ten dies under the Operation. Mr. *De la Faye*, allows in the Question he has started, "that Good may come", but if we on a serious Examination find that something bad is united to Inoculation, still we ought to choose it to avoid a greater Evil, I mean the natural Small Pox. Let us see the proportion of those that have died by common Contagion and those that died by Inoculation. By Doctor *Jurin* (4) it seems that the natural Small Pox kills more than $\frac{1}{4}$ Part of Mankind, and that out of eleven taken with the natural Small Pox two died. In the *London* Small Pox Hospital out of

(3) *Luke* Chap. 6. v. 9.

(4) Letter to Doctor *Cotesworth*, p. 9. see likewise p. 17. In forty-two Years died in *London* and within its Bills of Mortality, 903,798, Persons, out of which the natural Small Pox killed 65072.

two thousand three hundred and fixty-four in the Natural Way, fix hundred and ten Persons had died at the end of last Year, which is more than one in four *. I can at least make the proportion of those that died of the Small Pox in the Natural way in *England* one in five. In *Sweden* I question whether it is so mortal, but in the same proportion as the Small Pox with us is more favourable, so we hope that Inoculation will succeed much better here than in *England*. It is difficult to give equally, such an Account of those that have died under Inoculation, as the Success that has attended it was so different in the beginning, to what it is now in these latter Times, having attained by degrees to a higher Perfection in the Art. By Doctor *Jurin's* and *Scheuchzer's* Tables, one may see that out of eight hundred and ninety-seven Persons seventeen died, which makes one in fifty-two with an overplus of $\frac{1}{7}$. In the Inoculation Hospital there has been inoculated down to the end of the Year 1755,

* The number of Deaths cannot fail here to exceed the proportion of all Ages and Kinds taken together, as the greater Part by far of the Patients received by this Charity are Adults, afflicted after having committed great Irregularities with the worst kinds of the Disease.

seven hundred and twenty-four People of which three died, that is one in two hundred and forty-one; but if we according to the Hospital Account, exclude one hundred and thirty-one inoculated before the Year 1751, then only one has died out of five hundred and ninety-three inoculated Persons (5); at *Winchester* by Doctor *Langrish's* Account only two Child-bed-Women died in a Number of about two thousand Persons (6). Doctor *Hadow* tells the learned Doctor *Pringle*, that he, to the Month of *June* 1755, had inocu-

(5) Doctor *Archer*, has lately by a Letter been pleased to give me an Account, that in the same Hospital one hundred and forty Persons to the seventh of *June* this present Year have been happily inoculated, if I add the same Number to the above five hundred and ninety-three Persons, then only one has died out of seven hundred and thirty-three inoculated, two died out of the first one hundred and thirty-one, afterwards out of one hundred and twelve that were inoculated, from the Year 1751 to 1752 none died, in the same manner out of one hundred and twenty-nine that were inoculated to the end of the Year 1753; but out of one hundred and thirty-five that were inoculated in the Year 1754 one died, last Year or the Year 1755 when I resided in *England*, there was inoculated in the same Hospital two hundred and seventeen without any one dying, as by Doctor *Archer's* Testimony, given under his Hand in *Journal Britannique Mois de Novembr. & Decembr. 1755, p. 485.*

(6) Bishop of *Worcester's* Sermon, p. 20. Not.

lated

lated more than twelve hundred, out of which only one died. At *Geneva*, to the end of *October* 1755 they had inoculated one hundred and six, out of which none died (7). Doctor *Peverini*, Physician at *Cita del Castello*, has inoculated two hundred Persons none of which died (8). Mr. *Frewen* (9) says that only one died out of three hundred inoculated in *Sussex*; a friend of Doctor *Mead* (1) has assured him, that out of three hundred Negroes inoculated in the Island of *St. Christophers* none died. Mr. *Ranby* assures us, that he, down to last Summer 1755, inoculated more than sixteen hundred Persons without one dying *, and it is said (2), that Mr. *Bell* in *London*, inoculated nine hundred and three and none died *. Many thousands have been inoculated, but there are but few, whose Accounts can be entirely relied on. Doctor *Kirkpatrick* has col-

(7) *Quæst. Med. an Parisinis. Variol. Inoculatio, auct. Morisot des Landes Par. 1755, p. 9.*

(8) See Abbot *Venuti's* Italian Translation of Mr. *De la Condamine's* Memoires, and see *L'année liter. Tom. vi. p. 44.*

(9) *L. c. p. 43.*

(1) *L. c. p. 80.*

* There may be some mistake in the Numbers and those that have died have been forgot.

(2) Doctor *Hofst's* Rapport. *Journ. de Medecine* Tom. III. p. 338.

lected together several Numbers, the whole of them makes nine Thousand three hundred and eight Persons, out of which eighty-three died, this is one in one hundred and twelve, amongst these the Death of some may surely be ascribed to the Persons concerned, or the Patients carelessness, and many of these have gone through Inoculation in the *West-Indies* (3), and have been in a sickly Condition from the dread of the natural Disease; others again that have taken the Infection naturally, have been carried to the Account of Inoculation (4); but to avoid all Objections he has given in both the favourable and unfavourable Cases, and always chose the least of the given Numbers.

