THE Advantages and Disadvantages OF INOCULATION,

WITH RESPECT TO

INDIVIDUALS, and the PUBLIC,

IMPARTIALLY CONSIDERED;

To which are Annexed,

OBSERVATIONS on the METHOD proposed by BOERHAAVE for preventing the SMALL-POX.

TRANSLATED from the ORIGINAL LATIN

Of the Late Celebrated

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TO THE

PUBLIC.

THE practice of Inoculation has of late years received ſuch great improvements in this country, that to offer the ſentiments of a foreign author on this ſubject, may perhaps ſeem unneceſſary; at leaſt this conſideration would have ſuppreſſed any ſuch intention in me, had not the ſentiments of the celebrated Baron Van Swieten, which have made a great noiſe among the faculty, merited particular attention, at a time when Inoculation is become ſo general, and practiſed by ſome intereſted Operators, without the leaſt regard to the cautions, upon the ſtricteſt examination, declared abſolutely neceſſary by this excellent phyſician A circumſtance that, in the end, muſt prove of ill conſequence to the Public in general, and

tend

tend to bring Inoculation into diſrepute; which, if prudently managed, may ſave the lives of millions; being the only probable means of freeing the human race from this terrible ſcourge—the Small-pox. In the tranſlation I have endeavoured exactly and faithfully to copy the original, therefore hope to eſcape the laſh of too ſevere criticiſm; but, whatever may be the fate of the preſent Publication, I ſhall think myſelf happy if the ſole end I have in view is anſwered, namely, the benefit of my fellow-creatures.

The TRANSLATOR.

THE ADVANTAGES OF INOCULATION, &c.

THE great Boerhaave, in the firſt edition of his Aphoriſms publiſhed at Leyden in 1709, took not the leaſt notice of the practice of inoculation for the ſmall pox; and in his public lectures, ſimply affirmed, that from ſeveral accounts he had learned, that the practice of inoculation had been attended with little danger in Aſia, and Greece; and had ſucceeded in England in many inſtances; but that nevertheleſs a greater number of experiments were required, before any thing certain could be determined concerning it. To the beſt of my knowledge, he never adviſed any one to try inoculation at Leyden, or any other town in Holland, nor do I believe that inoculation was ever attempted in that country during the life of this great man. Indeed, about eighteen years after his death, inocu-

lation began to be practiſed. Sharp diſputes preſently aroſe concerning the utility, or ill conſequences of the practice, and as I have always had an averſion to entering into literary conteſts, I contented myſelf with reading with the utmoſt attention, and without the leaſt prepoſſeſſion in favour of either ſide of the queſtion, if not every publication relating thereto, at leaſt every thing that was wrote by the moſt eminent of the faculty, and other learned men, with the laudable intent of diſcovering the truth.

The following circumſtances ſeem greatly to favour the practice of inoculation.

Perſons worthy of credit have affirmed, that it ſeldom happened that any one died in conſequence of inoculation, and on the contrary, that the natural ſmall pox frequently terminates in death. It is alledged, that the ſmall pox from inoculation is always of a good ſort, in ſmall quantity, paſſes through its different ſtages, without any alarming ſymptoms, and is not in the leaſt dangerous; that it preſerves the beauty of the face, to which the natural diſeaſe is ſo great an enemy; nor are ophthalmies, boils, and other troubleſome conſequences, ariſing from a tranſlation of the morbific matter, to different parts of the body, ever obſerved after inoculation; nor does the ſecondary fever ever happen, which always accompanies the natural diſorder, when the pocks are in the leaſt numerous.

It ſeems alſo a matter of great utility, that the phyſician can chooſe the particular conſtitution of the air, that is moſt favourable to the cure of the

diſeaſe, and the ſeaſon of the year, moſt convenient for undergoing it. Moreover the infection may be applied when the patient is in perfect health; or if not perfectly well, his health may be amended by art, previous to the inſertion of the ſmall pox, and the body likewiſe ſo prediſpoſed as to bear the diſeaſe more eaſily, and with greater ſafety. On the other hand, when the natural ſmall pox rages epidemically, it generally ſeizes all who have not had the diſeaſe already, and ſpares neither ſex nor age, and ſometimes may happen when the ſtrength is exhauſted, and the conſtitution broke from a preceeding diſeaſe, or to women when pregnant, or during their lying-inn, &c. But by inoculation, with little inconvenience, and ſtill leſs danger, this conſtant dread of a noiſome, diſagreeable, and frequently fatal diſeaſe, would be removed; for there is no danger of a relapſe, or of catching the diſtemper a ſecond time, as appears from the experiments made by Dr. Maty on himſelf.

Theſe are many, and great advantages that are expected from inoculation. Now that I might form a rule for my own conduct, it was neceſſary I ſhould weigh every circumſtance attentively, before I ventured to determine any thing. I have carefully examined my own heart, and have reaſon to believe myſelf, as far as human nature is capable, entirely free from prejudice with reſpect to inoculation. Phyſicians who differ in opinion concerning this practice have one and the ſame intention, at heart, namely the good of mankind: this is ſufficient to entitle both parties to the love

and eſteem of the public. If there are any who by fraudulent practices, have endeavoured to ſupport their own opinion, no honeſt man can doubt, but that ſuch perſons merit if not our hatred, at leaſt contempt.

The firſt inquiry that I made, was whether I could find out with certainty the number of perſons who died, and recovered, of the ſmall pox in the natural way. I have carefully examined a diary, that I formerly kept, when in an extenſive practice in my own native country: I I have been an eye witneſs to, and have treated various epidemic ſmall poxes; in many I have remarked the whole courſe of the diſeaſe; but could by no means thereby aſcertain the proportion of thoſe who died, to thoſe who recovered from this diſtemper.

Moreover, I found it equally difficult, to determine any thing certain concerning this matter, at Vienna. I could procure with tolerable exactneſs the number of thoſe who died of the ſmall pox, but I could never find out the number of thoſe who were ſeized with this diſtemper, in that populous city. If every family had ſent for a phyſician to patients ill with the ſmall pox, I might have diſcovered it: but a great many, employ no phyſician or apothecary, in this diſorder, nor does this happen only among the poorer inhabitants, but even among the rich burghers. For as the laws prohibit perſons from going to an houſe, in which any one is ſick of the ſmall pox, unleſs he can abſtain from viſiting the court during forty days at leaſt, and

ſometimes even from all commerce with perſons belonging to the court, for this reaſon, more families than is thought, conceal this diſeaſe.

I therefore attempted this calculation in different places, where numbers dwelt together, and where I was certain I could exactly know the numbers of thoſe down with the ſmall pox, and the fatal, or happy event of the diſeaſe. Hence I learn'd the following facts, the truth of which I can aver with certainty.