It is possible that a Practitioner for a long Time may happen to have good Sub-

(3) See p. 28. Not.

(4) That it has so happened Doctor *Jurin* has convinced us. In the same manner Doctor *Cantwell* says (l. c. p. 4.) that Lord *Inchiquin's* Son was sacrificed by Inoculation; but Doctor *Kirkpatrick* (in *Journal Etrange Fevr.* 1756, p. 144) has sufficiently demonstrated that the Father, who was an Enemy to Inoculation, suffered his Child to be infected by his Sister who had a very kind natural Small Pox; but the Father soon paid for his Rashness by the Life of his dear Son, see concerning this Doctor *Taylor's* Declaration in his *Orat. Harveiana Lond.* 1756, p. 52.

jects, and so inoculate many hundreds without losing one; but another may have the Misfortune to see in the same Number more than one die. How easy may not a Death happen by any other accidental Disease. Doctor *Maddox*, Lord Bishop of *Worcester* (5), remarks that out of five hundred people, all seeming in perfect Health, in a Months time several of them may be brought to their Graves, and if those five hundred were to be inoculated the same Accidents might happen, which in no respect would arise from Inoculation. Mr. *De la Condamine* (6) even asks, if there are any in such perfect Health and Strength, that one might answer for their Lives forty Days. Of 800,000 Inhabitants that there are in *Paris*, there dies annually 20,000, which is about two thousand and five hundred in six Weeks and a half's Time, which is $\frac{1}{320}$ th Part; from whence it is certain that out of three hundred and twenty three promiscuous People, in about forty Days one dies, provided we will not insist, that this Operation lessens the Possibility of a natural

(5) L. c. Preface p. 6.

(6) *Memoire sur L' inoculation de la petite verole*. Translated into *Swedish*, p. 34.

Death. Doctor *Cantwell* (7) on the contrary says, that it is easy to see whether it arises from the Small Pox. But I am convinced that Deaths are charged to the Account of Inoculation, although the Reverse can plainly be demonstrated; in this manner on the afore said Lists, or Bills of Mortality all Deaths are set forth that happen, even if the sick Person died three Days after Inoculation. It has been asked if a tender Father ought to subject his Child to a Disease which may prove fatal (8). A wise and good Father will without doubt endeavour, to avert all possible Danger from his Child, but when he sees that out of a Number of two hundred Persons one Life only is sacrificed, and out of a Number of five also one Life must be sacrificed, and that his Child must be of one or the other Number, then I think he will not be long undetermined, which is most advisable for his Child. If he does not chuse that which is least dangerous, then I think he has reason, with grief to upbraid himself with his dear Child's Death; that Father without doubt runs a much greater

(7) L. c. p. 68.

(8) *Maffey's Account of Inoculation with some Remarks*, Lond. 1722, p. 10, 14. *De la Faye* l. c. p. 29.

Risk that sends his Son to Sea, or makes him serve a Campaign while there are other Means, which is not to be found in the Small Pox. When there is the Choice, who would prefer a Lottery where there is two hundred Blanks in one thousand Lots, to one that has only five in the same Number? I believe no one will reckon me too great a Friend to Inoculation, in allowing one to die in two hundred, which is five to one thousand; probably some may be found that according to Doctor *Cantwell's* (9) way of thinking, would not venture their only Guinea against four thousand uncertain, but that is not putting the Thing upon a right Footing, we have not a free Choice; we must either be subject to the Consequence of the natural Small Pox or Inoculation. He thinks likewise that it is as inconsistent to be inoculated, "as to throw oneself into the Sea for fear of being drowned one Time or other." But this comparison does not stand good, till he has the Choice either to swim or go over in a Boat or Ferry; such another Comparison has Doctor *Fuller*; I believe he would be thought very simple who did not accept of the last Offer, even if it was attended with

(4) L. c. p. 25, 78.

some Danger (1). Mr. *De la Faye's* (2) Comparisons, to set a House on fire with a View to save it, or break a Leg to prevent by a Callus its being broke at another Time, are of so little weight that I will not give myself the trouble to answer them.

We submit to Chirurgical Operations, such as cutting for the Stone, for Ruptures, Amputations of Arms and Legs, either to save Life or make it supportable, although the Danger is much greater than Inoculation, where the Death of any is so seldom, it is hardly any thing more than bleeding, pulling out a Tooth, taking a Purge or a Vomit.

The *English* Minister *Some* (3) says that he never heard any Woman say Marriage ought not to be permitted, because one in sixty Child-bearing Women die in Child-bed. Nor do I believe that any Man is deterred from entering into that State, from a Notion that there are more Widows than Widowers, and therefore it must cost more

(1) Sometimes the Fault lies in the Waterman or Ferryman, *Mercury* and *Antimony* in former Days would not have been rejected, if ignorant People had not foolishly made use of it, and I am afraid that Inoculation has even sometimes been under the Hands of People of not much more Prudence.

(2) L. c. p. 18, 24,

(3) L. c. p. 21.

Men their lives; if then any should die in Inoculation their Friends and Relations may be assured, that they never could go through the Distemper in a Natural Way, as they now, by a judicious Physician's Attendance, and the Advantages peculiar to Inoculation could not be saved.

Doctor *Cantwel* (4) himself always with Success, and without any Hesitation, inoculated other People's Children at *Montpellier*, *Avignon* and *Paris*, yet would not in consequence of trifling Stories inoculate his own; but in *England* every Practitioner believes that he is likewise doing his Duty, when he inoculates his own Child, and that he ought not to expose other People's Children to greater Dangers than his own. What value the *English* Physicians put upon Inoculation, may be sufficiently seen in the unanimous Approbation, passed by the College of Physicians in *London*, wherein they look upon it to be of the greatest Importance to the Welfare of Mankind (5). I hear with pleasure that the Royal College of Physicians in *Sweden*, in the

(4) L. c. p. 2.

(5) This Approbation is printed in *Journ. Britanniq. Mois de Novembr. & Decembr. 1751*; p. 484. *Tom. XVIII.* and in Doctor *Taylor's Orat. Harvejan.* p. 52.

same Manner have declared themselves in a dutiful Address to his Majesty, and that his Majesty has ordered that none shall be inoculated, but under the Care and Direction of a Doctor of Physic.

Some have insisted, that Inoculation does not free a Person from the Danger of catching the Small Pox again (6); when Inoculation was barely begun, many Accidents then were wrote about and spoke of, how that People which had been inoculated had had the Small Pox over again. But now since it is become a general Practice, no one can produce a single Instance. As the good of the Public depended upon it, Doctor *Jurin* gave himself the trouble to discover the Truth, one Instance was quoted by Doctor *Wagstaffe* (7), of a Lady (8), and it was said that she had the natural Small Pox, after that she had been inoculated and had them, but her own father declared upon his Conscience, in a Letter to Doctor *Jurin* (9) and Mr. *Maitland* (1), that she enjoyed extraordi-

(6) *Wagstaffe* l. c. p. 29. *Goblius in Art. Med. Berol. Dec.*
2. Vol. II. p. 23, 30.

(7) L. c. p. 24.

(8) Miss *Degrave*.

(9) Account for the Year 1742, p. 24.

(1) Account of inoculating the Small Pox, p. 53:

nary good Health and never had the Small Pox but once. Doctor *Clinch* (2) quotes such another Instance concerning a Surgeon in the Country (3), of whom it was said that he had inoculated a Child, which Child afterwards had them again in the Natural Way, but this simple Man afterwards acknowledged in a Letter to Doctor *Jurin* (4), that he had never inoculated any one in his Life, but was willing to deterr his Son from inoculating his Child. The same Doctor *Clinch* tells us such an Instance of another Person (5), which Doctor *Jurin* plainly knew, first had a scarlet Fever (6), and then the Small Pox. Doctor *Nettleton* declared publickly in a Letter to Doctor *Jurin* the falsity of that Report, which had been spread about that one had died in the natural Small Pox, that had been previously inoculated by him. Doctor *Cantwel* (7) relates, that it was said that Lord *Montjoye*, who died in *Paris* of the natural Small Pox, had been previously inoculated in *England*, he dares not declare it for Truth, but yet

(2) Historical Essay on the Small Pox in the Appendix, p. 50.

(3) Mr. *Jones*, from *Osvestry* in *Shropshire*.

(4) Account for 1725, p. 11.

(5) L. c. p. 10.

(6) *Rash*.

(7) L. c. p. 38.

quotes it. Doctor *Maty* (8) on the contrary declares it for a Certainty, that the noble Lord never was inoculated, which afterwards was no small Grief to the Lady his Mother; the same Doctor *Cantwel* who lives in a Country, where Inoculation has not yet been much practised, can talk of many such Incidents both from *Ireland* and other places, but he has also found a *Jurin*. If such Accidents had happened, there is no doubt but that the *English* and *Irish* Practitioners would have published them, by way of Instruction to their Brethren. In Doctor *Cantwel* there is a Letter from Doctor *Missa*, which gives an Account of an *Irish* Lord called *Preston de Grafton*, who had assured him that the Small Pox after Inoculation sometimes returns two or three Times, but one would hardly think at these times, that a learned Man would go such Lengths as to invent all this; even the very Name of such a Lord as *Preston de Grafton*, or as he is called in another place Lord *Plunket*, who never existed (9). According to Doctor *Cant-*
wel's

(8) *Journ. Etranger*, p. 140, Fevr. 1756.