At Neuſtadt in Auſtria, is a military academy founded by her imperial majeſty, where the young nobility live under military diſcipline, and are taught the art of war, and the ſciences relating thereto. I found that in the ſpace of eight years, thirty three had been ſeized with the ſmall pox: one of whom died; all the reſt recovered. Thoſe only are admitted into this academy, who are upwards of eighteen years of age.

There is another military ſchool in the ſuburb of Vienna, into which boys are admitted, of ſix or ſeven years of age, and maintained till they are eighteen years of age, and taught arithmetic, the learned languages, &c. From the winter ſolſtice in 1756 to the ſummer ſolſtice 1757, forty of theſe pupils were ſeized with the ſmall pox, and every one recovered. In the ſame place, from the ſummer ſolſtice, to the winter ſolſtice of the ſame year, thirty children were ſeized with the ſmall pox, and every one likewiſe recovered.

In the college of Thereſa, ſo named after the empreſs dowager, where the young nobility purſue their ſtudies, in the years 1749 and 1750, the

ſmall pox raged violently; thirty perſons were ſeized with the diſtemper, many of that number had the diſeaſe in a very violent manner, one only died. In 1753 one perſon only was ſeized with the ſmall pox in that college. In 1757 only two. In 1759 and 1760, in the ſame college, twenty-five had the ſmall pox, moſt of them a very bad ſort, yet all recovered. In 1761, two; in 1763, one; who likewiſe all recovered. Thus the whole number of perſons ill of the ſmall pox in the college of Thereſa, from the 23d of November 1749 to 1765, amounts to 61; of whom one died, and to my great misfortune, this perſon was my own ſon. In the city hoſpital of Vienna in the year 1759, fifty-nine perſons were ſeized with the ſmall pox: two of whom died; but both theſe were afflicted with the rickets in a terrible manner, at the time they were taken ill of the ſmall pox.

In 1757 twenty-ſeven children were taken ill of the ſmall pox in the orphan houſe, and out of this number two died. In the ſame place, towards the end of the year 1759 and the beginning of 1760, eighteen were ſeized with the ſmall pox, and of them only one girl died, on the eight day of the diſtemper; long before this child was ſeized with the ſmall pox, her upper lip was much ſwelled, and of a livid colour, which at the period when the pock ripens, became gangrenous, and prevented her from taking either medicines or food.

In the year 1759 in the poor houſe, (*Armen haus*) ſituated in the ſuburbs of Vienna, thirty

perſons were taken ill with the ſmall pox, and every one of them recovered.

At the time this ſame epidemic ſmall pox prevailed, in the Paſmanian hoſpital, which is likewiſe ſituated in the ſuburb of Vienna, in the ſpace of four months, fifty-ſeven patients were down with the ſmall pox, moſt of whom were in a dangerous way; yet every one recovered. Very few had a good ſort, in the reſt the diſtemper was marked with the moſt dangerous and alarming ſymptoms. Indeed this epidemic conſtitution was ſo fatal, that even the moſt diſtinct kind of ſmall pox, did not paſs through its different ſtages without great danger. For in two boys, and a girl, the fever did not remit on the fourth day (as it uſually does in the diſtinct kind); on the ſixth day a vaſt feebleneſs, a difficulty of breathing, and a delirium came on; on the ſeventh day purple *petechiæ* or ſpots made their appearance; the pocks nevertheleſs filled well, and were of a yellowiſh white colour; the weakneſs indeed continued, but the lightheadedneſs, and oppreſſion of the breaſt went off; on the ſeventeenth day the fever vaniſhed, and afterwards the patients perfectly recovered: and in the reſt no bad conſequences were obſerved after the ſmall pox.

From the preceeding accounts it appears, that the whole number of perſons ſeized with the ſmall pox in theſe places, amounted to three hundred and fifty-five, and that out of the above number ſeven perſons died. And therefore the proportion between thoſe who died, and thoſe who recovered, is one to about fifty. But if three

patients are ſubſtracted from the number of the dead, whoſe deaths cannot with any degree of juſtice be attributed to the ſmall pox, then indeed the proportion of the dead to the cured, will be as one to about eighty-nine.

There is not therefore ſo great a diſproportion with reſpect to the number that die, between the inoculated ſmall pox, and the natural diſeaſe, as many have aſſerted. And as phyſicians can ſave ſo many in the natural way, it to me ſeems a very cruel thing, to infect a perſon with a diſeaſe, by no means free from danger, and which perhaps he might never, or at leaſt not till very late in life, have been ſeized with.

The ſame variolous infection affects different perſons very differently; and therefore the virulence of the diſeaſe does not depend alone on the contagion received, but alſo on the peculiar diſpoſition of the body, to which the infection is applied. The matter of the confluent ſmall pox, applied by way of inoculation, has produced a mild diſtinct ſort. On the contrary the matter of the fineſt diſtinct puſtules of the mildeſt kind, has been known to produce a very dangerous confluent kind of ſmall pox, agreeable to the opinion of the celebrated Dr. Mead, who ſays, "In my opinion, it is of much greater conſequence, into what body the poiſon is conveyed, than from what body it is taken." Although the healthieſt bodies be made choice of, and the matter be taken from the mildeſt ſmall pox, none of the profeſſion are ſagacious enough, to foretell with certainty, what kind of ſmall pox will enſue.

In a very healthy ſubject, in the ſpring ſeaſon, after the patient had been carefully prepared, and every precaution taken, under the inſpection of an able practitioner, a very bad, confluent ſort of ſmall-pox happened, in conſequence of inoculation by laudable matter, taken from a patient who had the ſmall-pox in the moſt favourable manner, which was followed by a number of very troubleſome boils; and the eminent profeſſor Gaubius, could not, without the utmoſt difficulty, ſave the life of the patient. This candid phyſician excellently remarks, that this inſtance is a proof, that it cannot abſolutely be aſſerted, that the inoculated ſmall-pox is never attended with a ſecondary fever, nor ever leaves the leaſt ill conſequence afterwards.