(9) See *L'Annee liter.* par. Mr. *Freron* Tom. v. p. 268. more Instances of this sort are given by Doctor *Cantwel*, of fictitious names or the Names entirely left out; real Cases

wel's Book (1) it is no uncommon thing in *France*, to see People have the natural Small Pox several times. Mr. *Molin* has assured him that he attended a Patient twice in the Small Pox, and the same Person had Pock-holes of both times. Doctor *Seron* has assured him that *Pater Burlette*, had the Small Pox six Times, and died by the seventh Infection, Mr. *Cantwel* tells us his Sister-in-law had the Small Pox seven Times, and that she had many Marks from the two last Times. Doctor *Boyer* says he has seen the Marchioness of *Melon* have a Confluent Pock, although she had the same Sort in her Child-

Cases and Certificates from Physicians or other creditable People in *Ireland*, from whence he brings the most of his Observations, are in vain to be looked for in his Dissertation, nay he acknowledges that he has known Accounts given by *French* Physicians, not to be true in every particular, but he says that he has endeavoured to be candid in whatever he has cited, and has not varied any of the Words. *Voyez Lettre de M. Cantwel à M. Raulin*, p. 18, 19.

(1) P. 34. I have enquired of many experienced Physicians in *Paris*, if in the Course of their Practice, what Doctor *Cantwel* has asserted was confirmed, but I found none that with any certainty could say, they had ever seen any one have the Small Pox more than once, it would be a bad Circumstance even for Practitioners, if a Repetition of the Small Pox was common.

hood; and the same Man saw last Year Mademoiselle *Perion D'avort* die of the Small Pox, although she had had them so violent in her Infancy, that it was thought she would lose her Sight; after all this Doctor *Cantwel* (9) asks, if Inoculation is more able to free a Person from a Repetition, than the Natural Way of having the Distemper. If I say no, I still do not find that Inoculation therefore ought to be rejected, because it gives a Person the same Hope of escaping it hereafter, as the Natural Way of receiving it, the Person runs a less risk in the first Attempt, but in a natural Infection they are often released by Death from any Repetitions. He insists that Inoculation is unnecessary in *France*, where it is said People have the Distemper more than once; but as in *Sweden* such a thing is very rare, I believe that Objection will have very little weight with us. Physicians in other Countries likewise tell us (1) of People that have had the

(9) P. 36.

(1) *Rhazes* (*comm. de Var. ex Edit. Meadij*, p. 129.) says that a Person may have the Small Pox twice. *Dionedes Amicus* tells us he has experienced the same (l. c. p. 156) *Diemerbroeck* (*Tom. II. Hist. VIII. p. 299.*) relates that a Family consisting of four Children, who all had a numerous Pock, had them again fifteen Days after the

the Small Pox more than once, but it has often been some other Eruption, such as we call the Swine Pox and Water Pox, which are different from the proper Small Pox although Doctor *Cantwel* (2) looks upon them to be the same Distemper. Doctor *Warlhof* (3) has collected together eleven different sorts of Bastard Pox, which have been described by various Authors, but it requires a Connoisseur to distinguish them. Doctor *Gaubius* (4) relates how that he made it appear,

the first Eruption was dried. *De la Vigne* (l. c. p. 14) relates that a Woman within the space of three Months had the Small Pox twice. *Blancard* (*Prax. Med.* p. 68) says he has known People have the Small Pox three Times, nay even six Times, the Account of *Borellus* (*Hist. & Obs. Med. Phys. Cent. 3. Obs. 10*) concerning a Woman that had the Small Pox seven Times, and died at last of them in the hundred and eighteenth Year of her Age, hardly seems to be true. More such Observations are to be read in *Stalp. v. d. Wiel. Tom. II. Obs. 42 Sylv. de la Boc, Prax. Med. Cent. 3. Curat. xv. p. 223. Comm. de reb gest in Scient. Nat. & Med. Vol. II. part. 4. p. 722. Dwight de Var. & Morb. Lond. 1722, p. 59.*

(2) P. 37. l. c. See about this Doctor *Maty's* Remarks in *Journ. Etranger*, p. 135, *M Lavirotte* (*Journ. de Sçav. Oct. 1755, p. 2050*) seems to have reason to wonder, how *Cantwel* could compare the Small Pox to the little Pimples, that come out upon using Mercurial Ointments.

(3) L. c. p. 10.

(4) L. c. p. 363.

that a certain Eruption was not the Small Pox, and that another accused him of not knowing the Disease; yet the Issue proved that Doctor *Gaubius* knew best, for the Patient afterwards fell ill of the true Small Pox. Nurses frequently have little Pimples, especially if any of the pocky Matter comes upon their Body; but without any Fever, as appears by Doctor *Jurin's* and *Huxham's* Accounts in the *English* Transactions. Doctor *Kirkpatrick* (5) tells us of himself, that he found a kind of a Loathing and got a Diarrhæa, and even a Pustule on his Upper-lip, the first Time he saw one in a bad Sort of the Small Pox. That Repetitions at least are seldom seen is plain, for Practitioners of the greatest Experience have never seen it but once on the same Person. Doctor *Mead* (6) denies the Possibility of a fresh Infection by an Instance of a pregnant Woman who had had the Small Pox, but attended her Husband that was ill of the said Distemper, it did not

(5) L. c. p. 17.

(6) L. c. p. 66. *Ruyfch* relates that a Negro Woman brought forth a Child with the Small Pox all out, although she had not had them herself, more such Instances may be read in *Hildan. Cent. iv. Obs. 55, 56. Etmuller, Prax. Tom. II. Lib. I. Sect. 15. Cap. 10, p. 628. Lanzon, in E. N. C. Cant. I. b. 2. p. 199.*

affect her, but the Fœtus that was dead born was full of Pocks all over the Body; likewise by Inoculation we have not been able to give it any one again that has already had it. In the same House where the first Experiments of Inoculation were made, a Man (7) was inoculated that had had them the Year before in the Natural Way, but no Pocks appeared. At *Geneva* (8) a young Lady in her Infancy had one Pustule, only attended with a Fever and the usual Symptoms, but as her Parents thought, she was not secure enough for the future part of her Life, they had her inoculated, but in vain, although six other Persons were inoculated with the same Matter, and all actually had them. Doctor *Kirkpatrick* gives an Account of a Person (9) twelve Years old that was happily inoculated, but a few Weeks after made an Incision on herself, and three successive Mornings put into it Matter of the Small Pox, which her Play-fellows procured her, eight Days after she was taken with a Head-ach, which frightened her into a Confession of what she had done. But she was hardly laid on the Bed before she got up again, and said she would not be

(7) *Richard Evans.*

(8) *Mr. Guyot Mem. de l'Acad. de Ch. Tom. II. p. 552.*

(9) *L. c. p. 120, Miss Baker.*

sick any longer, the Head-ach departed and no Pocks appeared. Doctor *Maty* (1) had fourteen Years before the distinct Kind, but to confirm what others had alledged, he made two Incisions on the left Arm, and put in an infected Thread, the Edges inflamed a little and itched, the fifth Day he perceiv-
ed near the Incision two Pimples as big as a Pin's-head, but no sign of Suppuration appeared in the Sore. The seventh Day the Pimples were dried away, and the ninth Day all was over, he found himself the whole Time perfectly well, and made no alteration in his way of living, for fear of making his Family uneasy; from whence I think one may conclude, that none can easily have the Small Pox more than once. It happens sometimes that a few fresh Pustules appear when the others are hardly dried, but they ought not to be considered as separate Pocks, for they generally dry away in two or three Days Time. Doctor *Mead* (2) has seen three such

(1) *Journal Britannique*, Tom. xv. p. 424.

(2) *Epist. ad Friend. vid ejusd. Comm.* vii. in *Hippocrat.* more such Instances are to be read in *Morton de Var.* Cap. II. Hist. 65. p. 206. *Act. Phys. Med.* Vol. V. Obs. 7, p. 35. *Comm. de reb. in Scient. Nat. & Medic. gest.* Vol. III, Part 1, p. 8.

Eruptions one after the other, so that the Distemper did not cease till the thirtieth Day.

At the first beginning of Inoculation, Doctor *Wagstaffe* (8) insisted that this Method did not communicate the genuine Small Pox; but it was soon observed, that the inoculated Persons were able to give others the natural Distemper, and that it was the same Thing if the Matter was from an inoculated Person, or one in the natural way; at least it was believed that the inoculated Small Pox was too gentle to cleanse the Body; but that this is a false Notion is plain by this, for healthy Persons find themselves well before the Small Pox even to a great Age. Our Forefathers, that were unacquainted with the Small Pox, enjoyed a greater share of Health than we (9) do; and I doubt whether

(8) L. c. p. 17.

(9) Down from the *Arabians* (See *Rhazes de Var. ex Edit. Meadi. p. 104*) to our Times some few have always believed, that the Small Pox was known to *Hippocrates* and *Galen*, and more of the first Medical Authors. In our Times particularly Doctor *Hahn* (*Variol antiquæ nunc primum ex græcis erutæ Brig. 1733*) with much Learning has endeavoured to prove the same, but he has been answered sufficiently by Doctor *Werlhof* (*Disquis. Med. de Var. & Anthrac Hannov. 1735.*) *Reiske* in a Disputation that he published at *Leiden* Anno 1746, relates that he found in an old Manuscript in the *Leiden* Library, that the

Small

whether the *Americans* were not better before this Distemper came amongst them, which to them is so mortal. The number of Pocks alone, prove the afflicted Person had previously a foul and sickly Body: nor can it be called an advantage to have many Pustules, for confluent Pocks leave after them for a long while, if not during Life, a weak state of Health, and many other Complaints. When it was found, that the inoculated Pock could not be called the wrong Sort, then they said that many by Inoculation have the Small Pox, that perhaps otherwise never would have had them (1).
But

Small Pox and Measles first appeared Anno 572, the Year that *Mahomet* was born, see *Mead de Var.* p. 3. The Small Pox probably was brought into *Europe*, in what are called the Holy Wars of the *Saracens*, (see Doctor *Friend's* History of Physic, Vol. I. p. 274,) in the sixth Century the Small Pox was first described by the *Arabians*. In the Year 714 the *Saracens* conquered great part of *Spain*, and then likely brought the Small Pox with them. In *Aven Zoar's* Time, which was either the latter end of the eleventh Century or beginning of the twelfth, it was rare to see any one escape the Small Pox in *Spain*. *Gilbert. Anglicus* and *John of Gaddesden* spoke of the Small Pox, in the twelfth Century, as a common Thing in *England*, but from whence or in what manner this Disease began, is still unknown.