In a youth twelve years of age, after a careful preparation, and previous bleeding, the variolous matter was applied to a ſmall inciſion made on each arm, the twenty-fourth of March, 1758, in the afternoon. An itching of the parts, and ſhooting pains under the arm-pits, came on about the twenty-ſixth; the countenance grew pale; the lips of the wound, in one arm, mutually receded from each other, and diſcharged a great quantity of purulent matter; the inciſion in the other arm was entirely dried up: on the twenty-ſeventh of March, the heat was more conſiderable, the pulſe quicker, a conſtant yawning, the tongue white; a ſenſe of weight was felt in the forehead, but alleviated by an hemorrhage from the noſe; ſo great a quantity of purulent matter was diſcharged from the left arm, that it wetted the dreſſing:

quite through; the inciſion became now a deep ulcer, and its lips were a full quarter of an inch diſtant from each other. Towards the evening, the head-ach grew worſe, and was attended with violent throbbings and a fever: on the twenty-eighth, the urine was high coloured, the pulſe quick, the face red and ſwelled, the eyes moiſt, a conſtant weight in the forehead; the ulcer in the left arm diſcharged plentifully, grew wider, and the upper part of the arm became ſwelled. In the evening, the eye-lids, and lips began to ſwell, the face acquired a fiery redneſs, the nauſea and fever increaſed about eleven o'clock at night; the patient had a reſtleſs night, and was at times delirious. The upper part of the left arm was now inflamed, and one third larger than its natural ſize; the ulcer continued to ſpread, its lips inflamed and painful, and the diſcharge very great; nevertherleſs, at this period, the lips of the inciſion in the right arm began to grow hard and inflame, and an eryſipelatous inflammation ſeized the upper part of both arms; the fever did not remit in the leaſt; the patient had a ſlight delirium, and, towards noon, vomited a quantity of pituitous matter; in the evening, the wound in the right arm diſcharged a great deal of matter, and the ulcer continued to ſpread: the patient was reſtleſs in the night, ſlept little, and bled a ſmall quantity at the noſe. The following day, all the ſymptoms continued the ſame. The ulcer of the left arm was fourteen lines in width, and ten lines longer than the original inciſion; on the thirty-firſt of March, after a reſtleſs night, the

ſymptoms continued the ſame as before, the patient being ſlightly delirious (a circumſtance that was uſual with this perſon, even in a ſlight feveriſh diſorder); but his eyes were inflamed, and the noſe and face tumefied; an hemorrhage from the noſe enſued, which relieved the head-ach: in the evening, a fine ſweat broke out over the whole body; the ſwelling of the left arm ſubſided; but the ulcer ſtill continued to afford ſuch a plentiful diſcharge, that it required freſh dreſſings three times a-day; while a ſingle dreſſing in twenty-four hours was ſufficient for the ulcer of the right arm; from which, however, a ſlough ſeparated.

Notwithſtanding ſo copious a diſcharge of purulent matter, the upper and lower extremities were loaded with a vaſt quantity of puſtules; however, but few broke out on the face. The ulcer on the right arm was healed by the nineteenth of April; that on the left arm, about the ſeventeenth of May. In the younger brother of the above patient, after inoculation, a confluent kind of ſmall-pox made its appearance; and on the thirtieth day after the operation, a tumour was obſerved under the right arm-pit, which afterwards ſuppurated. In my opinion, it may ſafely be concluded from theſe obſervations, that a favourable ſort of ſmall-pox does not always enſue after inoculation; and that ſometimes, after the inoculated ſmall-pox, other diſorders remain, or follow.

Out of fourteen children that were inoculated in the months of March, April and May, 1754,

three or four, in ſpite of every precaution, at the time the puſtules began to dry away, were ſeized with an eryſipelatous miliary fever, attended with heat, redneſs, and a pruriginous ſwelling of the face *. Dr. Kirkpatrick, who has publiſhed an excellent treatiſe on inoculation †, relates three caſes: namely, of two girls, who, being ſeized with a diſtinct ſort of ſmall-pox, both loſt their ſpeech during their illneſs, and the uſe of their limbs; which complaints indeed afterwards gradually went off; but it was a great while before they were perfectly recovered. He ſaw the ſame accident happen in a man, who was ill with a diſtinct, and favourable kind of ſmall-pox; who did not recover his ſpeech, and the uſe of his limbs, till ſixteen months afterwards. He moreover ſubjoins the caſe of a boy, between three and four years of age, who was inoculated ſoon after his recovery of a fever, and before he had perfectly regained his ſtrength: he was ſeized with violent convulſions, but a ſmall number of puſtules broke out, that went through the uſual ſtages; yet he entirely loſt the uſe of his ſpeech, and of his limbs; ſo that he could not even hold up his head. At the expiration of three months, his ſpeech returned; but five months afterwards, he had not recovered the uſe of his limbs; neither could he walk without aſſiſtance. Medical hiſtory abounds with ſuch caſes, which confirm the preceding obſervations; but in my opinion, the above quoted caſes are ſufficient, as they are ex-

* Medical Tranſactions of Swiſſerland, vol. xi, p. 259.

† Analyſis of Inoculation.

tracted from the writings of men of eminence in the profeſſion, who are worthy of credit, and alſo zealous ſticklers in favour of the practice of inoculation.

It is well known, that the variolous infection produces the ſmall-pox alone, and no other diſtemper. It has, however, happened, that, from inoculation, a fever indeed has been excited, but no eruption has enſued; becauſe the pre-diſpoſition of the body, at that time, was not ſuch as, together with the infection, was capable of producing the ſmall-pox: in ſuch caſes, there has ſometimes came on an anomalous fever, that has continued the ſpace of a fortnight. The variolous matter had been applied to inciſions made in both arms; but the inciſion in the right arm was perfectly healed up, on the fourth day after the operation; the left arm ſhewed every ſymptom from which it might be judged, that the infection had effectually taken place; and the wound diſcharged plentifully, until the fortieth day after inoculation, when that ulcer alſo healed up.

A phyſician of eminence, who had performed the operation, did not abſolutely pronounce, but however, entertained the moſt ſanguine hopes, that this young lady would never after catch the ſmall-pox; becauſe ſhe was conſtantly with her brother, who had been inoculated with the ſame matter, and had always ſlept in the ſame bed with him, during his whole illneſs: yet, from the obſervations hitherto made, this hope ſeems by no means a matter of certainty.

For it is certain, that the bodies of perſons who have not already had the ſmall-pox, are not always equally diſpoſed to be affected with the variolous contagion. I have known many who, at a ſeaſon when the ſmall-pox has raged epidemically, have expoſed themſelves to the infection with impunity; yet, in a ſubſequent variolous, epidemic conſtitution of the air, have catched the ſmall-pox, and have had the diſtemper in a very ſevere manner. A maiden lady, above ſixty years of age, was ſeized with the ſmall-pox, and happily recovered; who, in her early years, had ate, played and ſlept, with impunity, in the ſame bed with her brothers and ſiſters, when they were down with the ſmall-pox; and was thus conſtantly expoſed to the variolous effluvia for two months together. During her whole future life, ſhe had expoſed herſelf to the infection; nay, laughed heartily at me, when I ſuſpected her illneſs would prove the ſmall-pox; from which ſhe thought herſelf abſolutely exempted. Several other caſes, of the ſame kind, that confirm the truth of the above, may be read in the celebrated De Haen's anſwer to Tralles.