(1) *Massej* l. c. p. 1, 7. *Blackmore* l. c. p. 99, 107. both these, although Enemies to Inoculation, advise
a Pre-

But in our Countries seldom any escape the Small Pox ; those that reach fifty (2) are yet not sure of escaping them, and then they pay for putting it off so long generally with their Life, which probably they would have saved if they had it in their Infancy, especially if they were inoculated. Doctor *Cantwel* (3) who in another Place gives an Account, that in *France* one Person has the Small Pox several Times, adds that every fiftieth or hundredth Person entirely escapes them ; but nevertheless though he did not know upon what he grounded his Assertion, still the difference of fifty and hundred is too great, when there is a Proportion to be given. If then People are inoculated, that are not of a habit of Body to take the Infection, or unknowingly have had it in a very gentle manner, or have had it in the Womb, then no Eruption will appear again, as in the former Part has been demonstrated : But on the contrary, such Persons, by a repeated Inoculation, are convinced that for the future they have nothing to apprehend from that Disease. They may safely go into all

a Preparation, and afterwards to expose the Body to a natural Infection. Is not this Method liable to the same Objection?

(2) See p. 100, note 1.

(3) L. c. p. 18.

Company and Places, though before they have been under a necessity of shunning their own House, if any therein sickened of the Small Pox, and did not dare to visit their best Friend if afflicted with that Disease. Those that live in great Cities, and belong to large Societies must not think to escape the Small Pox, if liable to catch them. We see People proceed to the extirpation of a Scirrhus for fear that a Cancer should follow, although many die before that Consequence comes. The Ague often goes away of itself, but we lay hold of China as a more certain Remedy; and Inoculation does not oftener miss of happily relieving us from the Small Pox, than the best Bark does of curing the Ague.

One Objection has always been made, that Inoculation leaves other Diseases behind (4), but who does not know that the more Pocks one has, the more Diseases follow after. In confluent Pocks, Boils both internal and external, Lameness, Contractions, Consumptions, defects both in Hearing and Seeing are usual Consequences. If out of a hundred one only happens to get any of these Afflictions after Inoculation, it becomes a subject for the most violent Exclamations; but on the contrary,

(4) *De la Faye*, l. c. p. 27.

the Practitioner incurs no Censure and the thing falls into Oblivion, if the most melancholy Accident happens with every fifth in the natural Disease of the Small Pox; and the Misfortune has even been that those Gentlemen (5) have wrote against Inoculation, who have not had the least Experience in it, but have presented to the Public such Objections as arose from their own Prejudice. In the same manner Gentlemen wrote with great zeal against Chinchina that had never tried it; and when they heard talk of any Symptoms that appeared in an Ague Patient after its use, it was then certainly ascribed to that Medicine, although it was a Symptom quite peculiar to the Ague, many hundred Years before China was ever known

(5) The Doctors *Wagstaffe* and *Blackmore*, Doctor *Goblius*, *Clinch*, *Hecquet*, *De la Vigne*, and the Apothecaries *Massej* and *Howgrave* do not speak by their own Experience, and wrote at a Time when Inoculation had not been practised in *Europe* above three or four Years. *De la Faye*, who was the last Enemy to Inoculation in *England*, has, even with medical Objections endeavoured to make up for the silence of those that practised in Physic. Doctor *Cantwel* in *France*, has himself inoculated several Times, and always with very good Success, yet now he has declared himself an Enemy to the Practice; I will not examine wherefore. See *Lettre de M. De la Condæmine à M. l'Abbé Trublet dans l'Année Lit.* Tom VI. p. 40.

to us. Just the same happens to Inoculation, for if a Person has been inoculated in the fifth Year of his Age, and any other accidental Disease happens to him in the fifteenth or fiftieth, it may as certainly be ascribed to Inoculation. Doctor *Cantwel* (6) believes that Inoculation is the occasion of the Spotted Fever, Rash, Consumption, and nervous Complaints, which are so rife in *England*. But who does not know that these Diseases were as universal before the Year 1720 as since; the Account of those that have made Observations, and the Bills of Mortality evince it sufficiently; and are not those Diseases also in other Countries where they do not practise Inoculation? As an instance that the Small Pox may occasion bad Consequences a long Time after, he gives an account of a Lady that began to feel, eight Years after she had the Small Pox, a Pain in her Stomach, but when that was gone some Pimples came out about her Nose, and afterwards about the Mouth, and at last at the bottom of her Stomach where they came to a pretty plentiful Suppuration. He presumed it was the Relicks of the Small Pox, and says, he cured them by a sudorific Ptisan and Purgative, but I believe very few Physicians are

of his Opinion. He presumes even to say (7) that Inoculation always weakens and destroys the Constitution; but to prove Things of that nature requires, as the learned Doctor *La-virotte* (8) observes, more than bare Accu-sations. He endeavours to confirm his Assertion with an Instance of Lord *Lincoln*, whose Brother, as he says, died of the Small Pox, and he himself had a Cachexy; but Lord *Lincoln* now, according Doctor to *Taylor's*, *Matty's*, and *Kirkpatrick's* Declaration (9), enjoys a perfect State of Health, and is the Father of three fine Children. His Brother, who was said to die of Inoculation, fell into a Consumption eight Years after he had been inoculated.

By Inoculation it is said that our Neighbour is injured by spreading the Small Pox (1). But I do not find that I ought to lose my Life, because my Neighbours will not use the same

(7) L. c. p. 29.

(8) *Journ. des Sçavans* Oct. 1755, p. 2049.

(9) *Orat. Harv. & Journ. Etranger* Fevr. 1756, p. 135, 146. Of this Species is Doctor *Cantwel's* Accounts, but even if all the Accounts were true he quotes to the prejudice of Inoculation, what do these ten or eleven Accidents he advances, avail against what he knows, and can say of the Advantages and Success of Inoculation?

(1) *De la Faye*, l. c. p. 11.

Precaution. No sensible Practitioner will inoculate a Child in a House, where there are more that have not had the Distemper, without moving the rest out of it. The spreading of the Disease may likewise be prevented by proper Care; and on the contrary, by Inoculation the dangerous Epidemics of the Small Pox may be prevented; it has always been observed that they have been worse, when they have broke out in such Places, where the Small Pox had not been for a long while, and consequently great Numbers have not had it, but this is hindred by diminishing the Subjects (2). Doctor *Cantwel* says that the Hospital for Small Pox and Inoculation in *London*, is the cause of that Disease being so rife there, but he discovers by this alone, that he has not seen the Bills of Mortality before 1746, when that Hospital was founded. In the Year 1753 there died in *London*, within the Bills of Mortality, of the Small Pox seven hundred and seventy-four Persons; and in the Year 1719, which was the Year before Inoculation began, there died three thousand two hundred and twenty-

(2). In this manner the Small Pox was worse than the Plague when it first came to *Greenland*, the *Cape of Good Hope* and *America*, and is still very mortal in the last Place when it has not prevailed for a long Time.

nine. Besides, those that have given *Cantwel* this Idea of the Small Pox Hospital, were not acquainted with its Regulations, for at the expence of the Charity proper Dreffes are provided, which are worn by the Patients whilst their own are fumigated with Brimstone, according to Doctor *Hales's* advice, in a Chest constructed for that purpose, that no Infection may be carried out by them when they leave the Hospital.

M. *De la Faye* upbraids those that practise Physic with severe Expressions, that they encourage Inoculation for their own Advantage; *Sloane*, *Mead*, and *Jurin* ought not to be charged with such Blame. But without answering M. *De la Faye* with Mr. *Bolaine's* (3) words 'that he was afraid the Burial Fees ' would be diminished,' I cannot find that Inoculation can be any advantage to Physicians, for the Trouble is much greater and the Fees not encreased. Doctor *Sydenham* (4) remarks that the Character of Physicians suffers most in attending Small Pox Patients, partly from the Ignorance of the Public who take upon them to pronounce their Judgment, and partly

(3) A Letter to the Rev. M. *De la Faye*, in answer to his Sermon, *London* 1753, p. 2.

(4) *Op. o.* p. 181.

from the Envy of their Brethren; but this is still more true, that those who trouble themselves with this Practice suffer much more by the Death of one Person under Inoculation, than by fifty who lose their Lives in the natural Small Pox.

Doctor *Wagstaffe* (5) wonders that Inoculation, the discovery of a simple and illiterate People, should be encouraged by a wise Nation, and received in the Palace of a King; but it is more to be wondred at, how he, as a Physician, should forget that the principal Remedies Physic has to boast of, are Fruits of the Experience of the simple Multitude, and not Labours of the Brain generated in Study. No Panegyrics, but the real preference the Operation merited gave, Encouragement to the sprightly Lady *Montague*, Daughter of the Duke of *Kingston*, to let her only Son go through the Experiment at *Constantinople*, and her Daughter on her return to *England*; this was the reason that caused it to be attempted in the Royal Palace, on those on whose Lives the welfare of a powerful Nation depend. But if the *Circassians* (6) are the first that fell upon

(5) L. c. p. 5.