Nor is it quite certain, whether the hidden ſeeds of other diſtempers may not be communicated to the human body by inoculation, together with the variolous matter. Moſt authors, who defend the practice of inoculation, aſſert, that nothing of this kind is to be apprehended. The celebrated Guiot, who has wrote concerning the happy ſucceſs of inoculation at Geneva, on the contrary, affirms, that he is certain, from

a plain experiment, that this opinion is erroneous; and inculcates, that the utmoſt care ought to be taken, to chuſe the variolous matter from a healthy body, perfectly free from every other diſorder, except the ſmall-pox *.

Inoculation is alſo recommended for this reaſon; that the inoculated perſon is freed from a continual dread of the ſmall-pox in future; as this diſeaſe ſpares no age. But many indiſputable inſtances are related by De Haen, of perſons who have been ſeized with the natural ſmall-pox, at different times, after inoculation; both where inoculation did not take effect, and where it produced the diſtemper at the uſual time. I have in my poſſeſſion, at this very time, a letter ſent me from a noble ambaſſador, that contains a ſuccinct account of the whole courſe of a ſmall-pox from inoculation, and that of a natural ſmall-pox, which attacked the patient about two years after he had been inoculated; together with a diary of both diſtempers, drawn up by two very able phyſicians, who attended the patient in both diſorders.

Now this confidence, that, after inoculation, the perſon is freed from all apprehenſion of the ſmall-pox, during the reſidue of his life, has occaſioned ſeveral to affirm, that inoculation is proper in every period of life; from the moſt early infancy, to decrepit old age: yet it appears, from the preceding obſervations, that ſometimes a bad and dangerous ſort of ſmall-pox happens from inoculation; or the patient is loaded with a vaſt quantity of puſtules, though of the

* Memoirs of the Royal Academy of Surgery, v. xi. p. 556.

diſtinct ſort. Now, to cure ſuch, the aſſiſtance of art is wanting; nor can fractious infants be eaſily prevailed upon to take medicines: beſides, ſuppoſe dentition ſhould claſh with the ſmall pox, might not many bad conſequences, with reaſon, be apprehended? Indeed, many phyſicians of eminence diſapprove of inoculation, till the child is five years of age; and, in my opinion, they act prudently.

It is true indeed, that the obſervations of phyſicians moſt worthy of credit ſhew, that it has happened, that perſons who have had the natural ſmall-pox, have, a ſecond time, been ſeized with the ſame diſtemper. But it is certain, that the ſame has happened after inoculation. Whether it happens more frequently after the inoculated, than the natural diſeaſe, time alone muſt ſhew. The eminent phyſician Tralles, ſeriouſly weighing theſe and many other circumſtances, when ready to try inoculation, which he favoured, on his own daughter, and others, choſe to decline the experiment, as he could not ſatisfy his doubts on that head. He concluded, at laſt, "That inoculation, differently viewed, always preſented a different face; that it was difficult to behold its double-faced countenance, now ſmiling, by and by grave and threatening, and not be deluded by the one, or terrified by the other: as yet, the happy period is not arrived, when it ſhall appear, beyond a doubt, to which of the two the preference ought to be given."

Some years ago, inoculation was recommended by ſeveral phyſicians of no ſmall note, and was

frequently practiſed; but this ardor gradually abated again; ſo that, at length, the practice was ſoon almoſt entirely forgot. Lately, when the queſtion, Whether inoculation ſhould be allowed, or rejected? was warmly debated at Paris, ſome French gentlemen went to the Hague, in order to be inoculated there, by a famous profeſſor of that art; but, as nobody at that time happened to be ill of the diſtemper in the place, the magiſtracy of the Hague publiſhed an edict, forbidding inoculation to be practiſed in that city, and alſo within the whole neighbouring diſtrict.

It is a known fact, that the prudent favourers of inoculation have taken notice of ſeveral circumſtances, wherein they allow the practice of inoculation cannot be undertaken with ſafety*: in particular, they highly diſapprove of its being ever attempted, when the natural ſmall-pox rages epidemically in the ſame place; for they have all dreaded, leſt the infection ſhould be received by the patient, not only from inoculation, but alſo ſome other way. Whence alſo the celebrated profeſſor Gaubius remarks, that no epidemic diſtemper prevailed at Leyden, much leſs the ſmall-pox, at the time inoculation was tried upon a young gentleman; who, nevertheleſs, had a very dangerous ſort of the diſtemper, in conſequence of his being inoculated.

Indeed, the civil magiſtracy, careful of the health of the inhabitants, in Holland and other foreign parts, forbids the practiſing of inoculation

* Trailes on Inoculation, page 231, where they are enumerated.

in places, while wholly free from the ſmall-pox. For it cannot be denied, but that the inoculated ſmall-pox is capable of ſpreading the variolous contagion. I have known matter, taken from an inoculated perſon, applied to a ſecond, produce the ſmall-pox; and, in like manner, the infection, from this perſon, conveyed into a third, afterwards to a fourth, &c; this experiment was tried nine times, with equal ſucceſs. Whence we juſtly concluded, that the ſtrength of the variolous virus was not diminiſhed from ſo many ſucceſſive applications of it to different bodies; but remained equally active as at firſt.

Moreover, it is certain, that perſons juſt recovered of the ſmall-pox, though they have perfectly regained their health, ſtill exhale infection for ſome time after; whereby they are capable of infecting thoſe who have never had the diſtemper. But, although I cannot preſume to determine, with accuracy, the particular period of time, when the infection ceaſes to exhale from the bodies of perſons lately recovered from the ſmall-pox, yet I ſhall relate what I have obſerved concerning this matter, in the College of Thereſa; the medical care of which, at leaſt, in matters of conſequence, is a part of my duty.

It was cuſtomary, in this place, to ſeparate perſons ſeized with the ſmall-pox, from all communication with the reſt, during the ſpace of ſix weeks, computing the time from the very firſt appearance of the diſtemper. In a remote part of theſe ſpacious buildings, ſome high, airy bed-chambers were kept for this purpoſe: nevertheleſs,

from the twenty-third of November, 1749, to the tenth of April, 1750, on which day the laſt fell ill, thirty perſons were down with the ſmall-pox. The diſtemper now entirely ceaſed for almoſt three years. On the third of July, 1753, a young gentleman was taken ill of the ſmall-pox, of which he happily recovered; and then requeſted, that he might be ſeparated from his fellow ſtudents for a longer time than uſual; for, mindful of the preceding epidemic ſmall-pox, he was afraid, leſt he ſhould infect any of his companions: wherefore, he reſolutely bore the irkſomeneſs of ſolitude for three whole months; and the conſequence was, that none of the other young gentlemen catched the diſtemper.