(6) It is credible that the *Circassians* could not sell so well their Daughters before they had the Small Pox, because previous to that their Beauty was very precarious. They

upon Inoculation, to the *English* Physicians the Honour is due of having brought it to the highest Perfection; for instead of, as at first one in fifty died, there dies now but one in several hundreds.

Some Objections are answered in the Treatise, and if exclusive any others should be started, they must be so weak as not to merit any Notice.

The Advantages of Inoculation are several.

We may chuse that Time for Inoculation, when the Persons find themselves best in Health, when they are free from the Infection, and if they are unhealthy, by proper means they may be first recovered.

We can inoculate at the most proper Season of the Year, for although the Air should not occasion a Small Pox Infection, yet the Disease may be increased by violent Heat or Cold, or other Qualities of the Air; for we see in Summer the Small Pox attended with Symptoms

They might easily observe that Children have this Distemper the gentlest, and thus the Scars wear away with their Years. They might also without much study conclude, that the surest way to communicate the Infection was to make Scratches in the Skin, and to apply the Matter of the Small Pox there; and that it was necessary to live regular both before and after, Experience easily taught them.

that

that signify a strong Putrefaction, and in the Winter an Inflammation (7).

We may chuse a Time that the Patient may be attended by his dearest and most valuable Friends and Relations ; when on the contrary, in the natural Small Pox a Person may be taken with them, when he is separated from all his Friends in a strange Place, where perhaps there may be the want of necessaries for Subsistence, and much more of proper Medicines (8).

We can communicate the Small Pox to Persons in their Infancy, at such an Age as it has been found that the natural Small Pox is most favourable, the Patient not being sensible of the Danger has no concern about the Disease, and he avoids thereby to live in fear the rest of his Life.

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(7) Diseases that are not infectious as Peripneumony, Pleurisy, Angina, acute Rheumatisms, occasion a dangerous Small Pox, and these prevail most in Winter when our Blood is thick, and the Fibres rigid ; on the contrary in the Summer, we often see such a sceptic Dissolution of Blood in the natural Small Pox that it runs from the Nose and Mouth, passes by Urine and Stools, breaks out at the Eye-lids and under the Nails, out of the Ears, and through the very Pores, the Pustules fill with Blood, and the Body has a cadaverous Smell before Life expires.

(8) I remember a real Fact that happened to a beloved Child, that was unknown to be infected with the Small Pox,

The Body is previously prepared, but in the natural way People are seized unawares, and often while committing the greatest Irregularities, which alone might raise a Disease.

What Advantages may one not promise one's self from the inspection of an able Physician, who from the beginning knows what Disease will follow. In the natural way many Days pass before they send for any one of the Faculty, though it certainly is only in the beginning, that he is able to do the most essential Service.

When it is taken in the common way it lies hid some Days before it discovers itself. When we are inoculated, we know we have the Infection, and can therefore in every respect be cautious; but on the contrary, in the natural way we do not know that we harbour the Poison within us, and that we are in any Danger, and therefore live away, commit a hundred Errors in our Diet, which makes the Disease much more violent.

Pox, and sent by his Parents to Sea for the first Time. They had hardly got out of the Harbour before he sickened, which was thought to be the usual Sea-sickness, which generally is soon over, but the third or fourth Day the Eruption appeared, which after the Expiration of a few Days ended the Life of this young Man.

The

The Matter of the Distemper is communicated to the Blood by the Arm, which on account of its Vicinity becomes first sensible of the Effects of the Operation. On the contrary, in the natural Small Pox the volatile Contagion, seizes the most noble Parts of the Body at first.

By Inoculation we may better avoid other infectious Diseases, as spotted and malignant Fevers, Rashes, &c. which often come with the Small Pox (9).

Inoculated Pox seldom leave Holes or Scars behind, for partly their Number is but small, and partly the Matter is not so corrosive as in the natural way, for even a large and a pretty plentiful Number does not scar after Inoculation, and we have often seen that a pretty Face has made many a one's Fortune.

The Matter taken from a good and kind Sort is perhaps of some advantage in Inoculation, although some in fact have proved the contrary (1).

(9) See p. 32, note 4.

(1) See p. 53, note 1, even so it is uncertain if the Incision makes the Disease more mild in Inoculation, although sometimes it seems that a great deal of the Small Pox Matter is carried off there. See p. 61.

Inoculation is then both allowable and useful (2). It has taken a happy Beginning in *Sweden*, and I hope it will have farther Success for a Benefit and Support to the Nation, especially as it is favoured by the greatest Men in the Kingdom, and approved of by its most eminent Physicians.

(2) *Bolaine* l. c. p. 30. Nature requires, Reason and Good Sense approves, and Religion allows of Inoculation.

F I N I S.



E R R A T A.

Page 19 Note, line 22 for *Inflammat* read *Inflammatio*.

21 Note, line 7 for *Ack* read *Act*.

29 Note, line 5 for *had* read *get*.

66 line 9 *dele* ing.

73 line 14 for *like Rheumatism*, read *like the Rheumatism*.