On the twenty-ſecond day of October, 1757, a noble youth was taken ill of the ſmall-pox, in the ſame College; on the twenty-firſt of November following, a ſecond was ſeized with the ſame diſeaſe: they were kept ſeparated from the reſt, the ſpace of nine weeks, and none of the other young gentlemen catched the infection.

It may, perhaps, be alledged, that the number of thoſe who had never had the ſmall-pox, had been almoſt exhauſted through the variolous epidemics of the years 1749 and 1750; but truly, many ſtill remained, who had never ſuffered this diſeaſe; and every year, ſeveral quit the College, having completed their ſtudies, whoſe places are ſupplied by freſh pupils, the number of whom generally far exceeds that of the diſcharged. Whence, when in the year 1759, the ſmall-pox raged violently throughout the city and ſuburbs

of Vienna, it alſo again began to attack numbers in the College of Thereſa; ſo that, from the twenty-ſixth of July, to the ſecond of January, twenty-three were ſeized with it, before the diſtemper ſtopped: but it is to be remarked, that many of the ſtudents viſited their friends who lived in the city, where, when the ſmall pox raged violently, they might eaſily contract the infection. The diſtemper then ceaſed in the College for almoſt ten months; *viz.* till the twelfth of November; and the ninth of December, 1760, it again ſeized two young gentlemen; two others were taken ill of the ſame diſtemper, on the third of January, and on the firſt of February: but the uſual precautions being taken, the ſmall-pox was not farther propagated. In the year 1763, on the fourteenth of October, one young gentleman was taken ill of the ſmall-pox, who being kept ſtrictly from all commerce with the reſt of his comrades, no other perſon caught the infection.

Hence it is apparent, that perſons lately recovered from the ſmall-pox, are, for ſome length of time afterwards, capable of communicating the variolous infection to others, who have not already had the diſtemper: but though, from the preceding obſervations, it ſeems highly probable, that this capability of communicating the infection does not exceed nine weeks after the recovery of the patient, yet it by no means clearly appears from hence, that any thing certain can be determined with reſpect to this matter.

Indeed, I know the precepts and cautions of the candid Dr. Kirkpatrick, who wrote an excel-

lent treatiſe on inoculation, and thoſe of other prudent phyſicians, are neglected; while inoculation is extolled in every period of life, all ſeaſons of the year, even while the natural ſmall-pox rages epidemically. I very much doubt, whether ſuch advice will, in the ſequel, prove of utility to mankind. The example of a celebrated phyſician at Leipſic*, who makes the following ingenuous confeſſion, deters me: "I have this year inoculated four perſons; and attended twelve patients in the natural way. Out of the firſt number I have loſt one; but none of the latter; though there were ſome among them, whom I had been afraid to inoculate, on account of their bad habit of body." Inoculation, therefore, was practiſed at a ſeaſon when the ſmall-pox raged epidemically; a circumſtance, however, which the prudent and more ſenſible patrons of inoculation, have heretofore entirely diſapproved of.

Thus I have briefly and honeſtly related the ſeveral reaſons, that have induced me hitherto never to adviſe any perſon to be inoculated.

The above obſervations were written by the learned and ingenious author, a very few months only before his deceaſe. The bills of mortality of this metropolis, ſtrongly confirm the juſtice and truth of his laſt remark.

* De Haen's Practice of Phyſic, vol. ix, p. 282.

VAN SWIETEN's OBSERVATIONS

ON

BOERHAAVE's METHOD

OF

Curing the Small-Pox by Extinction.

THE great Boerhaave, in his Aphoriſms, aſſerts, that when the firſt ſtate of the ſmall-pox is certainly known to be preſent, the moſt natural indication is, by removing the inflammatory ſtimulus, to hinder the diſtemper from paſſing into its ſecond ſtage; and thereby prevent ſuppuration, or any future conſequences of the ſmall-pox.

If the various phænomena of the ſmall-pox are conſidered with attention, an unprejudiced mind cannot entertain the leaſt doubt, but that the diſtemper is excited by an infectious ſtimulus; and likewiſe, that this variolous virus poſſeſſes a power of aſſimilating to itſelf the before ſound parts of our bodies; and therefore, the firſt curative indication that ariſes, is to remove this virus from the body as quickly as poſſible; or to weaken it ſufficiently to render it incapable of doing any miſchief. But as this virus is ſo ſubtle as to eſcape

the notice of our ſenſes, and can enter the human body through various inlets, nobody can eaſily diſcover the part to which it adheres, or the particular fluid with which it is mixed, before the contagion is brought into action, and has ſhewn itſelf by its effects. Hence it is apparent, how very difficult it muſt be to deſtroy the received infection, as it does not ſhew itſelf any other way than from the effects which it produces, when it begins to act; but then the diſeaſe already exiſts, and art can now only prevent the further progreſs of the diſeaſe.

Greater hopes may be entertained of weakening the received virus ſo far, as to render it incapable of producing the ſmall-pox at all; or, if this cannot be done, at leaſt of procuring its diſcharge from the body, by inſenſible perſpiration, before it has done much miſchief; or of deſtroying or leſſening its activity, whereby it changes the ſound parts of the body into its own infectious nature. If art could diſcover the direct antidote to this poiſon, it might inſtantly be rendered inert; but as this at preſent is unknown, it remains to be ſeen, whether the body may not be rendered incapable of being affected by the poiſon, though poſſeſſed of its whole virulence. We learn from experience, that ſome perſons eſcape the diſeaſe their whole lives, though frequently and long expoſed to this infection: beſides, thoſe who have once been attacked with the ſmall-pox, are exempt from it the remainder of their lives; and therefore, if an healthy body could, by medicine, obtain the ſame diſpoſition as takes place in thoſe who have

had the diſeaſe, or who from their own peculiar idioſyncraſy are not affected by the virus when received, the ſame effect would follow; *viz.* an immunity from the ſmall-pox, though the variolous poiſon had loſt no part of its activity and virulence. But, to the beſt of my knowledge, no phyſician hitherto exiſting, has been able to diſcover what the change made in the conſtitution is, which renders perſons who have once undergone the diſtemper, ever afterwards exempt therefrom; or in what the peculiar idioſyncraſy conſiſts, through which a man continues free from the diſorder during his whole life. Now art can never imitate that of which it is wholly ignorant.

The only thing, therefore, that remains, is to expel the virus, already beginning to diſturb health by its ſtimulus, as quickly as poſſible out of the body, if it can be done; or at leaſt to deſtroy, or greatly leſſen its activity and power of infecting, whereby it converts the juices of the body into its own nature; for although this infection, when received, may diſturb all the functions of the body, and often excite a violent fever, yet all theſe ſymptoms may be borne without great danger; for perſons ſeldom die of this diſeaſe, before the puſtules have appeared; which, coming out, the ſymptoms uſually abate; nay ſometimes wholly ceaſe. But if the virus has changed a great quantity of the juices into its own nature, then a vaſt load of puſtules is produced; which, during the time they are ſuppurating, occaſion a freſh fever, that frequently kills the patient. Afterwards, from the abſorbed purulent matter, and ſtill more

from a gangrenous ichor, if the pock is of a bad ſort, a putrid fever ariſes, of which a great many die, eſpecially if the internal parts of the body are affected in the ſame manner as the external. If therefore the cutaneous veſſels can be ſo diſpoſed, as to tranſmit readily the matter aſſimilated by the infection, which by a critical metaſtaſis is thrown upon theſe veſſels; or this morbid matter itſelf be ſo attenuated, as to be exhaled either wholly, or in part, from the body, through the exhalant veſſels of the ſkin; then none at all, or very few puſtules would be formed; and the diſtemper would paſs through its different ſtages, without much danger. Beſides, tho' the virus of the diſeaſe, already forced into the cutaneous veſſels, ſhould have cauſed inflamed puſtules, ſtill there is room to hope, that this incipient inflammation may be diſcuſſed by proper remedies, ſo as to prevent ſuppuration: for repeated obſervations ſhew, that ſuch a reſolution of the inflamed puſtules, is not impoſſible; and that ſome puſtules, though already prominent above the ſurface of the ſkin, have happily been diſcuſſed by conſtant fomentations, and other remedies. When this point is gained, the danger of the ſmall-pox is much diminiſhed.

Boerhaave ſays, One may hope to remove the ſtimulus, by correcting it either with ſpecifics, or by the general method to remove inflammation, and its effects.

Specific remedies are ſuch as render the morbific cauſe, inherent in, or applied to the body, perfectly inert, and incapable of doing the leaſt injury; and yet, while they effect this, do not induce any ſen-

ſible change in the body; for where an intermitting fever is cured by vomiting, purging, or ſudorific medicines, ſuch methods of cure are not termed Specific. But the Peruvian bark is juſtly called a ſpecific for intermittent fevers; becauſe it removes them without any ſenſible evacuation. If a grain of the pureſt ſilver is united with highly concentrated ſpirit of nitre, ſo acrimonious a preparation is formed thereby, that it inſtantly deſtroys the part of an human body which it touches: this cauſtic property did not exiſt in theſe two bodies when ſeparate, but ariſes from their union. Whatever therefore is capable of diſſolving that union, is a true antidote to this poiſon: now all alkaline ſalts effect this; becauſe they immediately unite with the ſpirit of nitre, and therewith form a mild neutral ſalt, the ſpirit inſtantly quitting the ſilver, and letting it fall under the form of an inert calx. Whenever therefore, ſuch a remedy ſhall be diſcovered that can remove this morbific ſtimulus, or render it inert, without diſturbing the body to which that ſtimulus adheres, then ſuch a cure of the diſeaſe will juſtly deſerve the appellation of Specific.

The hiſtory of poiſons teaches us, that ſome are poſſeſſed of ſuch a deleterious quality, that they inſtantly cauſe death, without any preceding illneſs. The ſteam of ſulphur, the vapour or lees of liquors in a ſtate of fermentation, long confined air, *&c.* kill even the healthieſt people in an inſtant. The virus of the ſmall-pox does not belong to this claſs; for it does not appear, from any experiment, that it has ever occaſioned death, with-

out a preceding diſeaſe. But it is juſtly ranked amongſt thoſe poiſons, which, before they kill, produce morbid effects, whereby the human body is corrupted, as it is obſerved to be in certain known diſeaſes; and therefore, it is then requiſite to adminiſter thoſe remedies which have proved ſerviceable in the cure of ſuch diſeaſes, as diſcovered themſelves by the like effects.

As therefore puſtules are the conſequence of a fever excited by this ſtimulus, which inflame and ſuppurate, nay, and ſometimes terminate in a gangrene, the method of cure is juſtly recommended, that is uſually preſcribed with advantage for the cure of theſe diſorders. The antiphlogiſtic method will therefore be proper; and indeed, in hopes that the incipient inflammation may be cured by a kind reſolution, and the other more troubleſome terminations of inflammation prevented, as far as is in the power of art; namely, ſuppuration, and a gangrene: for, if I can remove all the effects that proceed from a morbific cauſe, I am certain, that I have taken away this cauſe; or, at leaſt, that I have rendered it ſo inert, as to be no longer capable of diſturbing the body. Now both theſe circumſtances are neceſſary, ſeeing that they reſpect the intention of cure in this diſeaſe.

But where, as is ſometimes the caſe, the variolous miaſmata, from the very firſt attack, totally overthrow and debilitate the vital powers, and do not cauſe an inflammatory fever; in ſuch caſes indeed, the antiphlogiſtic method ought not to be tried; but ſuch an one as is ſuitable for diſeaſes properly termed Malignant.

It is certain, that this contagious ſtimulus is extremely ſubtile; and though received into the body in never ſo ſmall a quantity, is yet able to cauſe wonderful changes in the healthieſt human body: it may therefore reaſonably be hoped, that a like remedy may be diſcovered, which perhaps may be ſo efficacious, that a very ſmall quantity of it may alſo be ſufficient to render this virus inert. Now as at the preſent period, variolous matter is kept in many places throughout Europe, and it is certain that it retains ſeveral months its full virulence, ſo as if applied in the ſmalleſt quantity by way of inoculation, to be capable of producing the diſeaſe, at the expiration of this time; as likewiſe that the dried puſtules, kept in jars, cloſe ſtopped, according to the Chineſe method, preſerve the ſame efficacy, the nature of this poiſon might be inveſtigated, and various experiments made thereon; ſo that poſſibly ſomething might be found out, capable of ſubduing this poiſon by a ſpecific power, and thus extinguiſhing the diſtemper in its very infancy.

The hiſtory of poiſons, renders it extremely probable, that every poiſon has its peculiar antidote; by which it is entirely deſtroyed, or ſo weakened, as to be rendered incapable of doing further miſchief, and yet no injury happen to the human body from ſuch antidotes, either taken, or externally applied. Indeed, as we do not underſtand the nature of poiſons *à priori*, neither do we that of antidotes, which moſtly are extremely ſimple, and ſubſtances which one would not readily imagine poſſeſſed ſuch excellent properties. Sugar, for in-

ſtance, ſo innocent a ſubſtance, powdered fine, and ſwallowed, is an antidote to that terrible poiſon with which the Indians generally imbue their arrows. By this means a hen recovered, though the poiſon was infuſed thro' a wound; when another fowl, to which the above remedy was not adminiſtered, died preſently. The deleterious quality of a ſpirit diſtilled from the leaves of laurel, which inſtantly proved fatal, has been noticed in England. I myſelf, when I firſt ſtudied phyſic, in company with my fellow-ſtudents, have frequently drank an infuſion of theſe leaves, with the addition of milk and ſugar; nor did I ever find the leaſt ill conſequence from it. Piſo, attempting to inveſtigate ſeveral like antidotes, uſes the following words: "Wherefore I found it neceſſary to obtain many, partly by my own experience, partly by gratuities and intreaties from the barbarians; who, as they are extremely expert in adminiſtering of poiſons, and as obſtinately conceal ſuch ſecrets, are equally ingenious in adminiſtering antidotes; and, as ſoon as they diſcover the nature of the poiſon, inſtantly gather moſt efficacious herbs in the woods, which having bruiſed, they make the poiſoned perſon drink the juice, and recover him from the very jaws of death." Now theſe antidotes were either diſcovered by theſe barbarous nations, through accident, or in conſequence of various experiments, and not found out by reaſoning: whence Celſus rightly concludes, "That there is no place in the world, where the art of phyſic is not found; for even the moſt barbarous nations are acquainted with herbs, and other eaſy

remedies, for wounds and diſeaſes." If therefore ſuch ignorant people have been fortunate enough to diſcover certain remedies for the cure of different diſtempers, and antidotes for poiſons, what might not be expected from learned phyſicians, whoſe ſagacity and knowledge of nature are far greater; if, laying aſide hypotheſis, they would ſeriouſly apply themſelves to trace out the nature of this poiſon, and try various things to ſubdue its malignity!? But ſo long as the medical ſchools are only taken up with ſubtle diſputes on this and like matters, we ſhall be obliged to confeſs with Celſus, that the faculty "have abundance of words; but very little ſkill in the art of healing." An ample field for experiments lies open; eſpecially while the ſmall-pox is communicated by inoculation; and remedies can be adminiſtered, before the infection is applied to the human body. Condemned criminals who have never had the ſmall-pox, if leave could be obtained from government, would joyfully accept a pardon upon theſe terms; and the hope of public utility would be conſidered as a ſufficient recompence for their trouble, by all worthy men; and if ſucceſs ſhould crown their endeavours, the diſcovery would certainly prove of the utmoſt benefit to mankind.

It remains, that we conſider the remedies already tried with this view; and, indeed with ſome ſucceſs, that other experiments may thence be formed, which perhaps will turn out ſtill more ſucceſsful.

Boerhaave is of opinion, that the ſpecific corrector of this poiſon ought to be ſought for in

ſome preparations of antimony and mercury, brought to a great degree of penetrability, without being too corroſive from a ſaline acrimony, but thoroughly united together; from the ſucceſs that has ſometimes attended medicines of this very nature in the ſmall-pox.

The great medicinal efficacy of quickſilver, both phyſicians and chymiſts allow; and likewiſe have remarked a vaſt difference in the effects of different preparations thereof: and the moderns, having diveſted themſelves of the great dread which the ancient phyſicians ſeem to have entertained of this remedy, ſucceſsfully uſe quickſilver in the moſt obſtinate diſeaſes. It cannot be denied, that the imprudence of raſh men has frequently hurt the reputation of this medicine, who have boldly adminiſtered the moſt corroſive preparations of this mineral in too large doſes; or have repeated them too frequently; or laſtly, have preſcribed them to patients, in diſorders where the uſe of mercury is always prejudicial: however, the candid have never attributed theſe miſchiefs to the remedy; but have juſtly accuſed the unſkilful and ignorant empirics; who, to the ſhame of the legiſlative power, are ſuffered, with impunity, to ſport with the lives of their fellow-creatures; a circumſtance greatly to be lamented.

It is certain, that the moſt obſtinate ulcers, many cutaneous diſorders that have reſiſted the force of every other remedy, even the venereal diſeaſe, are happily cured by a prudent uſe of mercury. No wonder therefore, that the faculty have ſought in this mineral an antidote to the

variolous poiſon; eſpecially as ſome experiments ſeemed to perſuade, that benefit might be expected therefrom. Crude quickſilver had been adminiſtered with ſome ſucceſs in canine madneſs; which poiſon is capable of lying latent in the human body a long while; and, at length, becoming active, cauſes moſt terrible diſorders, and death; converts the juices of an healthy perſon into its own infectious nature; and in like manner, as the variolous virus, adheres to linen and woollen cloaths, and ſo propagates the diſeaſe.

Moreover, we read in the third volume of the Miſcellanea Curioſa, that calomel has proved ſerviceable in the ſmall-pox itſelf; that not only the puſtules have roſe more kindly after its being adminiſtered, but ſometimes, either none at all, or at moſt, very few puſtules have appeared. A phyſician gave his own daughter, a girl ten years of age, who had every ſymptom of an approaching ſmall-pox, a pretty large doſe of calomel; *viz.* a ſcruple of calomel, with four grains of ſcammony; which gave her four ſtools, and, in the evening, wrought violently upwards; the patient afterwards had a good night; nor did the ſmall-pox enſue, though the diſtemper then raged epidemically; and her brother had the ſmall-pox at the ſame time, in a very ſevere manner. He afterwards, adminiſtered the ſame medicine to a girl about eight years of age; but not at the very beginning of the diſeaſe; and the child had the ſmall-pox in a very favourable manner. Malouin relates, that a woman, afflicted with the venereal diſeaſe, who had worn a mercurial plaiſter upon her hip, to

diſcuſs a ſcirrhous tumour on that part, was ſeized with the ſmall-pox, and the plaiſter inſtantly taken off; the whole ſurface of her body was loaded with puſtules, except the part that had been covered with the plaiſter, which had not a ſingle puſtule on it. Theſe, and many other inſtances ſeem to indicate, that, with prudence, the uſe of mercury may be tried in this diſtemper. Circumſpect phyſicians will, notwithſtanding, rather avoid the more acrimonious mercurial preparations, leſt they ſhould excite new and too violent commotions, in a diſeaſe frequently violent in its own nature; though ſuch powerful medicines may be uſed, with ſafety, in very ſmall doſes. I know, from repeated experience, that even corroſive ſublimate, which is one of the moſt acrimonious of all mercurial preparations, when given in ſuch ſmall doſes as not to irritate the ſtomach or bowels, will cure many very ſtubborn diſeaſes, without cauſing any ſenſible evacuation.

Moreover, we learn from chymiſtry, that wonderful medicinal properties are contained in antimony: while the metallic reguline part is united with the ſulphureous part, it is rather an inert body; but when the reguline part is ſeparated from its ſulphur, it then acquires a ſurprizing activity; and indeed, ſo great, that it communicates to wine, if infuſed therein, a moſt violent emetic property, without any ſenſible diminution of its own weight: nor is this quality eaſily exhauſted by repeated affuſions of freſh wine, as is well known to the faculty: but experienced practitioners know how

to ſo dilute this antimonial emetic wine, and other preparations of antimony, and adminiſter them in ſuch ſmall doſes, as to hinder their acting upon the firſt paſſages; and thus promote a diaphoreſis, expectoration, or the urinary diſcharge, whereby they prove extremely beneficial in many diſeaſes. Indeed, Sydenham, where he ſuſpected a confluent ſort of ſmall-pox, after veneſection, preſcribed an antimonial vomit: nay, if the patient was in great danger on the eleventh day in the confluent ſmall-pox, from a ſuppreſſion of the ſalival diſcharge, he gave a large doſe of the antimonial wine; and ſeems, in this dangerous ſtate of the diſorder, to have depended ſolely on this remedy, as it had ſometimes, though not always, ſucceeded happily.

The milder antimonial preparations, that do not greatly ruffle the conſtitution, have, however, been particularly extolled for this intention; ſuch as, diaphoretic antimony; eſpecially if not diveſted of its fixing nitre; which preparation is uſually called, in the ſhops, Unwaſhed Diaphoretic Antimony; or, unwaſhed calx of antimony; and is made by burning pure antimony to a calx, with three times its weight of nitre: for the ſame reaſon alſo, the nitre waſhed from this diaphoretic antimony by means of warm water, is preſcribed; which preparation is kept in the ſhops, under the name of antimoniated nitre.

But thoſe medicines have principally been recommended, in which quickſilver, or the milder preparations thereof, are united with antimony. Hence cinnabar of antimony, which conſiſts of

the ſulphureous part of antimony, perfectly united with the pureſt quickſilver, has obtained a vaſt reputation in this diſeaſe. Every body knows, that this medicine is prepared, by rubbing two parts of corroſive ſublimate with one part of crude antimony, previouſly powdered, for a conſiderable time; this mixture is afterwards diſtilled in a wide-necked retort, with a ſtrong ſand heat: in conſequence whereof, the ſpirit of ſea-ſalt that was contained in the corroſive ſublimate, quits the quickſilver, unites with the reguline part of the antimony, and paſſes with it into the receiver, and is then called Butter or Oil of Antimony; a moſt virulent, corroſive, cauſtic medicine: and the quickſilver, freed from its union with the ſpirit of ſea-ſalt, is united with the ſulphureous part of the antimony, and ſublimed into the neck of the retort, under the form of a true cinnabar, which is called, Cinnabar of Antimony.

However, as many chymiſts think that the ſulphur of antimony differs very little from common pure ſulphur, hence factitious cinnabar has alſo been adminiſtered for the ſame intentions; as alſo that which is found in the mines, called Native Cinnabar, conſiſting likewiſe of ſulphur and quickſilver, thoroughly united together. Cinnabar, we read, has long been in high repute among the Chineſe, as a preventative of the ſmall-pox *. Indeed, ſulphur itſelf admirably corrects contagion, miaſmata floating in the air, and poſſeſſes a power of ſubduing poiſons: it is alſo of

* Lettres Edeſiantes et Curieuſes, vol. xx. p. 342, 343.

excellent uſe in many cutaneous diſorders: no wonder, therefore, that phyſicians have thought of ſulphur, when in ſearch of a remedy preventive of the ſmall-pox; eſpecially, as from ſulphur and quickſilver, thoroughly united, a gentle medicine is produced, that no ways diſturbs the functions of the body, and yet is of great uſe in curing many diſeaſes. Such an one is the preparation called Æthiops Mineral, made by melting ſulphur in an iron ladle over a gentle fire, then adding an equal quantity of purified quickſilver, and ſtirring them together till the mixture is completed, and becomes a black maſs: or equal parts of ſulphur and purified quickſilver may be ground together in a glaſs mortar, until they are perfectly united; but this laſt is a tedious way of preparing the medicine. Now if æthiops mineral is diſtilled in a cloſe veſſel, with a fierce fire, it is ſublimed into cinnabar, as every body knows; whence phyſicians have generally expected the ſame effects from either preparation. Dr. Lobb relates ſome caſes of perſons, who having never had the ſmall-pox, nevertheleſs were a long while converſant with perſons ſick of this diſtemper; nay, and ſlept in the ſame bed with them, yet did not catch the ſmall-pox: theſe perſons took, twice a-day, two drachms of æthiops mineral, with the addition of a further quantity of ſulphur. The Doctor ſometimes mixed with this powder, myrrh, camphor, and ſome other articles; but ſeems to have placed his principal dependence upon æthiops mineral, ſulphur, and cinnabar; which medicines he preſcribed not only

as preventatives, but alſo in hopes of diminiſhing the virulence of the diſtemper already catched; and indeed in pretty large doſes. It muſt be owned, however, theſe experiments have not always turned out ſucceſsful; for we read, in the third volume of the Edinburgh Medical Eſſays and Obſervations, that, in the year 1733, when the ſmall-pox raged epidemically at Edinburgh, ſome perſons died of a confluent ſmall pox, who had undergone a mercurial courſe, and had been afterwards kept for a conſiderable time to the conſtant uſe of æthiops mineral, by way of prevention.

Hence a certain antidote for the variolous infection does not ſeem yet diſcovered: therefore, all good men ought to turn their attention to this intereſting ſubject; and, with due prudence, try different things, which a future ſerious meditation on this diſtemper may induce them to think will prove of ſervice, in putting a ſtop to this terrible ſcourge of mankind.

The following are the formulæ recommended by Boerhaave: upon the ſame plan, a variety of other preſcriptions may be formed.

Take of the unwaſhed calx of antimony, ſix drachms;
Calomel prepared, half a drachm;
Sal polychreſt. one drachm:

Grind them together in a glaſs mortar a conſiderable time; then divide the above quantity into twenty-four equal parts; one of which is to

be taken every third hour, and waſhed down with at leaſt a quarter of a pint of whey.

Or,

Take of the flowers of brimſtone, one drachm;
Cinnabar of antimony, one ſcruple;
Unwaſhed calx of antimony, ſal. polychreſt. of each, a drachm and a half:

Grind them together into a very fine powder; divide the above quantity into twenty-four doſes; one of which is to be taken in the ſame manner as the former.

THE END.

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